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Third-Party Logistics' Hiring Manager Strategies to Recruit Supply-Chain Professionals

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This is to certify that the doctoral study by

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Abstract

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MS, Robert Morris University, 2011

BS, Robert Morris University, 2009

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Leaders of third-party logistics companies face a critical talent shortage because of the global deficiency of supply-chain professionals. The lack of trained supply-chain professionals negatively affects business and market performance. The purpose of this multiple case study was to explore the strategies used by third-party logistics hiring managers to recruit supply-chain talent to meet industry demands. The resource-based view theory was used as a lens for this study. Data were collected from 5 Pennsylvania third-party logistics hiring managers from interviews, organizational documents, and company websites. Member checking occurred after transcription and summarization of the interview data. Data analysis occurred using Yin's 5-step process of compiling, disassembling, reassembling, interpreting, and concluding data. Four themes emerged from the data: (a) strategies for recruitment resourcing, (b) strategies to address market drivers, (c) interview method strategies, and (d) strategies for determining skill requirements. The findings and recommendations resulting from this study might be valuable to senior management, human resource leaders, and hiring managers for creating strategic plans to address recruitment to alleviate supply-chain talent shortages. The implications for positive social change include the potential for business leaders to decrease unemployment, produce greater local economic stability, and improve the standard of living of community residents.

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Dedication

This is dedicated to my siblings, Judy, Tina, Jane, Kathy, Sally, Tracy, Greg, and Glen, who came before me and persisted in their dreams. And to my grandchildren, Moriah, Jack, Nehemiah, Macy, Elijah, and Cade, who follow me. Dream on.

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Finally, to my family and friends who endured this process along with me, including my numerous absences. Thank you Rev. Martin Galbraith for the irreplaceable example of persistence, faith, and gratitude. Special thanks to Madison, Aggie, Rachael, Nicole, Katie, Jared and Jaime Del for your empathy and patience. Thanks to Drew Brown for providing a much needed weekly reprieve. To my amazing grandkids, the answer is yes. You must now call me Dr. Nene. And finally to Ron, forever my rock and guidepost, let’s go buy some goats.

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Section 1: Foundation of the Study

Growth and advancements in the supply chain field has resulted in an increased demand for supply chain professionals and a shortage of these skilled workers (Sinha, Millhiser, & He, 2016). Third-party logistics companies (3PLs) experience challenges caused by talent shortages (Lieb & Lieb, 2015). The lack of trained supply chain professionals negatively affects business and market performance (Wood, Dibben, & Meira, 2016). My goal in this study was to explore the strategies used by 3PL hiring managers to recruit supply chain talent to meet industry demands.

Background of the Problem

Researchers and practitioners recognize the challenges associated with supply chain global talent management (Partida, 2014; Prajogo & Sohal, 2013; Ruamsook & Craighead, 2014). Supply chain managers provide a unique source of sustainable competitive advantage by improving supply chain performance (Ellinger & Ellinger, 2014; Mandal & Korasiga, 2016; Yilmaz, Cemberci, & Uca, 2016), but less than half of executives believe that their organizations are prepared to effectively manage their future supply chains (Holcomb, Krul, & Thomas, 2015). Supply chain management (SCM) is critical for a society that anticipates optimum service at affordable costs. The lack of supply chain talent will negatively affect businesses because inefficiencies will drive increased costs and decreased quality (Dooner, 2014; Wood et al., 2016).

The U.S. Bureau of Labor Statistics (2016) projects logistics job growth of 27.1% from 2014-2024, more than double the average rate of the 30 highest-growth occupations. In a broader scope, the supply chain talent shortage challenge is proven to be global, with many researchers confirming the need to identify solutions within both established and emerging countries (Cooperstein, 2015; Fisher, McPhail, You, & Ash, 2014; Hohenstein, Feisel, & Hartmann, 2014; Wood et al., 2016). In a 2014 survey of chief executive officers (CEOs) of the 14 largest 3PLs, attracting, developing, and keeping management talent was the most frequently cited challenges (Lieb & Lieb, 2015). Jhawar, Garg, and Khera (2016) recommended additional research regarding the lack of 3PL hiring managers' strategies to recruit supply chain professionals. Likewise, Lieb and Lieb (2016) advised that 3PLs must continue developing strategies to address the persistent talent management issues.

Problem Statement

Logistics industry leaders face a critical talent shortage because of the global deficiency of supply chain professional talent (Cooperstein, 2015). In a 2015 survey of logistics providers, 50% of the respondents reported that they experience difficulty finding supply chain professionals (Leon & Uddin, 2016). The general business problem was that the lack of available, trained supply chain professionals negatively affects the profitability of some 3PLs. The specific business problem was that some 3PL hiring managers lack strategies to recruit supply chain professionals.

Purpose Statement

The purpose of this qualitative multiple case study was to explore strategies that some hiring managers of 3PLs use to recruit supply chain professionals. The targeted population was hiring managers from five Pennsylvania 3PLs who have successfully implemented strategies to recruit supply chain professionals. The implications for positive social change include the potential to increase vacant position placements as well as organizational profitability, which in turn helps local communities by lowering unemployment and increasing the tax base. Increased employment rates potentially produce greater local economic stability and community prosperity, possibly resulting in an improved standard of living for community residents.

Nature of the Study

The three research methods are qualitative, quantitative, and mixed method (Taylor, Bogdan, & DeVault, 2015). Qualitative researchers use open-ended questions to discover what is occurring or has occurred (McCusker & Gunaydin, 2015). I selected the qualitative method to use open-ended questions to explore what has occurred. Quantitative researchers use closed-ended questions to test hypotheses (Merriam & Tisdell, 2015). Mixed-method researchers include both a qualitative element and quantitative element (Merriam & Tisdell, 2015). I did not test hypotheses or use closed-ended questions; therefore, a quantitative or mixed-methods approach was not appropriate.

I considered four research designs: (a) phenomenology, (b) ethnography, (c) narrative inquiry, and (d) case study. Phenomenological researchers focus on the lived experiences of participants to understand their full experience with a phenomenon (Merriam & Tisdell, 2015). A phenomenology study was not appropriate because I did not explore the lived experiences of participants. Business researchers use ethnographic research to examine the social and cultural phenomenon in context (Eisenhart, 2017). I rejected an ethnographic approach to the research, because I did not seek to understand an entire culture of individuals within their natural setting. A narrative inquiry design entails using first-person stories to examine lived experiences and emphasizes the story and how the experience is related (Merriam & Tisdell, 2015). The narrative inquiry was not appropriate because I did not explore a phenomenon using participants' life stories. Case study researchers explore a phenomenon within a real-world context using in-depth data collection (Yin, 2014). The case study design was appropriate because I explored a phenomenon within a real-world context using in-depth data collection.

Research Question

What strategies do some hiring managers of 3PLs use to recruit supply chain professionals?

Interview Questions

1. What strategies do you use to recruit supply chain professionals?
2. What strategies do you use for onboarding supply chain professionals?
3. What strategies do you use for internal recruitment of supply chain professionals?
4. What strategies do you use for external recruitment of supply chain professionals?
5. What are the key challenges you faced in implementing strategies to recruit supply chain professionals?
6. How did you address the key challenges of implementing the recruitment strategies?

7. How do you gauge the effectiveness of your strategies to recruit supply chain professionals?
8. What strategies do you find as most effective in recruiting supply chain professionals?
9. What other information can you provide about the strategies you use to recruit supply chain professionals?

Conceptual Framework

The conceptual framework for this study was the resource-based view theory (RBV) originated by Wernerfelt (1984). The key tenets of the RBV are (a) human and organizational capital are resources requiring effective management for a firm to gain an organizational advantage; (b) organizations potentially achieve a sustained competitive advantage when rivals are unable to utilize resources in the same manner or duplicate the benefits; and (c) bundled resources must be valuable, rare, inimitable, and nonsubstitutable (Wernerfelt, 1984). The RBV gained prominence as proponents of the theory analyzed a company’s internal assets rather than the competitive environment for sources of competitive advantage (Barney, 1991; Wernerfelt, 1984). Building on Wernerfelt’s RBV theory, Peteraf (1993) stated that organizations realize competitive advantage through the optimization of key resources against the competition. Organizational managers seek to exploit the use of resources within the organization (Anatan, 2014). Managers apply the tenets of the RBV to attain higher firm performance (Szymaniec-Mlicka, 2014). Recommendations for achieving a competitive advantage through SCM begin with acquiring and developing the right talent (Dubey &

Gunasekaran, 2015b). Sparrow and Makram (2015) further expanded the RBV by focusing on how human capital creates value for the organization through the employee aptitudes. Advances in technologies and the development of global markets created a supply chain profession that demands a different set of skills and competencies to manage complex supply chains (Hohenstein et al., 2014). Because RBV theorists identify human capital as a possible key to organizational competitive advantage, the RBV served as an effective lens through which to explore effective strategies to recruit supply chain professionals.

Operational Definitions

Human capital: Human capital is an organizational resource that includes employee knowledge, skills, and abilities that managers can utilize to improve firm performance (Fareed, Noor, Isa, & Salleh, 2016).

Human resource management (HRM): HRM relates to the set of activities and functions that managers enact to develop and maintain a workforce (Chowhan, 2016).

Resource-based view (RBV): The resource-based view is a concept that focuses on internal organizational assets as a key to competitive advantage in the market (Carraresi, Mamaqui, Albisu, & Banterle, 2016).

Strategic human resource management (SHRM): SHRM relates to the set of human resource management activities that managers use, with a focus on goal-aligned and performance-based practices (Seunghoo, Tae Kyu, & Soo-Young, 2017).

Third-party logistics (3PLs): 3PL enterprise personnel manage the supply chain and supply chain services for other businesses (Giri & Sarker, 2017).

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are realistic expectations that researchers presume to be accurate, but that lack a means of validation (Pickbourn, 2016). I assumed the participants answered the interview questions honestly and accurately. Another of my assumptions was that the participating hiring managers possessed the knowledge and experience regarding implementing recruiting strategies to answer the research question. Finally, researchers risk selection bias when utilizing purposeful sampling (Benoot, Hannes, & Bilsen, 2016). Because I used purposeful sampling, I assumed the risk of selection bias with my study. I gained access to relevant company documents to engage in methodological triangulation. I assumed the documents were up-to-date, accurate, and complete.

Limitations

Limitations are elements outside the researcher's control that may be a threat to a study and affect its internal validity (Marshall & Rossman, 2016). A limitation of this study was that the interview data collected from five hiring managers of 3PLs in the state of Pennsylvania may not accurately represent the larger set of supply chain hiring managers or other organizations. The geographically narrow sample population of Pennsylvania represented a limitation. The results may not be transferable to other 3PLs or areas with different employment and economic challenges. Finally, the legitimacy of my study relied on the honest and accurate responses from my participants and supporting materials that I used to identify successful strategies to recruit supply chain professionals.

Delimitations

Delimitations are boundaries created by the researcher (Marshall & Rossman, 2016). The geographical region of the state of Pennsylvania was a delimitation of this study. The sample population of five hiring managers in the 3PL industry also represented a delimitation. The limited inclusion of hiring managers who successfully implemented strategies to hire supply chain professionals limited the scope of this study. An additional limitation was my focus on questions related to the research question. I strictly dedicated my questions to identify strategies that hiring managers used to recruit supply chain professionals. Because of this strict concentration on the research question, I did not address other management issues that might affect hiring managers in the 3PL field.

Significance of the Study

This study holds potential value for practitioners of SCM as well as researchers in the business management and human resources management fields in improving strategies to address the talent availability gap. Understanding the challenges and issues experienced by Pennsylvanian supply chain employers might help other supply chain leaders generate new hiring solutions. The specific value of this study lies in the contribution to business practices and the implications for social change.

Contribution to Business Practice

The findings and recommendations resulting from this study might be valuable to senior management, human resource leaders, and hiring managers for creating strategic plans to address attrition and supply chain talent shortages. Through improved recruiting strategies, decision-makers may develop and implement improved talent acquisition processes. A greater understanding of improved attraction and recruitment strategies potentially leads to a more efficient implementation of programs that may attract potential candidates and build a more competent, skilled workforce to increase business performance.

Implications for Social Change

Social change is about identifying issues common to broader populations than the current environment to improve conditions or share solutions (Pollack, 2013). Potential implications for positive social change from my study are providing greater opportunities for both employers and employees in Pennsylvania, thereby increasing contributions to the local economy. By identifying new ideas and innovative strategies to respond to the recruitment challenges of logistics employers, this study's findings may support the reduction of the unemployment rate in Pennsylvania, resulting in a higher standard of living and rates of employ.

A Review of the Professional and Academic Literature

The purpose of this qualitative multiple case study was to understand strategies that some hiring managers of 3PLs use to recruit supply chain professionals for position vacancies. A review of the literature indicated many experts in the supply chain field expressing concern over the supply chain talent gap. Undertaking this study, I searched for scholarly and business sources that allowed me a wide view of the supply chain shortage issues. Researchers examined the supply chain shortage phenomenon from both the business and academic viewpoints.

In this study, I explored the 3PL workforce challenges from the hiring manager's perspective of strategies applied to employee hiring, training, and development. I used a variety of databases to retrieve information for this study. I used 324 sources in this study; 308 were peer-reviewed sources and 16 nonpeer-reviewed sources, equating to 95% peer-reviewed sources. I used 304 sources dated from 2014-2018, equating to 93% of the sources dated within 5 years of my anticipated graduation in 2018. One hundred forty-one sources are unique to the literature review.

Research Review

I first searched for peer-reviewed articles and journals, books, dissertations, websites, and corporate and government reports. I then expanded the search to review the literature with an organized examination of themes, identifying the breadth of the problem. My goal was to identify all the literature that addressed how the supply chain shortage phenomenon affects all members of organizations, industries, and micro and macro environments. I then reviewed literature that discussed how other industries, such as finance and accounting, approached the problem of talent shortages. The following is a review of relevant literature related to the talent management challenges of the supply chain industry. I applied a search strategy to ensure examination of seminal materials as well as the current landscape of the phenomenon for depth in research.

The following is a review of relevant literature related to the workforce challenges of the supply chain field. For a thorough view of the phenomenon, I applied a search strategy to guarantee the inclusion of formative materials, as well as the current landscape. Although these searches resulted in many more tangential topics, I have synthesized only materials relevant to the topic and research design.

Search Strategy

I retrieved the literature used for the foundation of this study from scholarly books and journals. Results of these searches helped the development of the study scope, the problem statement, as well as the magnitude of the problem. This literature review includes the writings of prior scholars on issues affecting talent management challenges of the supply chain discipline. I used a variety of databases when conducting searches for relevant topics, including Business Source Complete, Google Scholar, Academic Source Complete, Proquest, ABI/INFORM Collection, ScienceDirect, ERIC, SAGE Journals, CINAHL, MEDLINE, Computers and Applied Science Complete, Dissertations & Theses @ Walden University, and Education Source. Reviewing the literature improved my understanding of how the various viewpoints of both practitioners and researchers have recognized or addressed these issues. Keywords in my searches included: *talent management, supply chain talent, supply chain management, logistics management, human resource, hiring, employee retention, third-party logistics, resource-based view, value creation, talent shortage, management theories, human capital theory, global talent management,* and *global supply chain talent.*

Organization of the Literature Review

Topics covered in the literature review include (a) resource-based view, (b) human capital theory, (c) supply chain and logistics, (d) supply chain management, (e) 3PL practices, (f) talent management, and (g) application to the business problem. Figure 1 is a graphic representation of this literature review.

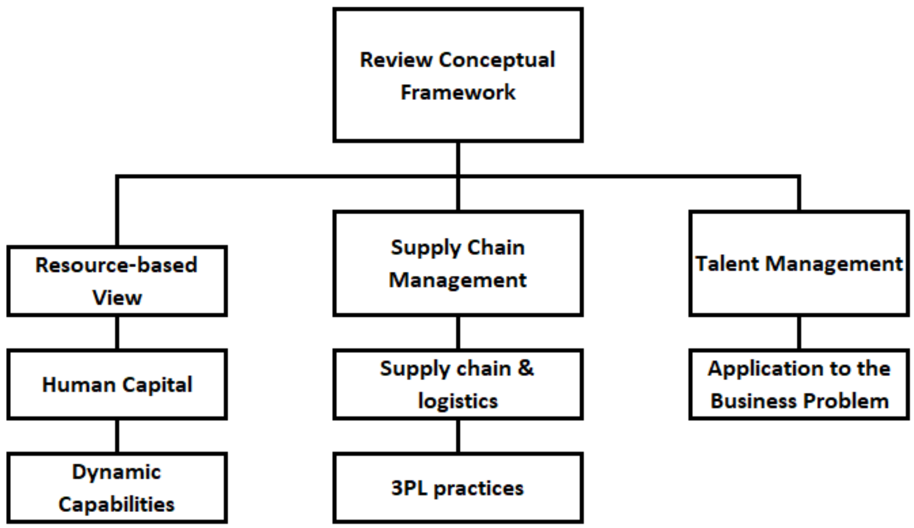

Figure 1. Literature review organization.

The Resource-Based View

With the creation of the RBV, Barney (1991) provided a new framework for understanding the organizational value. Researchers and practitioners use the RBV to focus on internal resources of a firm to provide strategic advantages (Barney, 1991; Wernerfelt, 1984). Before the development of RBV, researchers relied on the strengths, weaknesses, opportunities, and threats analysis (SWOT) as a framework (Barney, 1991). Organizational managers based strategies on the SWOT model through an external focus (Porter, 1985). Researchers previously used industry view models, while RBV theorists used a firm view.

RBV theorists differed from industry view models by emphasizing the link between strategy and the internal resources of the firm. Barney (1991) classified resources into three groups: physical capital (e.g., equipment and location), human capital (e.g., knowledge and experience), and organizational capital (e.g., planning and organizational structure). Through his RBV, Barney maintained that the heterogeneity and immobility of firm resources result in superior performance. The attributes of heterogeneity and immobility explain how companies outperform others, through unique resources that the competition cannot replicate. Mohr and Batsakis (2018) utilized the RBV to understand how combinations of intangible assets allow some firms to capitalize on international expansion. Mohr and Batsakis highlighted how firms have combinations of knowledge, finances, and relationships that other organizations could not develop in a short time, leaving them at a disadvantage. Barney specified that to provide a competitive advantage these resources must be valuable, rare, inimitable, and nonsubstitutable.

Valuable. The underlying assumption of the RBV is the concept that resources and capabilities possessed by organizations are heterogeneous and imperfectly transferable (Wernerfelt, 1984). According to RBV theorists, organizations should consider these resources valuable if they improve performance, exploit market opportunities, or mitigate threats (Barney, 2001). Yang and Lirn (2017) studied logistics performance in the shipping industry through the RBV lens and identified skilled labor as a valuable resource for differentiation in the industry. Carraresi et al. (2016) utilized the RBV to study the relationship between strategic capabilities and performance of food companies that were small- to medium-sized enterprises (SMEs) in Italy. Surveying SME managers, Carraresi et al. determined that the acquisition and sharing of information was a valuable asset to this industry. Sparrow and Makram (2015) examined talent management through a combined human capital insight with RBV to illustrate the value of talent management capabilities. My study similarly drew from RBV to demonstrate the value of human capital capabilities and talent acquisition in a 3PL firm.

Rare. If resources are not rare, firms cannot exploit them for an advantage over the competition. A firm’s managerial talent is considered a rare resource, and especially so when combined with other capabilities (Barney, 1991). Strategic human resource management (SHRM) is an organizational practice focused on exploiting the rareness of talent and talent management practices for competitive advantage (Seunghoo et al., 2017). Research results indicated that an organization's senior management could influence firm performance (Wiengarten, Lo, & Lam, 2017). For example, researchers proved that senior management leadership differentiates top performing hotels from competitors (Elshaer & Augusyn, 2016).

Inimitable. Barney (1991) defined inimitable resources as those that other firms cannot easily reproduce. If a firm has a valuable and rare resource, this resource must also be difficult for other firms to imitate. This inimitable nature of the resource could be because of the complex asset combinations, great cost, or other barriers. For example, Jogaratnam (2017) studied the combination of market orientation, entrepreneurial orientation, and human capital resources on the positional advantage in the restaurant industry. Jogaratnam supported the RBV tenet that strategic advantage is reliant on unique combinations of resources that competitors cannot easily replicate.

Nonsubstitutable. Barney (1991) defined nonsubstitutability requirement as the resource that other firms cannot replicate with strategically equivalent resources. Furthermore, Barney specified that he considered this advantage sustainable and not time definite. For instance, the substitution of an automated system for skilled trade would eliminate any competitive advantage. Intangible assets and combined resources may provide the best opportunities for strategic advantage because they are more difficult for competitors to match with a competitive parity (Kellermanns, Walter, Crook, Kemmerer, & Narayanan, 2016). Researchers using the RBV examined the internal capabilities of an organization to identify those that are valuable, rare, inimitable, and nonsubstitutable to exploit a competitive advantage (Alonso & Austin, 2016; Fareed et al., 2016).

Competitive advantage. The concepts of competitive advantage and strategic competitive advantage are key to understanding the RBV. According to the RBV theorists, organizational leaders achieve a competitive advantage by leveraging critical resources in a superior way to that of a competitor (Peteraf, 1993). A sustained competitive advantage exists only after the competition proves unable to match (Barney, 1991). An innovator of the RBV theory, Barney stated that managers could use the organization of individuals in a manner that creates valuable, rare, inimitable, nonsubstitutable resource. Organizational leaders may organize business intelligence, supply chains, or analytics capabilities in a unique way that results in a sustained competitive advantage (Batko, 2017). Researchers use the RBV to identify the competitive advantages for organizations in many different fields and industries including international markets (Kaleka & Morgan, 2017), entrepreneurship (Adam, Mahrous, &

Kortam, 2017), healthcare (Agwunobi & Osborne, 2016), and human resource management (Gandhi, 2017).

Human Resource Management and Resource-Based View Theory

Utilizing the RBV framework, researchers found that human capital realized in human resource management has the potential to create a sustainable competitive advantage (Fareed et al., 2016; Huang, Dyerson, Wu & Harindranath, 2015; Rui, Zhang, & Shipman, 2017). Demonstrating human capital internal resources as a source of competitive advantage supported the premise that people are strategically important to firm success. However, in this field of study, researchers apply the RBV in a variety of methods (Delery & Roumpi, 2017; Ployhart, Nyberg, Reilly, & Maltarich, 2014). Some RBV researchers utilized the human resource practices when identifying competitive process advantages. The complex integration of human resource practices or systems with other organizational goals or practices creates an asset difficult to imitate (Chadwick, Super, & Kwon, 2015). Jabbour, Mauricio, and de Sousa Jabbour (2017) utilized the RBV to assess the relationship between critical success factors, green human source management, and improved performance. Using the RBV lens, Manroop, Singh, and Ezzedeen (2014) explored how human resource systems establish ethical climates and what strategic value ethical climates represent to firms. Defining human resources as human capital, Elshaer and Augustyn (2016) found that strong leadership provides successful quality management, which may be a source of competitive advantage in the RBV. Addressing both these research concepts through the RBV lens, Lim, Wang, and Lee (2017) examined the impacts of both practices (e.g., recruitment, training, incentives) and tangible resources (e.g., percentage of senior executives, total employees) to examine the perceived mission accomplishment in a federal program.

Relative to human capital, researchers argued that the existence of value, rareness, substitutability, and imitability attributes alone could not provide a competitive advantage because individual human resource functions are easily imitable (Delery & Roumpi, 2017). However, theorists using the RBV framework defined human resources as both tangible and intangible assets that firms can combine to create uniquely complex systems that are difficult to imitate (Barney & Mackey, 2016). Researchers using the RBV framework frequently evaluate how the knowledge, skills, abilities, and other characteristics of employees helped firms to achieve and maintain a competitive advantage (Nyberg, Moliterno, Hale, & Lepak, 2014). Research study results support the assertion that the exceptional hiring and management of human capital is a prime component of an organization's strategic advantage.

Discussions of Resource-Based View Theory

The RBV is one of the most commonly used theories in organizational management, particularly in SCM, operations strategy, performance management, and product-service innovation (Hitt, Xu, & Carnes, 2016). However, researchers engaged in some common discussions about the application and rigor of the RBV as presented by Barney (1991). In fact, in the seminal article, Barney stated that he created the RBV to provide context for empirical examinations and that the results themselves should not be considered a test of the theory. Bromiley and Rau (2016) emphasized this in their position, stating that the RBV is a perspective and untestable as a theory. However, Hitt, Carnes, and Xu (2016) argued that the benefit of the RBV is in its ability to help understand the relationships between complex capabilities, such as innovation. Criticisms of the RBV also arise in areas outside the operations, for example, human resource management (HRM).

Kaufman (2015) stated that in the HRM field, the use of RBV has problematic applications and implications. Kaufman argued that if competitors cannot duplicate positive financial outcomes associated with the RBV, then other firms could not benefit from their application. However, Barney and Mackey (2016) argued that as firm leaders seek to gain advantages, they seek parity of best practices with the goal of strategic advantage. Barney and Mackey maintained that the demonstration of a resources value within one organization assists other firms in determining how to identify and manage their assets for strategic positioning.

Human Capital Theory

Becker (1962) introduced the theory of human capital as the basic idea of employee skill acquisition. Becker based the human capital theory on the premise that organizational leaders who invest in human capital (i.e., the training and education of employees) derive benefits of improved performance and higher work productivity (Seong-O & Patterson, 2014). Schultz (1961) was the first theorist to initiate the concept of human capital as an explanation for the U.S. economic growth related to physical capital, labor, land, and management. Schultz posited that the investment in human capital, including on the job training, schooling, adult education, health, and migration resulted in economic growth. Becker (1993) later defined human capital as an individual's knowledge, skills, health, and value. Organizations consider human capital an asset that they can exploit for strategic advantage.

Leaders of companies seek to find and measure value in business assets and processes, including tangible and intangible human resources (Morris, Alvarez, Barney, & Molloy, 2016). Leaders of firms invest in firm-specific knowledge to create human capital value for the organization (Finegold, Benson, & Mohrman, 2015). Becker (1962) held that organizations realized the rents of firm-specific investments and those individuals realized the value of general knowledge, which is mobile. Alavi and Leidner (2014) defined organizational knowledge as an awareness of competencies and capabilities that increase an entity's ability for successful outcomes. Nyberg and Wright (2015) stated that the capacity of human capital increases an organization's revenues and results in the creation of value. Chadwick (2017) demonstrated how firms could enhance that value by utilizing complementarities of the firm. Therefore, the management of firm resources proves to be key to optimizing the value of human capital (Chadwick, 2017). Researchers recognized a link between comprehensive human resource systems that includes training and greater financial performance (Finegold et al., 2015). Human resource management must include an alignment with overall business strategies for development of the firm's value chain (Ulrich, Brockbank, Ulrich, & Kryscynski, 2015). Researchers demonstrated that an investment in human capital is most effective when it begins at the recruitment (Ployhart et al., 2014). Therefore, organizational leaders should consider recruitment as part of a strategy for performance optimization.

In my study of the supply chain professional shortage phenomenon, I will investigate the recruitment of human capital by hiring managers. Simion and Tobă (2014) found that the combined competencies, experiences, and motivations of employees provide an entity with the potential for strategic positioning. However, when the labor pools are scarce, organizational leaders will not have the ability to utilize capital resources for performance gains (Teodoro & Switzer, 2016). The results of my study will contribute to the understanding of human capital investments and the potential for organizational value gains. Brymer, Molloy, and Gilbert (2014) discussed the implications of hiring pipelines on firm performance. Brymer et al. provided insights into competitive advantages of hiring practices when considering labor shortages. In previous studies, researchers demonstrated the link between human capital skills and firm performance. Volonté and Gantenbein (2016) studied 178 Swiss firms and reported a positive association between human capital and firm performance. Fu et al. (2017) surveyed professional service firm managers to demonstrate a positive association between skill-enhancing practices and human capital via high-performance work systems. Jyoti and Rani (2017) defined high-performance work systems as human resource practices that focus on employee performance, organizational fit, and bundling to improve both employee and financial performance. High-performance work systems include combinations of incentives, training, and employee selection (Jyoti & Rani, 2017). Fu et al. isolated mediators of the association between high-performance work systems and firm performance, addressing the *black box* issue of the human resource research. Researchers use the term black box to refer to the specific pathways that link human resource practices to organizational performance (Chowhan, 2016; Fu et al., 2017).

Human capital investments increase the potential of employee contributions to the productivity and successful performance of the company (McGuirk, Lenihan, & Hart 2015). Organizational managers should incorporate human resource activities into strategic planning because human capital is an intangible asset that influences firm value (Holland, 2017; Lajili, 2015; Mahoney & Kor, 2015). Organizations face competition from firms that acquire, train and retain talent that speeds up innovations and captures market share (Lajili, 2015). Lizote, Alves, Verdinelli, and Terres (2017) conducted a qualitative study of 202 Brazilian accounting firms to examine the relationship between human capital attributes and firm performance. Lizote et al. used human capital values of attitudes, knowledge, abilities, and leadership along with performance indicators of net profit, total sales, achievement of financial goals, employment and personnel targets, customer satisfaction, customer retention, and overall performance. Using the relative measure of competitor performance, Lizote et al. found a positive association between human capital attributes and greater firm performance. Related to the management of human capital, Rompho (2017) conducted a study of 593 Thai corporations from various industries to identify the relationship between human resource management strategies and firm performance. Rompho distinguished between firm practices of *buy-bureaucratic*, which involves external recruitment of managers, limited training and emphasis on seniority and *make-organic*, which promote from within, provide extensive training and pay based on performance. Rompho posited that because differences in human resource practices have proven to create different levels of human capital, organizations that engage in make-organic practices would outperform buy-bureaucratic because of superior human capital. Rompho found that make-organic practices result in higher level of human capital and final performance.

Dynamic Capabilities

Teece, Pisano, and Shuen (1997) extended the RBV by developing the dynamic capabilities approach, which theorists can use to identify the sources of value creation by organizations. Teece et al. addressed the evolving nature of firm resources and defined dynamic capabilities as an organizations ability to integrate, build, and deploy resources. Teece (2014) intended the dynamic capabilities concept to be uniquely helpful in identifying the resource bundles that provide a competitive advantage in highly competitive and rapidly changing business environments. Likewise, Eisenhardt and Martin (2000) asserted that traditional RBV does not accurately address strategic advantages in highly volatile markets.

Researchers continued to develop the dynamic capabilities concept in how organizations can use it to view competitive advantage. Eisenhardt and Martin (2000) furthered the dynamic capabilities model by including temporary advantages, such as those leveraged by Coke and Pepsi, to maintain consistent competition through organizational innovations and advertising. Ambrosini and Bowman (2009) also sought to further the development of the dynamic capabilities perspective. Ambrosini and Bowman stated that a dynamic capability is an effective approach to firm performance that focuses on the development and agility of internal resources to achieve a strategic advantage. Ambrosini and Bowman addressed the link between dynamic capabilities and competitive advantage by defining the usage of capabilities, not the capabilities themselves, as the value proposition. Teece et al. (1997) bridged a gap in existing theory by highlighting combinations of management capabilities that were traditionally not included in strategy development, including research and development, human resources, and organizational learning. Eisenhardt and Martin furthered that argument by asserting that routines, defined as dynamic capabilities, are critical to knowledge management. Routines allow organizations to mitigate risk rapidly changing markets by leveraging the existing organizational knowledge to accommodate quick adaptations (Eisenhardt & Martin, 2000).

Managers can use the dynamic capabilities approach to understand how SCM strategies can provide organizations with a strategic advantage. Handfield, Cousins, Lawson, and Peterson (2015) utilized the dynamic capabilities approach to identify the complementary effects of supply management alignment on network agility and supplier performance. Handfield et al. studied the relationships between stakeholder alignments, purchasing process structures, supplier agility, and performance levels utilizing the dynamic capabilities. Handfield et al. supported the assertion that successful procurement process modifications rely on strong relationship management capabilities. Notable to this study, Handfield et al. identified the impact of improved supply management alignment on firm performance improvement. Handfield et al. found that improved alignment resulted in an agile supply that was able to respond more quickly to customer requirements, suggesting that dynamic capabilities allow for improved strategic advantages in more volatile markets. Likewise, Masteika and Čepinskis (2015) utilized the dynamic capabilities approach to understand which dynamic organizational capabilities influence specific stages of supply chain changes. Like Handfield et al., Masteika and Čepinskis applied the dynamic capabilities to a fluctuating environment, where agility is critical. Chih-Hsing, Wen-Liang, Ching-Jun, and Kai-Ping (2016) also sought to develop a model for future studies of supply chain relationships and dynamic capabilities. Chih-Hsing et al.'s study is significant because this research indicated that interaction between supply chain members could increase the quality of those relationships and potentially provide strategic advantages because of successful management decisions. Additionally, Chih-Hsing et al. measured capabilities external to the organization, rather than the traditional internal capabilities focus.

Researchers used the dynamic capabilities when exploring talent acquisition and human resource systems (Bogodistov, Presse, Krupskyi, & Sardak, 2017; Chatterji & Patro, 2014; Fu et al., 2017). Building on the sensing, seizing and reconfiguring capacities of the dynamic capabilities framework, Helfat and Peteraf (2015) confirmed a positive association between managerial cognition and firm performance. Deriving strategic advantages from dynamic managerial capabilities can extend to hiring practices within human resource systems. For example, Lin, Hsu, and Yeh (2015) utilized the dynamic capabilities framework to show the relationship between hiring practices and marketing performance. Lin et al. posited that marketing resources and capabilities are key drivers of firm performance. Tatham, Wu, Kovács, and Butcher (2017) utilized the dynamic capabilities perspective to identify the most desirous attributes for supply chain managers. Tatham et al. provided critical information for hiring managers when assessing the supply chain talent pool.

Supply Chain and Logistics

A supply chain is a network of nodes and links that facilitate the flow of materials, information and finances up and down stream (Carter, Rogers, & Choi, 2015). In contrast, logistics are the tactical activities engaged within the system, including transportation, warehousing, payment systems, and border clearances (D'Aleo & Sergi, 2017). Supply chain and logistics are ubiquitous across every aspect of domestic and global economies. A field, business, industry, or geography relies on an effective supply chain for profitability and subsistence. Managers utilize supply chain practices to contribute to the product or service efficiency (Burda, 2015). Researchers identified critical offerings for logistic services as value-add, price, reputation, tracking and tracing, and transit time (Ho & Chang, 2015).

Because of this complex system of services and offerings included in the supply chain, Carter et al. (2015) sought to create a theory of supply chain by utilizing the concept of supply chain network and the complex adaptive system. In this way, Carter et al. created a framework for future supply chain theory development. Carter et al. stated that a gap exists in the literature for a more comprehensive understanding of the supply chain, while researchers continue to develop supply chain theories. Carter et al. contributed to the understanding of supply chain theory with a model that conceptualized the supply chain process and players. Carter et al.'s model is important because of the inclusion of supportive or value-add participants in the process model. Childress (2015) also stressed the importance of value-add or supportive participants in the supply chain. Childress provided a conceptual paper that credits logistics technology and inventory management with the sustained growth of global supply chains. Similar to Carter et al.'s efforts, Marchesini and Alcantara (2016) sought to define a conceptual framework to identify where specific logistics activities contributed value to the supply chain. Supporting Childress' position, Marchesini and Alcantara identified technology and quality of delivery to be critical factors in adding value to the organization. This focus on the value-add is important for understanding how supply chain services fit into today's economy.

Researchers demonstrated how an organizations supply chain contributes to its overall strategy through supporting corporate improvement initiatives, supporting competitive strategies, and as a source of competitive advantage (Tchokogué, Nollet, & Robineau, 2017). Researchers explored the implications of supply chain performance in the areas of risk management, competitive advantage, small business, globalization, healthcare, and humanitarian aid (Afonso & Cabrita, 2015; Baharmand, Comes, & Lauras, 2017; Bandaly, Satir, & Shanker, 2016; Chikul, Maw, & Soong, 2017; Datta, 2017; Gharehgozli, Iakovou, Chang, & Swaney, 2017). However, logistics services are frequently the target of cost reduction measures given the substantial percentage of spend it represents to the organization (Holcomb, Liao-Troth, & Manrodt, 2014).

Supply chain managers must look for value in innovations that match the current economic environment and organizational needs (Holcomb et al., 2014). To identify trends that will be driving future supply chains, Stank, Autry, Daugherty, and Closs

(2015) conducted a longitudinal study of supply chain managers between 2000 and 2013. Stank et al. reported significant improvement in prioritized customer service, process focus, process agility, and information sharing. However, Stank et al. stressed that managers must prepare for the advent of new challenges and seek a larger view of the supply chain through partnering with firms, integrating with suppliers, and co-creating value. Because of internal and external environments, supply chains are not static and challenge practitioners to maintain efficiency because of changes in demand (MacCarthy, Blome, Olhager, Srai, & Zhao, 2016).

New supply chain demands arise for a variety of reasons in response to market developments. A few major developments that required supply chain innovation are increased e-commerce sales (Siddiqui & Raza, 2015), the demand for reverse logistics (Vlachos, 2016), and fulfillment needs in emerging markets (Saranga, Mukherji, & Shah, 2015). Regulatory standards and government requirements may determine the supply chain requirements as well in the global economy. For example, Shou, Zheng, & Zhu (2016) surveyed 187 distributors in China and found that the firms experienced ineffective supply chain partnerships because of the institutional environment. Adding to studies of global industries, Xu, He, Xu, & Zhang (2017) examined an agreement between a steel supplier and manufacturer in which carbon emissions regulations materially affected the contract. As global regions and their markets fluctuate, so does the supply chain that must support it. Future supply chain disruptors may include 3D printing (Kietzmann, Pitt, & Berthon, 2015), Internet of Things (IoT) (Goldsby & Zinn, 2016), and changes to pharmaceutical import testing (Rönninger & Garbe, 2016). Given the width and breadth of current and future challenges for supply chain solutions, SCM prove to be critical to the ongoing success of business and innovation (Stank et al., 2015).

Supply Chain Management

Since its introduction, the field of SCM continues to evolve as a concept (Burda, 2015). Lambert and Enz (2017) defined SCM as using cross-functional business processes to manage relationships between organizations for providing value to all stakeholders. Lambert and Enz focused their view of SCM on the importance of relationships within networks of organizations. This relationship perspective is consistent with the findings of Truong et al. (2017) who reported that SCM customer and supplier relationships have a direct impact on operational performance. However, Lambert and Enz stated that there is no one definitive view of the SCM field or its practice. In their theoretical study of SCM concepts and definitions, LeMay, Helms, Kimball, and McMahon (2017) agreed with Lambert and Enz and stated that SCM has no common definition. LeMay et al. proposed a definition of SCM as the design and coordination of networks that provide goods and services to stakeholders. In their respective definitions, Lambert and Enz stressed the relationship view, but LeMay et al. stressed the coordination aspect of SCM. Both positions seem appropriate for a field that directly integrates with multiple operational functions and processes (Zacharia, Sanders, & Fugate, 2014). As the SCM field continues to evolve, so do the challenges to the education and skill requirements for supply chain managers (Kiessling, Harvey, & Akdeniz, 2014).

SCM education and skills. Jordan and Bak (2016) asserted that the growing scale and scope of the supply chain require a greater understanding of the broader supply chain skills picture. Jordan and Bak conducted a U.K. university study, which utilized rich, in-depth interviews with academics and then compared the findings to industry management surveys. Jordan and Bak concluded that the current industry needs are changing more rapidly than educational coursework content. In response to the changing definition of the supply chain field, Zacharia et al. (2014) conducted in-depth interviews of 50 academic scholars and 20 SCM executives to extract commonality of opinion and discuss the future of SCM. Zacharia et al. provided both the practitioner and academic an understanding of the common thoughts and practices of the SCM discipline. One key issue for scholars was how educational institutions and practitioners defined the SCM discipline (Zacharia et al., 2014). Some educational programs provided SCM as a business offering, and others as an engineering discipline or part of a transportation program, which contributes to the confusion regarding the field (Zacharia et al., 2014). Adding to the ambiguity of the SCM field, many executives continue to view SCM from a functional based view, which does not provide a broad enough perspective to solve the multifaceted issues that organizations face (Zacharia et al., 2014). Whether through the educational or employment path, skill development is paramount to providing effective SCM (Cronjé, 2015).

Researchers explored SCM professional competencies in a wide range of applications including emerging markets (Cronjé, 2015), social networking (Stolze, Murfield, & Esper, 2015), global management (Kiessling et al., 2014), and solar SCM (Shukla & Mali, 2015). Derwik and Hellström (2017) demonstrated the complexity of subject knowledge required in the SCM by conducting a review of the competencies expected in the field. Noting a lack of consensus regarding manager competencies, Derwik and Hellström analyzed the SCM literature by summarizing elements of competence into functional, relational, managerial, and behavioral. Derwik and Hellström reported that the functional aspect (e.g., logistics procedures, supply management, technique, and technology) is the most researched area of SCM. However, researcher's views vary on whether those competencies are most critical to the successful practice of SCM.

Although SCM is a complex field that encompasses multiple functions and organizations, many scholars report that the most desirous skills are not exclusive to the SCM field. Tatham et al. (2017) sought to distinguish the most critical skill set for SCM, as determined by those in the field. Tatham et al. found that to identify supply chain risks and opportunities, the most important skills needed by SCM are general management expertise. Likewise, De Abreu and Alcântara (2014) stated that the competitive environment is increasingly volatile and therefore requires managers who have strong analytical and predictive skills, which are general competency skills. Dotson, Dave, and Miller (2015) surveyed senior SCM executives to find what skills they seek in candidates. Consistent with De Abreu and Alcântara's findings, Dotson et al. found that the top two skills desired by SCM employers of problem-solving and listening are foremost managerial competencies. In a study of Czech senior SCM executives, Kampf and Ližbetinová (2015) found that the top two skills sought by management were managerial acumen and willingness, and ability to participate in ongoing education. Kampf and

Ližbetinová's findings support those of prior researchers, which emphasized the need for fundamental management skills in the SCM field. Although general managerial skills are critical to successful SCM, researchers reported the demand for cross-functional competencies in actual practice (Essex, Subramanian, & Gunaskaran, 2016).

Because of the expanding boundaries of SCM, the role of SCM professionals needs to evolve to support firm competitiveness (Kiessling et al., 2014). Globalization, innovation, sustainability, and technology drive the change in the SCM competencies (Sinha et al., 2016). For example, Kiessling et al. stated that specific understanding of global negotiations and business ethics are critical given the increased globalization of businesses. Thornton, Esper, and Autry (2016) found that political shrewdness has a positive influence on the supply chain orientation within organizations. Tatham et al. (2017) found that the specific skills that support innovation are absent from the list of the skills considered important to supply chain performance. Shukla and Mali (2015) reported that the solar industry requires significant supply chain planning skills that general competencies do not include. Dubey and Gunasekaran (2015a) reported that as the importance of sustainability grows, organizations experience a shortage of SCM knowledge required to address the need. Future economies will rely on supply chain manager's whose skills are more than conceptual, but practical in supporting the successful performance of complex organizations (Essex et al., 2016).

Researchers demonstrated that a positive relationship exists between specific SCM practices and organizational performance (Gonzalez-Loureiro, Dabic, & Kiessling, 2015). SCM professionals that initiate trust relationships between organizational networks and customers can improve the organization's operational performance (Truong et al., 2017). Ellinger and Ellinger (2014) stated that lack of collaboration within organizations could stem from the lack of SCM professionals with alliance building skills. Firms can create a competitive advantage through the development of SCM professional's skills when it results in dynamic capabilities (Essex et al., 2016). Trends important to SCM professionals include outsourcing and the significance of 3PL participation (Burda, 2015).

Third Party Logistics

3PL enterprise personnel manage the supply chain and supply chain services for other businesses (Giri & Sarker, 2017). Businesses leaders seeking a competitive advantage through SCM may utilize a 3PL to focus on core competencies and save on capital investments (Giri & Sarker, 2017). However, successful integration of a 3PL is incumbent on capable and efficient partners (Giri & Sarker, 2017). Marchet, Melacini, Sassi, and Tappia (2017) found that the most efficiently managed 3PLs focus on standardization, while the most innovative firms rely on customized offerings. To survive, 3PL leaders must differentiate their organizations and create a strategic advantage through specialization or competitive positioning (Lieb & Lieb, 2016). In all scenarios, service quality strongly influences brand equity, so maintaining service levels is critical for 3PLs (Grant, Juntunen, Juga, & Juntunen, 2014). However, rapidly changing organization expectations and requirements challenge 3PLs to respond adequately to industry needs (Lieb & Lieb, 2016).

Researchers explored various dimensions of 3PL operations as they relate to organizational assets. The wide spectrum of these studies include specific potential 3PL services for China (Shi, Zhang, Arthanari, Lui, & Cheng, 2015), improving 3PL performance in offshoring (Jazairy, Lenhardt, & von Haartman, 2017), value creation (Marchet, Melacini, Perotti, Sassi, & Tappia, 2017), knowledge management (Izzah, Lui, & Cheng, 2017) and impact on firm performance (Leuschner, Carter, Golsby, & Rogers, 2014). Dubey, Genasekaran, Chile, and Papadopoulos (2018) offered a framework of needed supply chain skills in response to the skills shortage experienced by 3PLs in India. When asked to identify the most important issue facing 3PLs, the latest annual study of North American 3PL CEOs cited talent acquisition and retention six times more frequently than any other issue (Lieb & Lieb, 2016).

3PLs experience a critical challenge with firm performance and talent management (Lieb & Lieb, 2016). Lieb and Lieb stated that talent shortages affect 3PLs because the organizations lack branding, complete with organizations that offer higher compensation, and must respond to increased customer expectations. This need for specialty requires highly skilled talent to manage supply chain issues for customers that result in financial gains for 3PLs (Lieb & Lieb, 2016). Organizational leaders need to look to talent management strategies to address the shortage of supply chain providers (Maloni, Scherrer, & Mascaritolo, 2016).

Talent Management

Talent management is an organizational function that defines employee skills and identifies skills are important to the firm structure (Craig, 2015). Talent management is critical to organizational success because it represents a potential driver or competitive advantage (Khoreva, Vaiman, & Van Zalk, 2017). In practice, there is a wide variety of definitions for the term talent (Saddozai, Hui, Akram, Khan, & Memon, 2017). Participants in Saddozai et al.'s (2017) study described talent as all employees, high performing employees, or employees in key positions with the organization. Employees' perceptions of what talent management is and how talent management can benefit them are critical in understanding successful hiring and retention practices (Khoreva et al., 2017; Saddozai et al., 2017; Tafti, Mahmoudsalehi, & Amiri, 2017). High potential employees prove to increase their commitment to career development when they view talent management practices as favorable (Khoreva et al., 2017). Schiemann (2014) referred to the talent lifecycle as a process that encompasses all stages of managing human capital, including building a talent brand that attracts the right talent to acquiring, onboarding, developing, managing, retaining, and even recovering talent.

Identifying and attracting talent. Focusing on the attraction phase of the talent lifecycle, Leon and Uddin (2016) researched students to identify what attributes contributed to student's selection of career and related education. Leon and Uddin indicated that hiring managers should employ strategies that appeal to potential candidates during their high school years. Maloni, Scherrer, Campbell, and Boyd (2016) reported that students who selected SCM as their major respond to professor reputation, and intrinsic and extrinsic aspects of the field more than students in other majors. This attraction to the SCM education by way of preferable attributes extends to employment opportunities.

Van Loon, Leisink, and Vandenabeele (2017) stated that prospective employees base their employment choices on their perceptions of fit with the organizational norms and values. Lieb and Lieb (2015) explored recurring issues related to recruitment and retention of supply chain professionals, identifying gaps in candidate expectations versus industry offerings. Lieb and Lieb reported issues related to workload and compensation in the 3PL industry. Likewise, Maloni, Scherrer, Campbell et al. (2016) explored the relationship between university students desired workplace characteristics versus actual features of the supply chain field. Maloni, Scherrer, Campbell et al. (2016) found that the logistics field falls short on extrinsic values (e.g., promotion, pay) and stability (e.g., benefits, retirement) that students strongly are desire. In spite of these issues, Maloni, Scherrer, Campbell et al. (2016) recommend that employers promote the extrinsic factors of prestige and respect, attributes that students associated with supply chain positions. Additionally, stressing opportunities for internal advancement and results-oriented work could increase the appeal of the industry (Lieb & Lieb, 2015; Maloni, Scherrer, Campbell et al., 2016). However, increasing student enrollment into the supply chain field does not resolve the talent management issues.

Applying new methods. Managers may need to utilize new methods of talent acquisition to identify and attract the quality candidates they seek. Fisher et al. (2014) asserted that if supply chain organizations lack recruitment strategies, these organizations will underperform because of the lack of talent. Furthermore, Fisher et al. stated that effective recruitment depends on the organization’s effective deployment of social media initiatives. Likewise, Dutta (2014) claimed that organizations impede successful resource fulfillment by focusing on an outdated model of recruitment, which results in a loss of strategic advantage. Fisher et al. stressed that trends indicate future candidates will use social media as their primary connection with businesses including their understanding of organizational brands.

Global supply chain organizations use social media to connect with client and partners, but few have progressed to utilizing the platform with an employee market (Fisher et al., 2014). Utilizing social media in both active and passive recruitment is key for organizations needing to optimize hiring practices (Dutta, 2014; Fisher et al., 2014; Shelton Hunt, 2014). Passive recruitment includes all activities that cause organizational attractiveness to potential candidates and enhance the organization brand with both current and future job seekers (Dutta, 2014). Talent and online alumni networks exist to provide passive recruitment, where former employees can offer referrals and employees can maintain contact even in the absence of open opportunities (Shelton Hunt, 2014). Dutta proposed that the more frequently organizations utilize social media platforms, the greater likelihood that potential applicants will recognize organizational branding. Many organizations underutilize social platforms or social networking sites when it comes to advertising or hiring (Dutta, 2014; Shelton Hunt, 2014).

Some organizations completely digitalized the talent acquisition process around social media activities. However, Fisher et al. (2014) stressed that in the global supply chain field, organizations lack social media presence and successful strategies for online talent acquisition. Fisher et al. suggested that organizations desiring to utilize social media as a hiring tool begin by creating a strategy that integrates new methods into existing practices. Likewise, Dutta (2014) suggested new approaches to quantify hiring performance due to the influence of passive recruitment that social media provides. Organization human resources potentially provide a competitive advantage by supplying superior talent performance and optimized returns (Dutta, 2014).

Application to the Applied Business Problem

The lack of trained professionals negatively affects business and market performance (Wood et al., 2016). Therefore, researchers have examined the talent shortage phenomenon within various industries. High shortage rates of supply chain professionals are the key weakness in the 3PL industry (Lieb & Lieb, 2015). Within the supply chain specialty, researchers examined the lack of trained professionals to address sustainability, solar production, and issues related to emerging economies (Cronjé, 2015; Dubey & Gunasekaran, 2015a; Shukla & Mali, 2015). Government and industry standards increasingly challenge business leaders with accountability for the social and environmental impact of their supply chain activities (Abbasi, 2017). Dubey and Gunasekaran (2015a) reported that the current talent pool is unprepared for the increasing requirements for addressing sustainability issues. Shukla and Mali asserted that the solar industry has unique requirements for supply chain professionals, which rely heavily on an understanding of government influences and negotiation skills. Cronjé conducted a qualitative study to create a benchmark for other emerging countries that wish to develop competent supply chain professionals. Tan, Yifei, Zhang, and Hilmola (2014) explored China’s logistics environment, which mirrored the supply chain professional shortage noted by Lieb and Lieb. As with supply chain, the negative organizational and economic impact prompted researchers to address talent shortages within other fields.

Steffee (2015) reported that talent shortages and skills gap are the main reasons for the looming crisis of talent management with the cybersecurity field. Steffee clarified that less than 50% of IT managers feel that their security teams can competently identify and address complex issues due to the shortage of skilled professionals. Steffee reported that government agencies modified hiring salaries of candidates to compete with private sector cybersecurity positions. Richards (2016) addressed the global issue of skilled nursing shortages, where over 60% of the world's largest economies experience an extreme shortage. Richards stated strategies to increase hiring in one case study include utilizing candidate data to understand the applicant's needs and capitalizing on online resources. Exploring the shortage of science, technology, engineering, and mathematics (STEM) workers, Yi and Larson (2015) stated that levels of shortages vary between job market segments. The academic sector does not have a shortage of workers, while the government and non-government sectors experience shortages at various levels and with various specialties (Yi & Larson, 2015). Yi and Larson stressed the importance of scrutinizing possible talent shortages in STEM areas because economic development relies heavily on these positions. Yi and Larson illustrated how economic realities influence the talent supply and demand. Also examining STEM talent shortages, Carr (2016) recommended appealing to Millennials by expanding business operations to talent-rich regions. Other researchers addressed the relationship between talent shortages are and population composition and changes.

The change in population due to the retirement of the baby boomer generation will result in huge shortages of talent and skilled labor across the globe (Mishra, 2017). Mishra found that governmental, educational institutions, nongovernmental institutions, and business leaders need to collaborate to address the vast, impending shortages in skilled labor. Campanella (2015) referred to the loss of experienced labor as *brain drain*. Campanella recommended both short and long-term strategies to address the current and future skill shortages experienced in Europe. Campanella suggested national investments in education and continuous learning programs to combat the skilled worker scarcity. The United States will experience the brain drain as 10,000 workers a day turn 65 and leave companies with a gap at the upper management level (Arms & Bercik, 2015). Workforce analytics may play a key role in strategies for establishing adequate talent supply chains, along with online networking and adaptive work arrangements (Arms & Bercik, 2015).

Analytics and customization of employee data enable organizations to address human resource issues such as training and personal development (Larkin, 2017). Millennials, whom organizational leaders hope to gain, find flexible online and digital connections to work attractive (Larkin, 2017). Based on the fact that digital literacy is strong for millennials, organizational leaders interested in securing the top millennial talent should structure organizational learning by applying reflective, creative, and collaborative spaces (Karakas, Manisaligil, & Sarigollu, 2015). In a survey targeting hiring managers in STEM fields, research showed that managers use diverse methods to recruit knowledge workers, but these managers are not using their preferred methods (Arik & Geho, 2017). Addressing the need to address millennials to the insurance industry, Duett, Baggett, Pappanastos, and Hamby (2017) reported that potential candidates lacked awareness of the industry opportunities. Duett et al. recommended that organizational leaders focus on early education of high school students to raise awareness and increase the talent pool. Research supports the strategy of appealing to the student population for long-term talent pipeline improvements.

Maloni, Scherrer and Mascaritolo (2016) recommended accessing potential candidates through educational institutions and military. Maloni, Scherrer and Mascaritolo (2016) noted that military personnel are likely to possess useful logistic knowledge and experience that may enhance their candidacies. Addressing the need for increased talent pipeline in SCM, Ruamsook and Craighead (2014) recommended academic partnerships, applied consulting activities, and student scholarships. Organizational leaders’ efforts to include underrepresented groups, appeal to industry newcomers and collaborate with educational, governmental, and business entities may be lifelines to creating the supply chain talent pool that they so desperately need (Maloni, Scherrer & Mascaritolo, 2016).

Organizations resolve business challenges through a variety of random efforts. However, a topical study is evidence-based with formal design and results that further research can reproduce (Goodman, Gary, & Wood, 2014). Peer-reviewed sources provided evidence-based knowledge that I applied to the talent shortage issues within the supply chain discipline. Additionally, I used the RBV framework as a comprehensive lens to explain the study’s concepts and methodologies. My objective was to identify all the related academic literature that would allow me to explain the problematic phenomenon that businesses were experiencing along with possible strategies to positively address these issues.

Transition

In Section 1 of my qualitative multiple case study, I provided the foundation for my business study. I first discussed the background of challenges associated with supply chain talent management. I next stated the problem statement, purpose statement, nature of the study, and research question. I explained the conceptual framework that I used for the study. I included a list of defined terms, assumptions, limitations, and delimitations of the study. I concluded Section 1 with a review of the professional literature that supports the academic foundation for the study.

In Section 2, I include the proposed process to explore strategies that 3PL hiring managers use to recruit supply chain professionals. I also explain my role in the research, data collection procedures and techniques, data analysis, and maintaining ethical standards. To conclude Section 2, I detail the proposed procedures to address the issues of dependability, credibility, and confirmability of the findings.

In Section 3, I present the findings of the study, discuss how the findings confirm prior research, and describe the key themes that emanated from the data. I present recommendations for business practice, recommendations for further research, and the implications for social change. I provide some personal reflections regarding conducting this research study and end with a concluding statement.

Section 2: The Project

Section 2 includes the purpose, methodology, and design for data collection and analysis in this study. I explain the role of the researcher in data collection as well as provide information on the participants. I conducted a qualitative case study, as I revealed in the research method and design sections. After detailing the population and sampling for my study, I review issues of ethical research. I continue with data collection instruments and techniques before covering the phases of data analysis. Finally, I conclude with issues of maintaining reliability and validity in research.

Purpose Statement

The purpose of this qualitative multiple case study was to explore strategies that some hiring managers of 3PLs use to recruit supply chain professionals. The targeted population was hiring managers from five Pennsylvania 3PLs who have successfully implemented strategies to recruit supply chain professionals. The implications for positive social change include the potential to increase vacant position placements as well as organizational profitability, which in turn helps local communities by lowering unemployment and increasing the tax base. Increased employment rates potentially produce greater local economic stability and community prosperity, possibly resulting in an improved standard of living for community residents.

Role of the Researcher

Yin (2015) defined the qualitative data collection process as collection, analysis, and validation. My role as the researcher was to design the theme, provide a framework, develop interview content, conduct the interviews, transcribe and analyze the responses, and verify and report the findings. In qualitative studies, the researcher is the main instrument of data collection (Dikko, 2016). In my role of the researcher, I was the primary data collection instrument. Qualitative researchers draw data from multiple sources to capture the complexity and entirety of the phenomenon under study (Merriam, 1998; Stake, 1995; Yin, 2002). I collected data from multiple sources to explore the shortage of supply chain talent. Merriam (1998) defined data analysis as making meaning out of the collected data. From a social constructivist viewpoint, research is participatory and involves the exchange of ideas between the researcher and participants (Kahlke, 2014). I collected data using semistructured interviews and documents related to recruitment of supply chain professionals by 3PLs in Pennsylvania (see Appendix A). I also addressed biases that may exist in my study.

Qualitative researchers must ensure that their personal experiences do not bias the data collection or interpretation (Smith & Noble, 2014). Researcher's biases are a natural result of familiarity with the phenomenon, the participants' experiences, or the topic under review (Berger, 2015). However, researchers have various methods at their disposal to address bias issues. Berger (2015) recommended the use of a log, repeated review, and seeking peer consultation as steps to identify and mitigate biases. Recognizing that self-review is critical to trustworthy results, I maintained a log for notes and research review along with consistent requests for peer reviews. Member checking is one method to address possible bias in interpretation or results (Madill & Sullivan, 2017). To mitigate bias, I used member checking with my participants.

In accordance with the Belmont Report (1979), researchers must provide all participants with personal respect, beneficence, and justice. All research participants should receive the same ethical considerations regarding their claims, needs, interests, and rights (Brody, Migueles, & Wendler, 2015). Additionally, researchers must protect participant's autonomy by respecting their requests and views (Hull & Wilson, 2017). Transparency and trust are key to quality research that benefits academics, practitioners, and society (Hull & Wilson, 2017). I followed the Belmont Report guidelines by respecting the views of participants, informing them of all parts of the process, and using consent forms with all participants.

Qualitative researchers must be aware that their values, background, and previous experiences with phenomenon can affect the research process (Cope, 2014). To establish the reliability of findings, Noble and Smith (2015) recommended accounting for personal bias by outlining personal experiences and viewpoints related to the study. I did not have any current or past personal or professional relationships with the target population or the 3PLs. However, my interest in my research topic stems from my employment experience in the logistics field from 2002-2018. I have been employed at a 3PL firm from 2004-2018 and am involved in many aspects of SCM, project management, and order fulfillment. Although I have never worked in human resources or talent management, the challenges I experienced in the industry led me to pursue this study of supply chain talent. Yin (2015) addressed the need to consider time and scope issues when conducting a qualitative study. As I have been a southwestern Pennsylvania resident from 1983-2018, I chose to focus on Pennsylvania because of the logistical efficiency for data collection. To conduct a multiple case study, I conducted in-depth, semistructured interviews to collect data using an established interview protocol (see Appendix B).

Researchers establish an interview protocol to address validity, reliability, and ethics of their study (Merriam & Tisdell, 2015). A thorough protocol to conduct semistructured interviews is (a) ensuring interview questions align with research questions, (b) constructing an inquiry-based conversation, and (c) receiving feedback on interview protocols (Castillo-Montoya, 2016). Following a protocol for the interview process assists in obtaining quality data that is robust and directly addresses research questions (Jones, Torres, & Arminio, 2014). To collect quality data that is in alignment with my research question, I followed an established interview protocol (see Appendix B).

Participants

I explored the strategies some hiring managers of 3PLs use to recruit supply chain professionals. Therefore, I interviewed hiring managers from 3PLs who have used successful strategies to recruit supply chain professionals. In a multiple case study, participants function as informants of a phenomenon (Ellinger & McWhorter, 2016; Merriam & Tisdell, 2015; Yin, 2015). These hiring managers were able to describe their experience with supply chain recruitment. Online research may provide needed information on research population (Kaiser, Thomas, & Bowers, 2017; Merriam & Tisdell, 2015; Yin, 2015). I began to identify potential participants using a list of 3PLs located in the state of Pennsylvania that I collected from public directories. Initial interviews may help determine informant eligibility for the study (Merriam & Tisdell, 2015). I used my compiled list to contact hiring managers from these organizations and conducted initial phone interviews to determine eligibility. Potential participants were hiring managers employed by a Pennsylvania 3PL with personal experience using successful strategies to recruit supply chain professionals. Commonalities may be helpful in establishing rapport with potential participants (Peticca-Harris, deGama, & Elias, 2016). I focused on common career experiences within a shared general locality to generate mutual trust with credible candidates. With repeated contact, opportunities might exist for a more authentic exchange of experiences (Miller, 2017). I worked to establish a partnership for exploring the phenomenon under study. As part of the protocol, researchers should work with participants to create an environment appropriate for a lengthy interview, including site condition and times (Skouloudis et al., 2017). Gagnon, Jacob, and McCabe (2015) argued that interview space and place are critical to successful interviews. I utilized a local public library to conduct the interviews, offering participants a neutral setting to promote intellectual discourse and relative confidentiality.

Research Method and Design

Research Method

Three methodologies used in research are qualitative, quantitative, and mixed methods (Halcomb & Hickman, 2015; Merriam & Tisdell, 2015; Saunders & Bezzina, 2015). Qualitative researchers examine phenomenon to understand experiences or meanings (Gerring, 2017; Merriam & Tisdell, 2015). Qualitative researchers provide a level of description from their analysis that illuminates dynamics, meanings, and context (Lewis, 2016; Santha, Sudheer, Saxena, & Tiwari, 2015). The issues related to the shortage of supply chain professionals require an examination of practices, ideas, and behaviors of individuals experiencing the phenomenon. Therefore, the qualitative method was appropriate for addressing my business problem and understanding behaviors.

Researchers in many fields including education, health, administration, social work, sociology, and anthropology employ qualitative research (Merriam & Tisdell, 2015). Lambourdière, Rebolledo, and Corbin (2017) used qualitative methodology to explore sources of competitive advantage among 3PLs. Also related to logistics management research, Derwik, Hellström, and Karlsson (2016) examined manager competencies in logistics and supply chain positions. In the human resource field, Haddock-Millar, Sanyal, and Müller-Camen (2016) used qualitative methods to explore individual approaches to green human resource management. Haddock-Millar et al. identified patterns and underlying relationships between managers and existing business practices with rich data. Similarly, Kulkarni, Lengnick-Hall, and Martinez (2015) explored manager's perceptions of applicant qualifications by collecting narrative data from individuals in the business context. Because I wanted to explore the phenomenon experienced by hiring managers in context, I chose the qualitative method as the most appropriate.

Quantitative researchers analyze data to test the declared hypothesis (Barnham, 2015; Merriam & Tisdell, 2015; Park & Park, 2016). Researchers conducting quantitative research collect and analyze numeric data to quantify variables (Halcomb & Hickman, 2015). Quantitative researchers aim to classify features, measure them, and create models that explain their observations (McCusker & Gunaydin, 2015). Researchers using the quantitative approach plan exactly what they are seeking to examine and utilize closed questions that do not provide contextual detail (McCusker & Gunaydin, 2015). I did not collect numeric data, test a hypotheses, or quantify variables; therefore, the quantitative approach was not appropriate.

Mixed-methods researchers incorporate both the qualitative and quantitative in the study (Halcomb & Hickman, 2015; Humphreys & Jacobs, 2015). Researchers conducting mixed method research offer varied views of data that may help analyze complex research questions (McCusker & Gunaydin, 2015). However, because mixed methods combines two separate analytic processes, this approach can be lengthy and impractical (McCusker & Gunaydin, 2015). Because I did not use quantitative methodology, I also then eliminated the mixed-methods approach from consideration.

Research Design

Qualitative research designs are phenomenology, ethnography, narrative inquiry, and case study (Merriam & Tisdell, 2015). Researchers can use either single or multiple case studies to examine contemporary phenomena (Runfola, Perna, Baraldi, & Gregori, 2017). A case study is an in-depth description and analysis of a bound phenomenon, which determines the unit of analysis (Merriam & Tisdell, 2015). Case studies offer the opportunity to understand complex issues within the real-life context (Runfola et al., 2017). The use of case study allows more flexibility than phenomenology or grounded theory designs, which are defined by the focus of the study, not the unit of analysis (Hyett, Kenny, & Dickson-Swift, 2014; Merriam & Tisdell, 2015). I used a multiple case study design because this design allowed me to develop rich data within the real-life context for analysis of a stated business problem.

Researchers use the phenomenology design to explain how persons understand the meanings of their experiences (Wilson, 2015). Researchers conducting a phenomenological study provide an in-depth study of a lived phenomenon gathered through open-ended interviews (Malagon-Maldonado, 2014). The goal of phenomenology research is to arrive at the essence of the personal experience (Merriam & Tisdell, 2015). I focused my study on a business problem rather than an individual lived experience. Therefore, the phenomenology design was not suitable for this study.

Ethnography is a design that researchers use to describe how culture or sub-culture influences individuals or groups (Draper, 2015). Researchers use the ethnography design to describe the social and cultural rules, norms, and routines found in daily experiences (Malagon-Maldonado, 2014). The researcher engages in lengthy immersion in the setting to collect a rich understanding of the lived experience through interviews, documents, artifacts, and field notes (Merriam & Tisdell, 2015). Qualitative researchers using the ethnography design strive to see the world from the individual or groups view (Draper, 2015). Ethnographic researchers participate in activities within the setting and rely on the researcher’s personal interpretations and impressions (Merriam & Tisdell, 2015). I did not seek to interpret the experiences of participants from within the phenomenon. Therefore, the ethnographic design was not appropriate.

A researcher using the narrative design uses participants’ stories as data to explain how they interact in life (Merriam & Tisdell, 2015). With narrative design, qualitative researchers focus on storylines, timelines, or sequence of actions to relate the experiences of participants (Joyce, 2015). The objective for the qualitative researcher using a narrative design is to collect and analyze a biographical viewpoint in the context of gender, race, family or origin, life events, and watershed experiences (Merriam & Tisdell, 2015). Participants in narrative design share details of sequential events to describe the order of events as well as the consequences (Whiffin, Bailey, Ellis-Hill, & Jarrett, 2014). I did not aim to interpret a biographical story. Therefore, I rejected the narrative design.

Qualitative researchers maintain consistency by posing the same questions to participants (Fusch & Ness, 2015; Hennink, Kaiser, & Marconi, 2017; Saxena, 2017). I attained data saturation by asking the same questions in all of my interviews. Reflective data analysis throughout data collection allows qualitative researchers to identify when themes are sufficiently complex and relate to theoretical constructs (Chowdhury, 2015; Fusch & Ness, 2015; Merriam & Tisdell, 2015). Ongoing data analysis provided me with insight into the data with which I exhausted coding. I confirmed that I attained data saturation when no new data, themes, or patterns emerged. Member checking increases the trustworthiness of the study through a validation of the data (Anderson, 2017; Birt, Scott, Cavers, Campbell, & Walter, 2016; Varpio, Ajjawi, Monrouxe, O'Brien & Rees, 2017). I used member checking to allow the participants an opportunity to validate my interpretation of their interview responses. Rich data increases the trustworthiness of a study by confirming and supporting interpreted themes from participant interviews (Fusch & Ness, 2015; Merriam & Tisdell, 2015; Muir, 2014). I collected rich data by including multiple data sources.

Population and Sampling

Researchers must determine the appropriate participants, how many participants to include, and appropriate interview approaches for their studies (Etikan, Musa, & Alkassim, 2016). The goal of sampling is to identify the sample that supports the research design (McCusker & Gunaydin, 2015). Purposeful sampling is the effort to have all possible questions about a topic covered by choosing a group that knows the phenomenon (Boddy, 2016). Purposeful sampling is the nonrandom process of selecting specific participants based on their experience with the phenomenon under examination (Carman, Clark, Wolf, & Moon, 2015). Random and nonprobability sampling are useful to answer quantitative research questions, but not for qualitative analysis (Merriam & Tisdell, 2015). I used purposeful sampling to select 3PL hiring managers who have successfully implemented hiring strategies that will contribute to the exploration of my study topic. By using this population for my study, the experience of the participants contributed to the understanding of strategies that address the talent shortage in the supply chain field.

Sample size in a qualitative study should be of sufficient quantity to capture all aspects of the phenomenon under study, but limited enough to allow for a thorough coding process in a practical amount of time (Gheondea-Eladi, 2014; van Rijnsoever, 2017). In qualitative research, the goal is to collect a sufficient amount of data to provide an understanding of the complexity and context of the phenomenon rather than to represent other populations (Gentles, Charles, Ploeg, & McKibbon, 2015). However, participants in the sample of inadequate size will lack variation and depth, and will not provide rich understanding or adequately represent the phenomenon (Morse, 2015). Yin (2014) suggested a sample size of three as sufficient to achieve saturation for case study research. Jaca, Viles, Paipa-Galeano, Santos, and Mateo (2014) conducted a qualitative multiple case study exploring firm best practices collecting data from five manager participants. Bjørgum (2016) also conducted a multiple case study of companies entering into emerging industries using a sample size of five participants. Ruel, Ouabouch, and Shaaban (2017) examined the conditions of risk management within various industries using five participants. Because I explored a phenomenon related to business practices in my study, I conducted a multiple case study that utilized five participants. My study population consisted of five hiring managers of Pennsylvanian 3PLs who implemented successful strategies to recruit skilled supply chain professionals.

Data saturation is one method of gauging an adequate sample size (van Rijnsoever, 2017). Qualitative researchers use theoretical saturation, rather than statistical saturation for measuring sampling (Gentles et al., 2015). Theoretical data saturation is present once the no new emergent themes derived from the data (Hennink et al., 2017; van Rijnsoever, 2017). Charmaz (2014) defined data saturation as when researchers fully develop themes with rich context. Similarly, Fusch and Ness (2015) defined data saturation as when the researchers achieve rich contextual data collection within theoretical categories. I reached data saturation by collecting data through interviews, member checking, and document reviews until the data represented the conceptual depth of themes and no new themes emerged.

Preliminary data analysis throughout data collection allows researchers to gauge saturation before final analysis (Elo et al., 2014). I achieved data saturation by collecting and analyzing data until no new data, themes, or patterns emerge. Member checking is a method researchers use in qualitative studies to increase validity by allowing participants to review synthesized data and provide feedback (Kornbluh, 2015; Madill & Sullivan, 2017). Member checking is useful to researchers for confirming themes with participants (Birt et al., 2016). Researchers can conduct member checking in groups or with individuals, at various times through the study and with a variety of research data (Chang, 2014; Kornbluh, 2015; Madill & Sullivan, 2017). Providing participants with synthesized data should allow participants to identify if their responses are included in the themes (Birt et al., 2016). To ensure data saturation, I utilized member checking after my initial analysis and interpretation of the interview transcripts to allow participants the opportunity to verify the accuracy of my interpretation of their responses. Kornbluh (2015) conducted member checking with participants and incorporated new themes into results. Researchers engage participants in follow up interviews to conduct member checking ensure data saturation and accuracy (Chih-Feng, Ching-Jung, Walters, & Ching-Yieh, 2016; Harvey, 2015; Simpson & Quigley, 2016). To conduct member checking, I engaged in 30-minute follow up sessions with participants to gain their responses to the summarized data (see Appendix C).

Online channels are a resource for identifying potential participants (Bjørgum, 2016; Kaiser et al., 2017; Merriam & Tisdell, 2015). I identified potential participants from online public directories of Pennsylvania 3PLs. Potential participants were hiring managers of Pennsylvania 3PLs who used successful strategies to recruit supply chain professionals. When I identified a potential participant, I sent an invitation letter explaining details, and requirements of the study (see Appendix C). Research location and space are significant dynamics for the interviewing process (Gagnon et al., 2015; Moore, 2015; Taylor et al., 2015). Field researchers must manage access and privacy issues to secure locations that are free from interruption and distraction and promote anonymity (Anthony & Danaher, 2016; Yin, 2014). Yin (2014) suggested that the interview location for participants should be a secure location that is convenient for them. I conducted my interviews in a private conference room in a public library, which provides easy access, an academic environment, and reasonable confidentiality.

Ethical Research

The informed consent document is a requirement established by ethical and legal federal regulatory agencies to protect the rights of study participants (Grady, 2015). The informed consent document contains details such as the purpose of the study, associated risks and benefits, terms of compliance, costs and compensation, and voluntary involvement and withdrawal (Hull & Wilson, 2017; Kim & Kim, 2015). The informed consent should provide both protection of the participant and transparency of the research (Yin, 2014). In adherence to ethical guidelines, I reviewed the consent form with participants, including their right to withdraw from the study at any time with no fear of repercussions. Participants had my contact information with which to notify me if they would like to leave the study. I informed the participants that they may notify me via phone or e-mail if they would like to leave participation at any time before the completion of the study, at which time I will destroy the data. Participants received no incentives for voluntary participation except a summary of the final study. To ensure trustworthiness and consistency, I followed the established interview protocol (see Appendix B).

Institutional Review Boards (IRBs) are regulatory committees that oversee standards for human subject research (Blackwood et al., 2015). Questionable practices in biomedical and behavioral human studies prompted the creation of IRB's (U. S. Department of Health and Human Services, 1979). IRB's evaluate the quality of ethics a researcher applies to the research process. Researchers submit details of their studies related to participant selection and interaction to the IRB, which the agency can then analyze for possible ethical exceptions. Researchers must meet IRB approval before they can conduct studies involving human subjects (U.S. Department of Health & Human Services, 2014). The Walden IRB approval number for this study is 04-04-18-0627044.

The criteria for IRB approval include minimizing risks to participants, the rationale of risk versus benefit, ethical subject selection, documented, voluntary consent of participants, and participant confidentiality (Blackwood et al., 2015). I addressed issues related to ethical issues by maintaining transparency throughout the process of my study and obtaining appropriate authorizations from participants. To adhere to IRB requirements, I ensured that I informed my participants of the study requirements and allowances by utilizing the Informed consent form. Participants provided informed consent through replying to an e-mail with "I consent" or by signing the informed consent form just prior to start of the interview. Additionally, I followed the interview protocol, which provided visibility of the process I used for data collection (see Appendix B). Researchers commonly utilize pseudonyms as a method of maintaining participant anonymity (Sanjari, Bahramnezhad, Khoshnava, Shoghi, & Ali, 2014; Spillane, Larkin, Corcoran, Matvienko-Sikar, & Arensman, 2017). I protected the identity of my participants by providing pseudonyms 3PL1, 3PL2, 3PL3, 3PL4, and 3PL5 for my participants as detailed in the interview protocol (see Appendix B). I will secure all data from the research in a locked box in my home office for a minimum of 5 years, after which I will destroy the data.

Data Collection Instruments

In a qualitative study, the researcher is the primary data collection instrument (Cypress, 2017). For my research study, I was the primary data collection instrument. Researchers collect rich qualitative data with the use of open-ended questions and triangulating with secondary data (Baillie, 2015; Merriam & Tisdell, 2015; Morse, 2015). I collected data by conducting semistructured interviews and reviewing organizational materials to achieve rich data. My interview protocol included steps to inform the participants of the purposes of the interview and their role (see Appendix B). I conducted face-to-face semistructured interviews lasting approximately 60 minutes to collect the research data. I utilized the predefined open-ended questions to ensure consistency for all interview participants, and used additional probing questions to ensure I gathered the meanings of the participant responses (see Appendix A). As outlined in my Informed Consent, to collect secondary data, I requested copies of hiring documents related to hiring manager strategies, such as assessment tools and interviewing protocols.

Qualitative researchers can enhance the trustworthiness of their studies by utilizing a protocol (Amankwaa, 2016; Castillo-Montoya, 2016). Interview protocols assist researchers in ensuring alignment with research questions and facilitate a focused interview process (Castillo-Montoya, 2016). Additionally, interview protocols provide transparency of the process that supports rigor and reliability (Amankwaa, 2016). Interview protocols include case study information, details for data collection and scrips for interviewing (Yin, 2014). I utilized the interview protocol (see Appendix B) along with the scripted questions (see Appendix A) for my study. To implement the protocol, I applied the appropriate section of the protocol as I progressed through each phase of the study, ensuring that I completed each requirement by documenting the details in my indexed journal. Researchers use journaling to document decisions and insights made throughout the qualitative study process (Cope, 2014; Hadi & Closs, 2016; Merriam & Tisdell, 2015)

Researchers can use digital recordings in qualitative interviews to gain both a method of auditing and validity (Nordstrom, 2015). I utilized a digital voice recorder for all interviews to promote trustworthiness of my study and easy of coding. Researchers use member checking to promote credibility in their studies (Hadi & Closs, 2016). The member checking process begins with the initial interview, after which the researcher interprets or summarizes the data, which the participants then review (Caretta, 2016; Gledhill & Harwood, 2014; Rieck, 2014). Researchers engage participants in follow up interviews to conduct member checking ensure data saturation and accuracy (Chih-Feng et al., 2016; Harvey, 2015; Simpson & Quigley, 2016). To conduct member checking, I engaged in 30-minute follow up sessions with participants as outlined in my informed consent document.

Data Collection Technique

In qualitative research, the researcher determines the data collection techniques by aligning them with the theoretical orientation, the purpose of the study, and the sample selection (Merriam & Tisdell, 2015). Qualitative researchers must make many decisions regarding the techniques that will best capture the phenomenon under study (Hammer & Berland, 2014). Researchers conducting qualitative case studies commonly employ face-to-face interviews, audio recordings, and journaling to collect data (Merriam & Tisdell, 2015; Morgan, Pullon, Macdonald, McKinlay, & Gray, 2017; Setia, 2017). I conducted in-person interviews with my participants for 45-60 minutes as outlined in my Informed Consent agreement.

Researchers must be certain that the participants understand the purposes of the interview and their role (Merriam & Tisdell, 2015). Researchers need to prove that participation is well understood and truly voluntary (Yin, 2015). I opened the interview by greeting and thanking the participant (see Appendix B). I addressed five issues at the onset of the interview, using the Informed Consent Agreement: (a) clarified my motives and the purpose of the study, (b) reminded the participant that they will remain anonymous, (c) clarified that I will utilize member checking after transcription, and (d) reviewed the time limit for the interview. After a complete review of the consent form, I answered any questions from the participant (see Appendix B).

After I was certain the participant understood all the rights and requirements and I had obtained informed consent from the participant, I then began the questioning process. Participants provided informed consent through replying to an e-mail with “I consent” or by signing the informed consent form just prior to start of the interview. Vincent and Blandford (2017) recommend that researchers ensure that participants are cognizant of the ongoing audio recording. I next ensured that the participant understood that I was starting the Olympus VN-7200 audio recorder and that I may use an iPhone 7 recording feature as a backup. I had the recording devise visible during the interview (see Appendix B). Pseudonymization is a common research practice utilized for ethical standards (Allen & Wiles, 2015). I began the interview by reciting the date and time and introducing the participant by using a pseudonym (e.g., 3PL1, 3PL2) (see Appendix B). I used this identification exclusively on audio recording and written notes to protect participants' anonymity. Researchers should employ reflexive journaling to record personal thoughts and impressions (Berger, 2015). I informed my participants that in addition to recording their responses, I also journaled general notes and ideas regarding the study (see Appendix B). I also began taking notes in my journal by noting the date, time, and participant pseudonym (see Appendix B). I continued taking notes throughout the interview, noting responses, impressions, and emerging themes. During the interview, validating emerging themes with the participants provides valuable analysis (Merriam & Tisdell, 2015). I was an observant interviewer and reviewed major themes in the responses for accuracy.

Researchers use open-ended questions in qualitative studies to gather rich, descriptive data (Yin, 2015). Researchers will not be able to predict where open-ended questions may lead, and therefore, where they may need probing questions (Merriam & Tisdell, 2015). Additional probing questions may be appropriate where additional clarification or exploration would add richness to the data (Merriam & Tisdell, 2015). Following my predefined interview questions, I began with the first question and continued through the last, asking probing questions as needed (see Appendix and Appendix B respectively). Merriam and Tisdell (2015) cautioned researchers against asking questions too rapidly or frequently, lest the participant feels under interrogation. I remained conscious of dynamics of the interview and the receptiveness of the participant.

Researchers should plan how to exit interviews to avoid the tendency to continue the dialog beyond formal inquiry (Yin, 2015). After I completed all questions, I asked the participants if any additional information exists that they would like to share before we ended the interview (see Appendix B). After the completion of that exchange, I reminded the participants of the follow-up interview at which we reviewed summarized responses (see Appendix B). I then shut off the recording device, thanked the participants for their time and information, and ended the interview (see Appendix B).

Researchers conducting a qualitative case study integrate multiple types and sources of data to examine a phenomenon (Hammer & Berland, 2014; Merriam & Tisdell, 2015; Morgan, Pullon, Macdonald, McKinlay, & Gray, 2017). I included a request for organizational documents related to recruitment in both my Informed Consent form and Invitation Letter (see Appendix C). I collected internal or external position postings, interview manuals, and any other internal documents relevant to recruitment or used by hiring managers. I provided details of my request for documents when I set up an interview time with the participant, reminding them that I intended to collect this material when we met for the interview. Researchers should understand the origin, nature, and usage of documents and artifacts utilized as study data (Anderson, 2017; Merriam & Tisdell, 2015; Nelson, 2017). Therefore, I spent approximately 10 minutes reviewing the materials with the participant to understand how the organization uses these documents.

The face-to-face, semistructured interview is widely considered the standard of validity and trustworthiness within qualitative research (Deakin & Wakefield, 2014). Researchers use face-to-face, semistructured interviews to gain an in-depth understanding of a phenomenon, allow for clarification and feedback, provide flexibility with participants, and facilitate a personal exchange in a secure setting (Dong et al., 2016; Merriam & Tisdell, 2015). I collected rich data to investigate the shortage of supply chain professionals through semistructured, face-to-face interviews. Yin (2016) stated that each type of data collection has limitations. Face-to-face, semistructured interviews may prove disadvantageous because of time constraints, breach of privacy, financial constraints, and large quantities of data (Deakin & Wakefield, 2014; Yin, 2014). I overcame these obstacles through including participants who are accessible, and by adequately planning for interview locations and data analysis. Yin (2014) stated that one of the strengths of a case study is the collection of direct evidence. One advantage to multiple data collection is that organizational documents and company records may provide data for the triangulation of interview data for comparison and rigor (Anderson, 2017; Baškarad, 2014; Yin, 2014). I collected organizational documents relevant to recruitment and hiring practices directly from my participants. I used these documents to increase the trustworthiness of my study by triangulating these documents with my synthesized themes. One disadvantage of using documents as study data is that documents may not accurately reflect actual practices or processes (Merriam & Tisdell, 2015; Yin, 2015). I considered the accuracy and legitimacy of all documents I collected by reviewing them with the participants to understand their origin and usage within the organization (see Appendix C).

Researchers use member checking to enhance the reliability and validity of the collected data (Anderson, 2017; Birt et al., 2016; Malagon-Maldonado, 2014). Researchers rely on member checking to increase the credibility of the interview data (Amankwaa, 2016; Connelly, 2016). To conduct member checking, researchers provide participants with an interpreted summary of the interview transcripts for review and feedback (Birt et al., 2016; Kornbluh, 2015; Madill & Sullivan, 2017). I first prepared an interpreted summary of the interview transcripts. I then reviewed this summary of themes with participants at 30-minute follow-up reviews as part of my interview protocol (see Appendix B and Appendix C). At this follow-up meeting, I shared the data with the participants and requested their feedback as well as any additional information. I used member checking to eliminate possible assumptions or misinterpretations by reviewing summarized themes with participants.

Pilot studies are small-scale trials that researchers use to confirm the need for a larger study or allow for the testing of protocols for a future study (Baškarada, 2014;

Drummond, 2017; Yin, 2014). Yin (2014) stated that pilot studies could increase the reliability and validity of a study's research questions and protocols. At the conclusion of the pilot study, the researcher should provide details of the process that will be productive to the full-scale study (Yin, 2014). However, a pilot case study would require that I access participants and conduct a preliminary inquiry (Yin, 2014). I conducted limited scope case study that was not large or complex enough to justify the time or resources required for a pilot study.

Data Organization Technique

Qualitative study data include any audio, video, transcripts, journal notes, or documents collected for the study (Baškarad, 2014; Merriam & Tisdell, 2015; Yin, 2015). Qualitative researchers utilize devices for recording interviews that they will later transcribe for further analysis (Cypress, 2017; Nordstrom, 2015; Scheel-Sailer, Post, Michel, Weidmann-Hügle, & Baumann Hölzle, 2017). For my study, I collected audio recordings of face-to-face interviews by using an Olympus VN-860PC digital voice recorder, which interfaces with my laptop. This digital voice recorder creates one electronic file for each recording, which represents one interview. To plan for unexpected recording issues, I put a fresh set of batteries in the recording device, had an additional set of batteries available, and had an iPhone 7 on hand. I transferred the recording to a folder located on my password secured digital Dropbox. Researchers use pseudonyms to maintain participant confidentiality (Allen & Wiles, 2015; Sanjari et al., 2014; Spillane et al., 2017). I used 3PL1, 3PL2, 3PL3, 3PL4, 3PL5 as a naming convention for these online digital files, creating one file per participant and grouping all related files in that folder.

Likewise, I scanned in documents through my printer to create digital copies and stored them in the Dropbox folders. I created a backup file of the Dropbox data to an external drive each time that I modified or create data. I labeled the external drive as Walden DBA 2018 and keep in a locked file cabinet in my home office. Researchers increase trustworthiness through transparency of the process (Cope, 2014; Fujiura, 2015; Leung, 2015). To maintain reliability, I continued to notate file organization and back up details in my research journal. I will keep all data in a secured locked box in my home office. I will store the data for at least 5 years. After 5 years, I will destroy all of the data through paper shredding and electronic deletion of files.

Qualitative researchers utilize computer-aided qualitative data analysis software (CAQDAS) to assist in organizing large amounts of unstructured qualitative data (Chowdhury, 2015; Merriam & Tisdell, 2015; Yin, 2014). I utilized NVivo 11 software, which assists in the transcription, organization, and preliminary coding of all transcribed data, manual notes, and organizational documents collected for my study. I installed the NVivo software on my password-encrypted laptop. I backed-up all electronic data related to this study located on my laptop to the Walden DBA 2018 external drive each time the data were updated or modified. Researchers promote trustworthiness in research when they are transparent throughout the research process (Amankwaa, 2016; Connelly, 2016; Cypress, 2017). I continued to maintain a journal to record details of my process of data organization.

Data Analysis

Researchers conduct data analysis by identifying and evaluating the significance of all the collected data (Yin, 2014). Yin (2014) identified four types of triangulation: (a) investigator triangulation, (b) theory triangulation, (c) data triangulation, and (d) methodological triangulation. Investigator triangulation requires multiple researchers participating in the analysis of data (Archibald, 2015). Because I was the only researcher conducting this study, investigator triangulation was not applicable. Researchers use theory triangulation when developing theories (Joslin & Müller, 2016). I was not developing a theory; therefore, this method was not appropriate. Data triangulation involves collecting multiple sources of data during the study. For this multiple case study, I used data collected from open-ended interview questions administered through five semistructured interviews (see Appendix A) along with related organizational documents, member checking, review of websites, and research notes. Researchers use the methodological triangulation protocol to evaluate case study data (Yin, 2014). Through methodological triangulation, researchers can increase the validity of the study by verifying the results with collections from multiple data sources (Kern, 2016). Because I conducted a qualitative multiple case study with multiple methods of data collection, I used methodological triangulation. To conduct the methodological triangulation, I utilized all the data, including interview responses, member checking, personal notes, and relevant organizational materials to validate the findings of each source. Yin (2015) recommended the five-phase cycle (1) compiling, (2) disassembling, (3) reassembling,

(4) interpreting, and (5) concluding data. I followed Yin's recommendation to analyze the data.

Compiling Data

Data analysis begins when the researcher organizes the data in a meaningful way. I began the organization process by gathering all the transcribed data, member checking documents, study notes, and organizational materials. I then entered the information into NVivo 11 software. Researchers use NVivo software to improve the data analysis process through data management, idea management, data access, visual models, and reporting (Bazeley & Jackson, 2015).

Disassembling Data

I used NVivo 11 software to identify labels throughout the data. For instance, I used NVivo software text queries to identify labels throughout the data that I grouped into themes later. In the disassembling phase, words and phrases are broken down into small units of code for the researcher to arrange the data in a meaningful way before reassembly (Bengtsson, 2016). I disassembled the data into phrases and sentences to create meaningful labels from all of my collected data.

Reassembling Data

I used the NVivo 11 software graphical models to conduct a critical analysis of the data, as well as text word queries to categorize responses by participants to identify themes. In the reassembling process, researchers create categories from the labels, which then define a larger group of themes (Bengtsson, 2016). Once larger themes begin to emerge, I looked to my supporting theories and other literature to identify how my findings compare to subject literature and theories. Researchers achieve theoretical data saturation once there are no new emergent themes derived from the data (Hennink et al., 2017). I continued this process of reassembling until I have reached data saturation.

Interpreting Data

Qualitative researchers use thematic techniques to analyze and explicate descriptive data top create a descriptive interpretation (Vaismoradi, Jones, Turunen, & Snelgrove, 2016). After reassembling the data into themes, I provided a descriptive interpretation of contrasts and comparisons of patterns that have emerged. Yin (2015) stated that this phase is the basis for the narrative and analytics of the study. Methodological triangulation involves verification of data by comparing it with data from alternate sources (Baškarada, 2014; Fusch & Ness, 2015; Hadi & Closs, 2016). I identified and interpreted the connections between primary and secondary data, the topical literature, and the RBV to achieve methodological triangulation.

Concluding Data

Yin (2015) stated that in the final phase, the researcher draws conclusions from the completed study and report the finding. During the concluding phase, I documented associations between themes from the data to the research question, topical literature, and RBV. Researchers use the interpretation phase as the basis for concluding the data (Yin, 2015). I drew from my interpretations of the connections between my collected data, existing literature, and the conceptual framework to document my insights.

Key Themes

Qualitative researchers link key themes from the data to support, verify, and provide context into scholarly literature and conceptual framework (Colorafi & Evans, 2016; Vaismoradi et al., 2016). I used scholarly literature and the RBV framework to support, verify, and contextualize the key themes that emerge from my interviews and relevant organizational documents. I subscribed to queries through Google Scholar to receive alerts regarding newly published articles related to my subject topic and conceptual framework. I continued to review new articles and include any relevant literature in my study analysis. Qualitative researchers develop the meanings from their studies by identifying both the gaps and connections between the study themes and existing literature (Vaismoradi et al., 2016). I defined both the connections and gaps and connections that I identified in the interpretation phase of my analysis. Researchers consider the construction of main themes and subthemes and the frequency of themes when comparing to existing literature (Colorafi & Evans, 2016; Vaismoradi et al., 2016). I detailed the associations between key themes and their sub-themes as well as the frequency of those themes when comparing and contrasting with scholarly literature and the conceptual framework.

Software Plan

Some researchers may find that CAQDAS software is an integral part of qualitative research (Yin, 2015). CAQDAS software assists with the alignment and associations of large volumes of unstructured data (Woods, Paulus, Atkins, & Macklin, 2016). NVivo is more flexible than other software packages and ideal for thematic analysis (Basak, 2015). NVivo 11 is the software I used to organize and analyze data. The researcher's creation of a database, comprised of the study data, is one of the most critical elements of the study (Yin, 2015). I carefully entered all the interview transcriptions, field notes, and organizational documents into NVivo 11 software, using the coded identifiers to adhere to confidentiality procedures. NVivo provides the functionality for comparing nodes (i.e., codes), through a complex matrix (Woods et al., 2016). I used NVivo 11 software for identifying themes and subthemes to compare to topical literature and conceptual framework.

Reliability and Validity

Qualitative researchers maintain that the quality of reliability and validity of the study establishes the rigor of qualitative research (Cypress, 2017; Leung, 2015; Noble & Smith, 2015). Leung (2015) stated that reliability relates to the consistency, or dependability, of data and processes within the study. Validity refers to the appropriateness of the researcher's choices, including methodology, tools, processes, and data (Leung, 2015). To arrive at trustworthy results, qualitative researchers must address the reliability and validity of all aspects of the study. Researchers use dependability, credibility, transferability, and confirmability to address the trustworthiness of a qualitative study (Cope, 2014; Hadi & Closs, 2016; Yin, 2014).

Dependability

Cypress (2017) stated that researchers address dependability through the transparency of research practices, analysis, and conclusions. Researchers contribute to the dependability of research by recognizing potential partialities and limitations of the study (Cypress, 2017). Researchers support dependability by utilizing clear and traceable methods in research methods (Cypress, 2017; Hadi & Closs, 2015; Noble & Smith, 2015). To promote dependability, I followed an interview protocol and record detailed journal notes to provide transparency of my process throughout my study (see Appendix B). As the data collection instrument, I collected both audio recordings and handwritten notes from all interviews. Researchers must complete a full and accurate transcription of audio-taped data (Baškarada, 2014; Cypress, 2017; McLure, Level, Cranston, Oehlerts, & Culbertson, 2014). I utilized software to complete the transcription of my audio data within three days following the interview. I reviewed the transcription with my notes from the interview to identify any discrepancies. Researchers should engage participants to validate research and eliminate bias (Arriaza, Nedjat-Haiem, Lee, & Martin, 2015; Cypress, 2017; Noble & Smith, 2015). As outlined in my Invitation Letter (see Appendix C) and Interview Protocol (see Appendix B), I met with participants for a 30-minute follow up interview for member checking to eliminate possible assumptions or misinterpretations (see Appendix B). Additionally, data saturation is a quality marker of dependability (Anderson, 2017; Constantinou, Georgiou, Perdikogianni, 2017; Noble & Smith, 2015). Qualitative researchers practice iterative analysis of the data to identify emerging themes and data saturation (Chowdhury, 2015; Constantinou et al., 2017; Nelson, 2017). Additionally, qualitative researchers find CAQDAS useful in coding data (Chowdhury, 2015; Nelson, 2017; van de Wiel, 2017). I used NVivo 11 software to facilitate the organization and coding of my qualitative data. I performed data analysis throughout the data collection process to identify saturation and be mindful to exhaust all themes uncovered in the data. Finally, researchers should provide an ongoing, thorough account of daily processes, observations, thoughts and decisions regarding the research (Anderson, 2017; Cypress, 2017; Noble & Smith, 2015). I maintained a field journal to record practices and perceptions throughout my study.

Credibility

Qualitative researchers examine a phenomenological through interpretation, which relies on human experience and subjectivity (Goldberg & Allen, 2015; Leung, 2015; Merriam & Tisdell, 2015). Qualitative researchers need to demonstrate credibility in their studies because bias is likely to influence researchers' interpretations (Cope, 2014; Cypress, 2017; Leung, 2015). Techniques for establishing credibility are prolonged engagement with the study, persistent observation, methodological triangulation, and member checking (Baškarada, 2014; Fusch & Ness, 2015; Hadi & Closs, 2016). I conducted in-depth interviews with my participants and detailed all observations to collect rich data regarding my research question (see Appendix B and Appendix C). I implemented methodological triangulation by collecting data through both interview and organizational documents for my study (see Appendix C). To promote credibility, I conducted 30-minute follow up interviews with my participants to conduct member checking (see Appendix B and Appendix C). Researchers follow processes to ensure credibility in both the research process and the results (Baškarada, 2014; Leung, 2015; Nickasch, Marnocha, Grebe, Scheelk, & Kuehl, 2016). I used an interview protocol that includes reflexive journaling and member checking to provide transparency of the processes throughout my study (see Appendix B).

Confirmability

Researchers define confirmability as the neutrality or the researcher’s ability to illustrate that the data represents the participant's views and not those of the researcher (Amankwaa, 2016; Connelly, 2016; Cope, 2014). As with any research methodology, demonstrating rigor in qualitative studies ensures the integrity of the study (Anderson, 2017; Berger, 2015; Hadi & Closs, 2016). Researchers must demonstrate how their research process mitigated bias, motivation, or personal interest to establish assurance of confirmability (Amankwaa, 2016; Madill & Sullivan, 2017; Smith & Noble, 2014). Methods for demonstrating confirmability include triangulation, and member checking to confirm the accurate interpretation of participant responses (Amankwass, 2016; Connelly, 2016; Hadi & Closs, 2016). Documentation, interviews, participant observations, and artifacts are types of data used in case study verification (Merriam & Tisdell, 2015; Twining, Heller, Nussbaum, & Tsai, 2017; Yin, 2015). I conducted triangulation between multiple data sources and member checking sessions to increase the credibility of my research (see Appendix A and Appendix B).

Transferability

In qualitative research, the external audience of the research determines transferability, not the researcher (Cope, 2014; Hadi & Closs, 2016; Nickasch et al., 2016). Qualitative researchers can enhance transferability of the findings by providing transparency of the study processes, adhering to established protocols, and ensuring data saturation (Cypress, 2017; Goldberg & Allen, 2015; Nickasch et al., 2016). To increase the potential of transferability, I strictly followed the interview protocol and maintained a journal to detail decisions made throughout the research. I included details such as case selection, geographical location, participant criteria, research question, interview protocol, and coding process that may allow other researchers investigating labor shortages to transfer my findings into another context. I also utilized methods to ensure thorough coding and data saturation.

Data Saturation

Data saturation is critical to qualitative research because it represents a sufficient sample size to demonstrate reliability and validity (Anderson, 2017; Fusch & Ness, 2015; Nelson, 2017). Theoretical data saturation is present once the no new emergent themes derived from the data (Gentles et al., 2015; Hennink et al., 2017; van Rijnsoever, 2017). Fusch and Ness (2015) stated that researchers reach data saturation when there is sufficient information to replicate the study, when no new themes are emerging, and when further coding is no longer feasible. I achieved data saturation by collecting data until the data represented the conceptual depth of themes and no new themes emerged. Reflective data analysis throughout data collection allows qualitative researchers to identify when themes are sufficiently complex and relate to theoretical constructs (Chowdhury, 2015; Fusch & Ness, 2015; Merriam & Tisdell, 2015). Ongoing data analysis provided me with insight into the data with which I exhausted coding. I verified data saturation by identifying that no new data, themes, or patterns emerged. Member checking is a method researcher’s use in qualitative studies to increase validity by allowing participants to review synthesized data and provide feedback (Birt et al., 2016; Kornbluh, 2015; Madill & Sullivan, 2017). To ensure data saturation, I utilized member checking after my initial synthesis with each participant to validate data and identify themes. To conduct member checking, I engaged in 30-minute follow up sessions with participants to gain their responses to the summarized data (see Appendix C).

Transition and Summary

In this qualitative multiple case study, I explored the types of strategies 3PL hiring managers use to recruit supply chain professionals. In Section 2, I provided a comprehensive account of (a) participants, (b) research method and design, (c) population and sampling, and (d) ethical research. I further explained how I implemented the data collection, data analysis, and applied the conceptual framework that I used to explore strategies that 3PL hiring managers use to recruit supply chain professionals. I concluded Section 2 with information that detailed dependability, transferability, and confirmability.

In Section 3, I open with an overview of the study and presentation of the findings. I explain the application to professional practice and consideration for the implications for social change. I conclude Section 3 with recommendations for actions, further research, reflections, and the study’s summary and conclusion.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative multiple case study was to explore strategies that hiring managers use to recruit supply chain professionals successfully. Logistics industry leaders face a critical talent shortage because of the global deficiency of supply chain professional talent (Cooperstein, 2015). I used the RBV as a conceptual framework for my study because organizations can use human resources as a strategic competitive advantage for organizations (Dubey & Gunasekaran, 2015b). Five Pennsylvania 3PL hiring managers participated in interviews. These hiring managers illustrated strategies that these managers use to recruit supply chain professionals (see Appendix B). The participants responded to nine interview questions (see Appendix A). To ensure accuracy, I conducted follow-up member checking with participants (see Appendix B). To use methodological triangulation, I collected, examined, or reviewed organizational documents, including recent job postings, interview scripts, hiring documents, and company websites. I identified four themes that emerged from the data: (1) strategies for recruitment resourcing, (2) strategies to address market drivers, (3) interview method strategies, and (4) strategies for determining skill requirements. My findings indicate that hiring managers use multiple recruitment resources to recruit supply chain professionals. Other successful hiring strategies employed by hiring managers are strategic branding, structured interviewing, and a focus on strong general skills and culture fit.

Presentation of the Findings

The research question for this study was the following: What strategies do some hiring managers of 3PLs use to recruit supply chain professionals? I used semistructured interview questions to generate narrative data to perform thematic analysis. Study participants responded to nine open-ended interview questions and additional probing questions. I engaged the participants in member checking to validate the accuracy of my interpretation of their interview responses. After data collection and organization, I used NVivo 11 software to scrutinize, assemble, disassemble, and code the data for theme development. I continued to add data and evaluate new codes and themes throughout the data collection process. At the completion of the fifth interview, I determined that data saturation was complete because no new themes emerged from the data. After reviewing and synthesizing the material, the four themes that emerged were (1) strategies for recruitment resources, (2) strategies to address market drivers, (3) interview method strategies, and (4) strategies for determining skill requirements.

All participants described their use of recruitment tools and expressed that their organizational strategy includes recruitment efforts. Participants' recruitment activities are consistent with SHRM, which researchers developed from the RBV. Seunghoo et al. (2017) defined SHRM as an organizational practice focused on exploiting talent management for competitive advantage. Lambourdière et al. (2017) stated that organizations utilize internal resources, which include intangible talent resources, for value creation and a strategic competitive advantage. Fisher et al. (2014) stated that organizational leaders who fail to identify and hire supply chain professionals reduce organizational and supply chain performance. Additionally, Fisher et al. noted that recruiting suitable supply chain professionals depends heavily on the use of social media.

Theme 1: Strategies for Recruitment Resourcing

Participants’ responses indicated that the hiring managers utilized a variety of recruitment resources for accessing the candidate talent pool. However, all participants expressed that they had preferred methods of usage and had experienced greater success with some methods versus others. For example, referrals resulted in more long-term employees than internships. The use of multiple resources is consistent with Schnake (2016) who found that different techniques attract different applicants. Likewise, Maloni, Campbell, Gligor, Scherrer, and Boyd (2017) stated that a single approach to recruitment would ultimately be ineffective in optimally filling positions. In Table 1, I display the recruitment methods named by participants and some response details.

Table 1

Theme 1: Strategies for Recruitment Resourcing

Methods	Comments
Company website	(a) rely on website responses, (b) consider website portal to employment, (c) recently updated the website, (d) always have job postings open on the website.
Internal promotions	(a) recently reorganized organizational structure to take advantage of internal promotions, (b) great success from internal promotions, (c) seek first to promote internally, (d) growth too large to fill with internal candidates, (e) do not have candidates for specific skill sets needed for internal promotion.
Job fairs	(a) participate in job fairs regularly, (b) rely on job fairs for recruitment, (c) currently have successful candidates from job fairs, (d) will be increasing participation in job fairs.
Online job boards	(a) most of our candidates come from job boards, (b) software posts to free job boards, (c) Indeed most visited site by candidates, (d) job boards are where candidates begin their job search, (e) job boards are an economic resource.
Referrals	(a) prefer referral talent pool, (b) referrals are likely to result in lower attrition, (c) internal or vendor referrals preferred, (d) top current employees were referrals.
Social media	(a) large candidate pool on LinkedIn, (b) preferred social media because of network visibility, (c) LinkedIn, (d) cursory knowledge of recruitment options on social media.
University partnerships	(a) currently participating in multiple university partnerships, (b) currently pursuing university partnerships, (c) currently participating in one university partnership, (d) participated in internships through local university in the past, (e), currently participating in an internship through a local university.

Online recruitment. In contrast to Gibson and Lorin's (2001) prior research that indicated only 50% of 3PL utilize any online recruitment, all of the participants in this study relied heavily on online recruitment, particularly job boards. The use of online recruitment is consistent with the findings of Campos, Arrazola, and Hevia (2018) in that online recruitment is a standard practice for organizations seeking talent, even though small-to-medium-sized businesses continue to utilize referrals and organizational partnerships at a high rate. Participants cited Indeed as the job board where they connect with candidate pools. Participants preferred job boards because of the number of candidates and the economic value. Participant 3PL2 explained, "We prefer Indeed because it is a well-known job board, and I believe that this is where many people start their job search." Multiple participants explained how their organization used software that posted to all free job boards and provided metrics that they use for reporting. Participant 3PL1 mentioned the use of Tableau and Hubspot to measure online recruitment activity. While all participants spoke to retention and attrition rates, none were aware of recruitment metrics that reflected how specific resources (i.e., job board, company website, LinkedIn) contributed to hiring and retention. However, all participant organizations collected metrics from the company website that also displays the available job positions.

Multiple participants stated that posting vague job descriptions on the job boards led to counter-productive interviews. For instance, Participants 3PL1 and 3PL2 both stated that nonspecific job postings resulted in candidates anticipating higher pay than offered by the hiring manager for the position. When these candidates realized this discrepancy during the interview, the hiring managers noted that the interviewees became somewhat despondent. Additionally, Participant 3PL1 stated that the hiring managers changed the details of job description postings to reflect the specific activities for the advertised job rather than general requirements. Participant 3PL1 felt that because of reframing the job descriptions, candidates arrived at interviews better prepared and informed. Participants 3PL1, 3PL3, and 3PL5 stated that their strategy included the pay range associated with the position. These participants chose this option to avoid wide variances between what the candidate and the employer anticipated regarding compensation.

Participants felt that their organizational websites were important to recruitment. Participant 3PL5 characterized the company website as, “This is how we introduce ourselves to the candidates.” This characterization is consistent with the findings of Kaur and Dubey (2014), who found that organizational websites are the first point of contact for many job seekers and formed an initial impression of the company. Lin (2015) found that company websites significantly affect the perceptions of job seekers. Lin recommended that organizations ensure rapid navigation and ease of use on their sites. All the participants mentioned the utilization of the company website as a branding tool as well as an informational tool. Consistent with the participants’ responses, all of the company websites included job postings as well as videos and photos of employees, organization recognitions, and company philosophies and mission statements. Most company sites included a video of organizational leaders expressing their vision of the organization. All of the websites included photos of employees engaged in activities inside or outside of the workplace. Kraichy and Chapman (2014) examined web-recruiting messages and found that the types of positive organizational branding are critical to influencing job seekers. Jones (2016) examined recruitment sourcing and found that it is important for employers to represent an authentic self on their websites to distinguish themselves from competing employers. However, Priyadarshini, Sreejesh, and Anusree (2017) stressed that to job seekers, the most influential element of a company website was information accuracy. Similarly, Hinojosa, Walker, and Payne (2015) found that job seekers viewing company websites formed critical prerecruitment perceptions that influenced their views of the organization throughout the recruitment process. Job seekers attempt to reconcile their perception of person-organizational fit during the hiring process (Hinojosa et al., 2015).

All participants included social media as a method of online recruitment, specifically mentioning LinkedIn. Multiple participants noted that LinkedIn provided a valuable resource for access to a significant network of college graduates. Petre, Stegerean, and Gavrea (2017) examined the use of social media from the applicant's perspective and found that job seekers prefer using social media sites because they feel able to advertise themselves more comprehensively. Likewise, participants felt that LinkedIn supported their efforts to find established professionals who may provide an advantage to their organization. Participant 3PL4 elaborated by stating, "We use LinkedIn to identify individuals for midlevel positions more than entry level." Participant 3PL5 stated that their hiring strategy included the increased use of social media, mentioning LinkedIn by name. Participant 3PL1 stated, "With LinkedIn, we usually see peer-to-peer sharing." This finding is consistent with Lin (2015) who found that peer opinions on social media are influential to job seekers. Melián-González and Bulchand-Gidumal (2016) also stated that worker electronic word of mouth drives company image and the interest of potential candidates.

Job fairs. All participants stated that they actively participate in job fairs and will increase participation in the future. Participant 3PL3 stated that job fairs provide recruiters with the opportunity to distinguish themselves to college students as part of both active recruitment and prerecruitment. In a study exploring the impact of job fair attendance in an emerging economy, Beam (2016) found that formal-sector employment increased over a 10-month period. As 3PLs may not be familiar to many students, the opportunity to present organizational materials is valuable. Participant 3PL4 stated that job fairs "provide the opportunity to inform and shake hands." The ability to collect information at these events may prove invaluable to human resource efforts far beyond branding or placement. Brockbank, Ulrich, Kryscynski, and Ulrich (2018) suggested that the real value to company stakeholders is the value of information management. Brockbank et al. suggested that social interactions and conversations are part of a larger unstructured data set that has importance for organizational strategies driven by human resource. For instance, Brockbank et al. stated that identifying the attitudes of customers is critical to organizational success. Likewise, gathering the attitudes of potential candidates would allow for SHRM to base strategies on relevant analytics.

University partnerships and internships. Participants reported varying success with university partnerships and internships. Sinha et al. (2016) recommended that firm management participate with universities to both influence the supply chain syllabus and facilitate job placements. All of the participants reported recruitment activities with local universities that led to internships, but few expressed positive recruitment or retention because of the effort. Participant 3PL2 stated that they had tried multiple internships, but would not be continuing in the future. Participant 3PL1 shared that the organization tried informal internships in the past that did not result in retention through by mutual decision. However, that organization plans to create a pilot internship program in the future. Participant 3PL5 stated that the organization hired multiple interns because of the ongoing internship program. Applegate, Bee, and Vincenti (2017) examined issues with internships and suggested that a structured program is a key to a successful internship. None of the participants elaborated on the reasons for the low success of internship programs, but a contributing factor could be lack of planning and structure. Regarding university partnerships, Maloni, Scherrer and Mascaritolo (2016) stressed that professors offer a vital resource for driving potential candidates to the supply chain field. As all participants engage in university partnerships, they may derive the benefit of the university influence on the talent pool.

Internal promotions and referrals. All participants expressed a desire to promote from within the organization. However, a few of the participants expressed significant success with this method. Participant 3PL1 noted that internal promotion resulted in the current employees holding key positions, including senior management. Participant 3PL2 stated that the organization had recently filled multiple managerial supply chain positions through promotion. Some of the challenges noted with internal promotions include (a) unexpectedly large growth requires more hiring than qualified existing employees available and, (b) new organizational structure requires specialized positions beyond the capabilities of current employees. Both of these examples are the result of significant and unexpected organizational growth. All of the participants described their organizations as experiencing strong recent growth and 60% characterized this growth as far beyond anticipated growth. Because of this growth and expansion, 3PL2 shared that the organization strategy is to staff entry-level positions with the anticipation of attrition or promotion. This strong preference for internal promotion is the result of proven performance and cultural fit. Thomas (2018) examined how organizations explore senior management candidates' capabilities to identify those that will complement the existing personnel. Thomas outlined that organizations need to identify candidates that are not only skilled for the role but also share organizational value as well as chemistry. Personal knowledge and social fit also drive the preference for referrals.

All participants mentioned referrals as an occasional but important recruitment strategy. Participant 3PL1 shared that "Some of our best hires have come from employee referrals." Another participant stressed that if the current employee is valued, the referral almost ensures a good fit with the organization. Participant 3PL4 included referrals by external partners or vendors as valuable resources, noting that if hiring managers trust these partners then by transference the candidate gains credibility. The participants representing larger organizations shared more about referrals. This finding is consistent with Gërxhani and Koster (2015), who found that hiring managers deemed referrals more important for positions that involve large degrees of independent decision making than those positions with a low degree of discretion. Gërxhani and Koster found that for specialist or managerial positions, hiring managers consider employer social contacts paramount, as they deem these positions to have more influence on organizational advantage and success. As participants of larger organizations may have more unfilled specialist or managerial supply chain positions, these increased midlevel vacancies could account for the increased emphasis on the referral resource.

Theme 2: Strategies to Address Market Drivers

Researchers exploring supply chain hiring issues reveal that top issues include compensation and culture issues, such as work-life balance (Lieb & Lieb, 2016; Maloni et al., 2017). Gratton (2017) studied current economic practices and recommended that organizations that desire sustainable growth reevaluate employee-employer exchanges with innovative practices for compensation and resources. Participants in the study relate similar challenges in their recruitment efforts. In Table 2, I display the market drivers and associated participant comments.

Table 2

Theme 2: Strategies to Address Market Drivers

Drivers	Comments
Compensation	(a) strong competition for increased pay scale, (b) currently hiring entry-level at lower pay, (c) level setting to market compensation, (d) re-structure compensation, (e) customize benefits.
Culture	(a) long hours, (b) pleasant work atmosphere, (c) employee support, (d) high energy, (e) encouraged to take risks, (f) a high degree of independence, (g) 75% millennial.

Compensation. 3PLs experience a critical challenge with firm performance and talent management (Lieb & Lieb, 2015). Lieb and Lieb (2015) posited that talent shortages uniquely affect 3PLs because the organizations lack branding, compete with organizations that offer higher compensation, and must respond to increased customer expectations. All participants mentioned compensation as a barrier to hiring. Participant 3PL2, who is the hiring manager for the smallest organization in the study, stated that compensation represented the largest obstacle to recruitment. Participant 3PL2 shared that the SHRM strategy is to recruit on the value of opportunity, stressing a strong company culture and consistent growth. The company website banners and video repeated this message of recent escalated growth and anticipated accelerated growth. This strategy is consistent with Greer, Carr, and Hipp (2015), who found a significant positive relationship between employer attractiveness and potential for organizational growth in smaller organizations. Greer et al. also suggested that applicants who find the potential future growth of a firm attractive is likely seeking mutual growth opportunities. Participants 3PL4 and 3PL5 mentioned the use of compensation as a performance driver.

Participant 3PL4 shared that the organization recently restructured compensation to capitalize on employee specific needs. Participant 3PL4 explained that the SHRM strategy is to create a compensation package that is dynamic and appealing to the varying needs of candidates. Examples include offering hiring bonus to recent graduates and offering the choice between health insurance or a cash buy-out. This strategy of strategic compensation packages supports Maloni, Scherrer and Mascaritolo (2016) who stated that significant pay and promotion are less prevalent in logistic fields. Therefore, Maloni, Scherrer and Mascaritolo (2016) recommended offering stock options, bonuses, healthcare, and professional growth opportunities to attract talent. Participants 3PL5 and 3PL1 noted that the organization recently addressed compensation level setting via a professional consultant. Participant 3PL5 stated that salary is the main obstacle for talent, noting the stiff competition with non3PL organizations for talent. Other participants mentioned the use of external experts to examine compensation and create strategic plans. All participants mentioned the need for their organization to address both financial and social issues related to talent attraction.

Culture. Firfiray and Mayo (2017) found that job seekers assess potential employers by identifying common values and beliefs. When gathering information on employment, potential candidates are primarily looking for corporate values that match their own (Kaur & Dubey, 2014). Yu (2014) stated that many organizations recognize that identifying a person-organization fit is a successful approach to attracting desirable talent. All participants emphasized strategies related to positive company culture or positive working environment that appeals to candidates. Participant 3PL4 stated that to support a proemployee culture; the organization has a casual dress code, a bar available on Fridays, team building games, and open door policies. Participant 3PL2 stated that the organization made the atmosphere a priority by utilizing an open plan with a pool table and bar available. Participant 3PL5 stated that the organization provided for flexible schedules, team building activities, and time off for community service activities.

Researchers revealed that providing generational accommodations may prove beneficial for hiring recent college graduates (Bellou, Chaniotakis, Kehagias, & Rigopoulou, 2015; Firfiray & Mayo, 2017). In a study of Generation Xers and Millennials, Firfiray and Mayo (2017) found that recent graduates are value-based and seeking an association with an organization they feel is a value fit. When presented with a choice between standard pay with health benefits or standard pay and work-life balance options, Firfiray and Mayo found that participants of their study chose work-life balance options because they represented an organizational commitment to values rather than a necessary provision. This finding is particularly relevant to 3PL3 because that organization is 75% millennial. Bellou et al. (2015) found that (a) remuneration, (b) relationships, (c) opportunities for self-development, (d) recognition, and (e) corporate image positively affect college students' view of employer's attractiveness. Bellou et al. suggested that organizations find ways to create unique identities that appeal to their most valuable employees and market that identity. Creating a unique identity and targeting the most valuable employees may be the reason for participant 3PL2's hiring success.

Because all participants' organizations include branding and recruitment information on their company websites, they likely benefited from employer attractiveness. Kaur and Dubey (2014) stated that employee's increase their attractiveness when organizations share information directly with potential candidates. Once organizations generate interest in the first phase of recruitment, employers must begin to address the second phase, interacting with the talent pool.

Theme 3: Interview Method Strategies

Njegovan, Vukadinović, and Duđak (2017) stated that hiring managers use interviewing as part of a screening process in an attempt to find the best talent that supports higher market competitiveness. All of the participants in my study believed that specific interview methods they utilize resulted in identifying and hiring the best candidates. These methods include using structured questions, behavioral questions, multifunctional or peer teams for interviews. All of the participants utilized a script and structured questions to interview candidates. Researchers indicated that structured questions are key to increasing predictive validity in hiring (Moore, 2017; Swider, Barrick, & Harris, 2016). Likewise, Kausel, Culbnertson, and Madrid (2016) found that the predictive cogency of unstructured interviews is weak. Similarly, in a case study, Zwillinger and Huster (2017) examined the highly successful hiring process of a non-profit healthcare organization and found that the initial steps included structured interviews. However, three participants 3PL1, 3PL5, and 3PL4 stated that their underlying goal was to begin conversations with the interviewee that provides them with character insight.

Snell (2017) found that the character of a candidate is paramount in talent selection. All of the participants in my study shared that they utilized behavioral questions and probing follow-up questions during the interviews to elicit a deeper understanding of the candidate motivations. Participant 3PL5 stated, “I am looking for someone that will fit in with our culture, so I listen for that kind of information.” Participant 3PL1 stated, “I try to get them sharing 50/50 in the conversation.” All of my study participants seek to recruit recent college graduates. Parks-Yancy and Cooley (2018) found that college graduates believe that performance at job interviews is the most important factor in employers hiring decisions. Candidates that believe a job interview will factor heavily in their hiring will likely focus on interview preparation. Njegovan et al. (2017) found that preinterview behavior correlates to interview behavior. If recent college graduate candidates focus on interview preparation, they would adequately prepare, focus on creating a positive impression, and secure a position (Njegovan et al., 2017). However, Roulin, Bangerter, and Levashina (2014) found that the interviewer’s perceptions of the applicants’ intent to impress are more relevant than the candidate's actual qualifications. Hicks (2016) posited that candidates are likely to be on their best behavior, employing impression management, during all interviews. Therefore, Hicks supported questioning candidates to uncover personal traits. All of the participants in my study believed that behavioral questioning is the key to identifying long-term successful candidates. Hicks supported this belief in the success of behavioral interviews. Hicks emphasized the importance of identifying character and stated that behavioral issues are the reason many professionals are unsuccessful. Hicks noted that understanding the candidate through probing questions, behavioral examples, and spontaneity are key to successful hiring. Wintrip (2017) stated that the use of hiring teams would mitigate potential misinterpretations of the candidates' responses.

Eighty percent of the participants in my study utilized hiring teams. All of the participants using a panel model shared that part of their strategy included employees from cross-functional positions. Participant 3PL4 felt that including panel members of mixed function and genders had a positive effect on successful employee selection. Participant 3PL4 stated, “We need to be inclusive when hiring. Including members with different backgrounds and views helps us get a better perspective.” Participant 3PL1 stated, “As a team, we have a better shot at getting someone who will be a good fit.” Zwillinger and Huster (2017) cited staff participation in hiring peers as an antecedent to employee engagement and retention. Feedback from peers participating in the hiring process includes the positive association with mentorship and new team member support (Zwillinger & Huster, 2017). Participant 3PL5 stated, “We believe that most positions require skills that cross job descriptions. We try to have various managers participate in hiring.” Huo, Ye, Zhao, and Shou (2016) found that managers that focus on hiring multiskilled employees with organizational commitment show higher competitive performance. Researchers reported the demand for cross-functional competencies by hiring managers (Essex et al., 2016). I will now discuss skill requirements in depth, the final theme in my study.

Theme 4: Strategies for Determining Skill Requirements

Hohenstein et al. (2014) stated that the SCM field is reliant on interaction skills as well as the recruitment of qualified talent. Ellinger and Ellinger (2014) delineated the skills necessary for SCM, including problem-solving, managing uncertainty, and communication. All participants in my study named these three skills as the traits they looked for in recruits. Participants 3PL1 and 3PL3 said that after a complementary trait fit, problem-solving in any context represented a most valued skill. Participant 3PL1 stated that the organization looks for candidates who have a history of being able to resolve issues. Participant 3PL3 stated that successful candidates should have the ability to solve problems with customers and in daily situations. Interview scripts shared by multiple participants included questions asking about prior experience with problem-solving. Multiple job descriptions on websites included communications, problem-solving, software skills, general business acumen, and customer service as requirements. The hiring managers also stated in these job postings a preference for a bachelor's degree in business, transportation, or logistics.

All participants shared that the successful supply chain candidates will have a high level of comfort with ambiguity and the ability to manage risk. Participant 3PL4 commented that SCM is a great deal about risk management. Confirming this view, De Abreu and Alcântara (2015) stated that SCM hiring managers seek candidates with strong analytical and predictive skills. In their study of supply chain megatrends, Stank et al. (2015) reported a demand for supply chain risk management that incorporates sustainability and proactive management. Yilmaz et al. (2016) suggested that SCM practitioners utilize collaboration to mitigate risk. The use of collaboration results in increased firm performance (Yilmaz et al., 2016). Collaboration with partnerships implies strong communication skills.

All participants mentioned strong communication skills as a top skill requirement. Participant 3PL5 stated that successful communication with customers and partners are the key to customer service. All participants also mentioned strong customer service as top skill. The nature of the 3PL business is to provide a customer with transportation services that are superior in performance, price, or management (Lieb & Lieb, 2016). All of the interview scripts shared by participants included a specific question asking the interviewee to relate an experience when they had demonstrated strong customer service skills. Participant 3PL1 stated that the most desirous attribute is customer service skills. These results confirm Tatham et al. (2017), who found that SCM hiring managers most valued general management skills.

All of the participants mentioned abilities that I summarized as the skill of innovative thinking. Akin to problem-solving, participants desired to find candidates that could contribute new ideas or significantly elevate the position scope. Participant 3PL4 stated that organizational growth and rapid changes in SCM motivate hiring managers to acquire talent that has proven innovative thinking, particularly in the pricing and service areas. Both 3PL2 and 3PL5 stated that their leadership supports and organizational culture views risk as a part of innovation and success. 3PL5’s company website highlighted the value of innovative thinkers. Marchet, Melacini, Sassi, and Tappia (2017) stated that efficiency and innovation allow 3PLs to survive. Örnek and Ayas (2015) defined innovative work practices as employee behavior that adds new and beneficial ideas to the work process. Human capital is the thoughts and ideas of the employees, including technical, technological, educational background, professional competence, and innovation. Örnek and Ayas posited that human capital convert to structural capital when employees transform knowledge. The knowledge and proficiency of human capital contribute to the intellectual capital which results in value creation and strategic advantage (Chahal & Bakshi, 2015). Essex et al. (2016) confirmed these findings, stating that supply chain professionals must not only possess skills but must be able to use them strategically for the benefit of the organization to create a competitive advantage. Essex et al. included the delineation of both soft and hard skills in their study.

After general management skills, the participants noted specific skills including technology, transportation/logistics knowledge, project management, and general operations experience. Participant 3PL4 stated that all posted positions require proficient level skills in technology and project management. Participant 3PL2 stated that hiring managers considered basic inventory knowledge an asset for a potential candidate. All participants noted that requirement for specific hard skills depended on the specific position. These findings are consistent with Dubey and Gunasekaran (2015b) who include technology, warehouse management, logistics, operations management, and project management in their SCM framework.

Applications to Professional Practice

Leaders of 3PLs experience important growth rates along with increasing competitive pressure (Lieb & Leib, 2016; Marchet, Melacini, Sassi, & Tappia, 2017).

Surveyed 3PL CEOs cited talent management as the top critical issue in the industry (Lieb & Leib, 2016). As the shortage of supply chain professionals persists, hiring managers need to understand strategies to attract and acquire talent (Leon & Uddin, 2016; Maloni, Scherrer & Mascaritolo, 2016). Researchers tie improved firm performance to effective SCM (Anatan, 2014; Mandal & Korasiga, 2016; Yilmaz et al., 2016). RBV theorists understand organizational capital as an intangible asset that managers can strategically control to create a sustainable competitive advantage (Miles & Clieaf, 2017). SHRM strategies are critical to organizations because managers need talent assets that allow firms to thrive (Hohenstein et al., 2014).

Hiring managers might apply the findings of this study to create or improve strategies and processes within their organizations. Businesses that experience a shortage of skilled workers may apply the results of my study in their efforts to address a limited talent pool. Other organizations that need to develop strategies to hire supply chain professionals may find the results of my study. Universities, colleges, and other training facilities may apply the strategies from my study to talent pool development.

I explored four themes that emerged from my data: (a) strategies for recruitment resourcing, (b) strategies to address market drivers, (c) interview method strategies, and (d) strategies for determining skill requirements. Study participants’ strategies for recruitment resourcing allow them to access talent pools from various groups. By utilizing various methods, hiring managers can target specific candidates using specific messaging. 3PL hiring managers can use these findings to create recruitment programs that include company website, social media, job boards, university partnerships, internship programs, and job fairs. 3PL hiring managers may use these strategies to better understand how to attract the specific type of candidates their organization most desires.

Study participants' strategies to address market drivers can help 3PL hiring managers compete for the top talent. 3PL hiring managers can use these findings to explore and compare their current culture and compensation to identify where they could improve organizational attractiveness. 3PL hiring managers may apply the strategies from my study to create more competitive compensation packages that attract their targeted employees. 3PL hiring managers may also consider ways to advertise or demonstrate a culture that attracts millennials or recent college graduates. Other 3PL hiring managers might use these methods to make their organizations more responsive to the market and improve their strategic competitive advantage by successfully hiring and managing top talent.

3PL hiring managers may use the interview method strategies revealed in this study to understand how to choose and employ successful methods to identify the top talent. The results of my study may allow 3PL hiring managers to implement new interview protocols. These protocols may allow hiring managers to more confidently and expediently fill positions, leading to improved organizational management. Additionally, improved interview protocols may result in increased person-organization fit hiring, which will reduce attrition and improve operating costs.

3PL hiring managers may apply the study strategies to determining skill requirements to successfully hire talent with the most important skills for success. 3PL hiring managers could use these findings to create more relevant job descriptions that increase the talent pool. 3PL hiring managers could use these findings to reach candidates previously omitted from recruitment efforts. Additionally, 3PL hiring managers may use these findings as a framework for identifying existing and new position requirements. Successful matching of employee skill and position is likely to result in improved personnel and organizational performance.

Implications for Social Change

A thriving region relies on a productive and stable workforce. When organizations improve or optimize their human resource management, this change increases the capabilities for creating a sustainable, competitive advantage (Essex et al., 2016). My study of the relevant literature revealed a consequential problem of workforce challenges faced by the supply chain field with consequences to all stakeholders, including employees, organization, and communities. From the results of this inquiry, I determined a need for exploration of how some 3PLs leaders successfully managed their talent search. Because I explored the successful strategies that some 3PL hiring managers use to hire supply chain professionals, a positive social change may occur if other hiring managers leverage this study to increase successful recruitment.

Businesses contribute to society through forces that stimulate growth, development, or change. The decisions made by organizational leaders have far-reaching implications for residents and communities. If hiring managers can improve the reach and effectiveness of their recruitment efforts, they may access previously untapped human resources within their communities. My study may contribute to the improved efficacy of hiring managers’ recruitment programs by providing them with new insights and approaches. Hiring managers' new action plans may ultimately result in improvements to organization performance and community assets.

The improved human resource management strategies of organizations could result in gains for the region, including reduced unemployment and an increased standard of living. Increased standard of living in a region results in the attraction of additional businesses (Allison, Dorfman, & Magnan, 2015). My study may contribute to improved economic and employment conditions by providing hiring managers of organizations improved methodologies for hiring programs. Leaders using effective hiring practices could result in the increased employment and reduced attrition that result in societal benefits.

Recommendations for Action

Hiring managers might use the findings of this study for the strategy development of hiring managers seeking to fill vacant supply chain professional positions. When organizations lack effective hiring strategies, the ineffective or inadequate human resource capital can diminish the potential for strategic competitive advantage (Hohenstein et al., 2014). In this study, I explored strategies that some 3PL hiring managers successfully use to recruit supply chain professionals.

I recommend that 3PL hiring managers utilize multiple resources to establish a talent pool, including university partnerships. The participants in my study indicated the need for clear strategies with online methods and cooperative partnerships. All participants had success with targeted online sourcing, which included task specific job postings. All participants stressed the continued use of social media. One participant stated that the future strategy for recruitment is a significant focus on social media recruiting. Participants also noted that they utilized company websites to promote a positive branding identity. Additionally, all participants included university partnerships and job fairs as successful recruitment resources.

Secondly, I recommend that 3PL hiring managers address market drivers to target and attract the candidates most beneficial to their organization. 3PL hiring managers should take efforts to address market drivers by creating strategic compensation packages aimed at attracting top candidates. All participants in my study stated the need to attract millennials to entry level positions. Participants shared that the successful strategies they used to attract millennials included offering hiring bonus to recent graduates and offering the choice between health insurance or a cash buy-out. All participants also noted that company culture plays a significant role in recruitment strategies. I recommend that 3PL hiring managers evaluate their work environment to assess how they could improve employee experiences.

I further recommend that 3PL hiring managers utilize an interview protocol that effectively identifies the top candidates. Participants in my study found success with structured interviews that allow candidates to discuss previous challenges and successes. I suggest that 3PL hiring managers utilize questioning of candidates that will uncover personal traits. This strategy for interviewing includes allowing the candidates to share as much as information as possible and as freely as possible. I suggest behavioral interview questions that reveal candidate motivations as well as methods.

Finally, I recommend that 3PL hiring managers identify and seek the most desirous skills for a vacant position. I suggest that hiring managers seek candidates with strong skills in problem-solving, managing uncertainty, and communication. My study participants found these general management skills most useful in supply chain positions. I would then recommend that hiring managers look for candidates with technology, transportation/logistics knowledge, project management, and general operations experience. The findings of this research are important to CEOs, senior management, human resource professionals, supply chain professionals, and 3PL organizations. My findings could help business professionals create improved hiring strategies and business models.

Most researchers strive to publish in quality academic journals and contribute to the scholarly literature (Ahlstom, 2017). Researchers use academic publications to globally distribute research that contributes to a scholarly discipline (Tötösy de Zepetnek, & Jia, 2014). I hope to contribute to the scholarly literature in the areas of SCM and human resource management. Therefore, I intend to submit articles for publication in the following peer-reviewed journals: (a) *Journal of Supply Chain Management*, (b) The *International Journal of Logistics Management*, (c) *Human Resource Management Review*, and (d) *The Journal of Human Resources*.

Recommendations for Further Research

The findings from this research warrant further investigation of recruitment strategies. Future researchers should include investigating the challenges of hiring managers within other industries hiring supply chain professionals. For instance, future researchers should consider a similar study within the e-commerce organizations that rely heavily on supply chain professionals. Future researchers should include case studies in the engineering and insurance industries, which face similar talent shortages experienced by the logistics field.

Additionally, because this study exclusively covered the state of Pennsylvania, I recommend conducting a study to explore recruitment strategies of 3PL hiring managers in the larger U.S. eastern region with prominent shipping ports, including New Jersey, New York, and Massachusetts. A larger sample pool would provide for richer findings and potentially more diverse data. Future researchers should also consider the limited economic and employment challenges included in my research. Because Pennsylvania or even the U.S. eastern region may represent a geographically narrow sample, future researchers should choose a more diverse region, such as California’s coastal area or the U.S. Mexico border.

Alternatively, future researchers should consider a mixed methodology to survey the larger U.S. eastern region, including follow-up interviews to develop a deeper understanding of specific findings. Similarly, future researchers could eliminate the limitation of self-reporting and utilize governmental databases for data on hiring and retention statistics. Future researchers could potentially access data from all of the United States that covers a larger time span. Coupled with data from company websites, online job boards, and social media sites, future researchers could identify trends in organizational hiring and recruitment efforts.

Reflections

My experience with the doctoral completion process was challenging but rewarding. I have worked in the supply chain field since 2004 but soon realized that there was much to learn about hiring strategies utilized in Pennsylvania. 3PL hiring managers invest significant time in networking with university contacts and job fair organizers to create strong relationships. Hiring managers spend many hours planning and traveling to events in an effort to successfully brand and create visibility for their organizations. I was also surprised that 3PL hiring managers felt very strongly about creating strong organizational cultures. I gained new respect for the 3PL industry in Pennsylvania, including the professionalism and work ethic of the management teams. Because I had previous experience within the industry, I utilized a protocol (see Appendix B) that included opened-ended questions in semistructured interviews (see Appendix A) to mitigate bias.

Conclusion

Logistics industry leaders face a critical talent shortage because of the global deficiency of supply chain professional talent (Cooperstein, 2015). Business relies on SCM to provide a competitive advantage. 3PL hiring managers struggle to secure talent in an extremely competitive environment. The purpose of this multiple case study was to explore the strategies used by 3PL hiring managers to recruit supply chain talent to meet industry demands. Using the RBV, I collected data from five Pennsylvania 3PL hiring managers. I utilized member checking and Yin’s five-phase cycle (1) compiling, (2) disassembling, (3) reassembling, (4) interpreting, and (5) concluding data to process and analyze the data. Four themes emerged from the data (a) strategies for recruitment resourcing, (b) strategies to address market drivers, (c) interview method strategies, and (d) strategies for determining skill requirements. 3PL hiring managers may utilize these study findings to improve business practices in human resource management or business management.

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Appendix A: Interview Questions

1. What strategies do you use to recruit supply chain professionals?

2. What strategies do you use for onboarding supply chain professionals?

3. What strategies do you use for internal recruitment of supply chain professionals?

4. What strategies do you use for external recruitment of supply chain professionals?

5. What challenges do you face in implementing strategies to recruit supply chain professionals?

6. How do you address the challenges of implementing the recruitment strategies?

7. What strategies do you find as most effective in recruiting supply chain professionals?

8. How do you gauge the effectiveness of your strategies to recruit supply chain professionals?

9. What other information can you provide about the strategies you use to recruit supply chain professionals?

Appendix B: Interview Protocol

Interview preparation

1. I will utilize an online search of Pennsylvanian 3PLs who are potential participants for the study.
2. I will call each organization on the list with the aim of either speaking to a hiring manager or obtaining a hiring managers contact information.
3. When given the opportunity, I will attempt to get a verbal agreement for participation from the manager.
4. I will consider the preferences of the participant when deciding the time and location for the interview.
5. I will conduct my interviews in a public library, which provides easy access, an academic environment, and reasonable confidentiality.

Interview process

1. Open the interview by greeting the participant, thanking him for participating.
2. Review the Informed Consent agreement.
3. Answer any questions, stressing the right to withdraw from the study at any time.
4. Inform the participant and start the recording device.
5. State the date, time, and participant pseudonym for the recording (e.g. 3PL1, 3PL2, 3PL3, 3PL4, 3PL5)
6. Inform the participant and begin journaling.

7. Ask first question and continue through the last, asking probing questions as needed (see Appendix A).
8. Ask participant if there is anything that they would like to add before the end of interview.
9. Remind participant of the follow-up interview for member checking.
10. Shut off the recording device.
11. Thank the participant for his time and contribution.
12. End and exit the interview.

Appendix C: Invitation Letter to Potential Participants

Dear (Participant Name),

My name is Beth D'Alessandro. I am pursuing a Doctorate of Business Administration (DBA) through Walden University. My doctoral study project is *Third Party Logistics' Hiring Manager Strategies to Recruit Supply Chain Professionals*. I am interested in conducting a study in your company to explore strategies that third-party logistics hiring managers use to recruit supply chain professionals. Your participation will be instrumental in providing the required data to best analyze the strategies needed to recruit supply chain professionals. This study could potentially benefit the logistics industry by providing best possible strategies to recruit supply chain professionals. You will be provided with a 1-2 page summary of the study results at the completion of the study.

I would like to conduct an in person interview with you because you can provide valuable information regarding recruitment strategies and challenges. Your experience with hiring supply chain professionals could be vital to the logistics industry. The interview will last a maximum 60 minutes and take place at a private location in a local public library. Your responses to the questions will be kept confidential. You will also be asked to participate in a follow-up 30-minute meeting for the review of data. I am also requesting any relevant organizational documents that you can provide related to recruitment. I would like to collect these documents at the time of the interview, which should require approximately 10 minutes.

Participation is voluntary and you have the right to withdraw from the study at any time before data analysis. If you are willing to participate, please suggest a time and date that is convenient for you. If you require additional information or have questions, please contact me using the information below.

The researchers contact information: Beth D'Alessandro [redacted]

The faculty chair contact information: [redacted]

Thank you for your time and consideration.

Sincerely,

Beth D'Alessandro

Appendix D: Letter of Cooperation and Confidentiality Agreement

Date: 1/15/2018
Name of Company:
Name:
Address:
E-mail:
Telephone:

Dear [Name of Owner, CEO, or Authorized Representative]:
I am Beth D'Alessandro a doctoral student at Walden University conducting a research study entitled *Third Party Logistics' Hiring Manager Strategies to Recruit Supply Chain Professionals*. The purpose of this qualitative multiple case study is to explore strategies that some hiring managers of 3PLs use to recruit supply chain professionals.

I identified your company via on online search.

I am seeking to recruit participants who meet the following eligibility criteria to conduct 60-minute face-to-face interviews and 30-minute follow up meetings:

- Hiring managers of supply chain professionals
- Employed by 3PL organizations.

In addition to conducting face-to-face interviews, I am requesting permission to review interview scripts, position requirements, and open position postings relative to hiring supply chain professionals.

To protect the confidentiality of your name and the name of your company, I will not be disclosing any company, leader, owner, or participants' names in the published study or in any other subsequent publications using information from the final study. I will code participants' names as 3PL1, 3PL2, 3PL3, 3PL4, 3PL5.

Participation in this research study is voluntary. You may choose not to allow recruiting of participants to take place within your company or provide access to relevant company documents and policies. You may withdraw your company from participation at any time. Managers in your company meeting the stated eligibility criteria for participation in interviews may choose not to participate or may withdraw from participation at any time for any reason or for no reason.

I am requesting that you provide access to leaders within your company who meet the stated eligibility criteria by providing their name and contact information. You will not be asked to provide any supervision during the interviews.

I will be conducting the interviews at a library off site, so a meeting room will not be required. Participants will be e-mailed an informed consent form to review prior to the interviews. Providing informed consent occurs through replying to the e-mail with "I consent" or by signing the informed consent form just prior to start of the interview. As you are the official authority from your company to grant permission to release company documents, I am requesting release of documents subject to the following conditions:

1. I will use all company documents released to me exclusively for my research and not disclose or discuss any confidential information with others, including friends or family.
2. I will not in any way divulge, copy, release, sell, loan, alter, or destroy any confidential information, except as authorized by you as the official company representative.
3. I will not discuss confidential information where others can overhear the conversation.
4. I understand that it is not acceptable to discuss confidential information even if the participant's name is not used.
5. I will not make any unauthorized transmissions, inquiries, modifications, or purging of confidential information.
6. I agree that my obligations under this agreement will continue in perpetuity after the completion of this study.
7. I understand that any violation of this agreement may have legal implications.
8. I will only access documents I am officially authorized to access and I will not disclose any trade secrets, proprietary information, or any other protected intellectual property to any unauthorized individuals or entities.

If the terms and conditions within this letter of cooperation and confidentiality agreement are acceptable, please print and sign your name, provide your title and the date your signature below.

Printed name: ______________________________________

Signature: ____

Title: ____

Date: ____

By signing this document, I as the authorized representative for the company, acknowledge that I have read the agreement and that I agree to comply with all the terms and conditions stated above. I understand that the student will not be naming our organization in the doctoral project report that is published in Proquest database or any other subsequent publications. I confirm that I am authorized to approve research in this setting and that this plan complies with the organization's policies. I understand that the data collected will remain entirely confidential and may not be provided to anyone outside of the student's supervising faculty/staff without permission from the Walden University Institutional Review Board.

If you have additional questions, please feel free to contact me by telephone at [redacted] or by e-mail at [redacted]

Sincerely,

Beth D'Alessandro
Doctoral Candidate
Doctor of Business Administration Program
Walden University