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Strategies to Overcome the Truck Driver Shortage in the United States

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Walden University
2022

Abstract

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by

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MS, Texas Woman's University, 2010

BS, Sam Houston State University, 2008

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

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August 2022

Abstract

High truck driver turnover rates negatively impact company profits, business operations, and customer satisfaction. Oil and gas industry supply chain and logistics leaders who lack strategies to recruit and retain truck drivers experience declines in revenue, operational effectiveness, and customer retention. Grounded in total quality management theory, the purpose of this qualitative multiple case study was to identify and explore strategies used in the oil and gas industry to retain and recruit qualified truck drivers effectively. The participants comprised six oil and gas industry leaders in the greater Houston, Texas area who successfully managed truck driver recruitment and retention strategies for five years. Data were collected from semistructured interviews and reviews of company documents that included mission, vision, goals, and value statements. Data were analyzed using Yin's five-step process and thematic analysis. Three themes emerged: onboarding programs, leadership practices, and competitive compensation. A key recommendation for trucking industry leaders is to foster a positive work–life balance by providing opportunities to get the driver home every day through systems, such as increased local operations, hub and spoke models, and relay systems, to increase employee engagement and help reduce the rate of voluntary turnover. The implications for positive social change include the reliable delivery of needed goods through driver retention, potentially improving the quality of life for residents in local communities.

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Dedication

I dedicate this study to my husband and best friend, Mike Duckering, my children Adrian Martinez, Abby Duckering, Morgan Duckering, Chloe Purcell, and her husband, Brandon Purcell. You are all my inspiration to achieve my goals and always reach higher. I work hard to be an inspiration to you all. Your love and support during this time made this achievement possible.

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Section 1: Foundation of the Study

Background of the Problem

The trucking industry has a significant impact on moving goods between geographical locations (LeMay & Keller, 2019). The trucking industry extends across industries and plays a vital role in everyday life, from food and medicine to retail goods (LeMay & Keller, 2019). The U.S. economy relies on the demanding work of truck drivers, which makes trained truck drivers important to keep delivery of goods running smoothly (Mittal et al., 2018). The trucking industry moves 72.5% of domestic goods by weight, resulting in $791.7 billion in annual freight bill spend in 2019 (American Trucking Associations [ATA], 2019a), making truck transportation key to the U.S. economy (Office of Operations, 2015). Inasmuch as trucking is vital to the U.S. economy, a career as a truck driver is not highly sought-after (Staats et al., 2017). The trucking industry is challenged with an aging workforce, technology disruption, work–life balancing, compensation, and regulatory challenges. The U.S. Bureau of Labor Statistics (BLS; n.d.-a) projects a 20.6% growth in trucker jobs, which will produce approximately 330,000 new jobs in the truck driving market by 2026. ATA (2019b) estimated a 61,000-truck driver shortage at the end of 2018, with the shortage expected to reach 160,000 by 2028. With a saturated job market and trained driver shortage compounded by a high attrition rate of 89% within large truckload fleets (ATA, 2019b), trucking sourcing managers need to develop strategies to recruit and retain truck drivers.

Problem Statement

The rise in U.S. e-commerce increases the need for truck transportation; however, the existing driver shortage could pose an imminent threat (Burks & Monaco, 2019). ATA (2019b) reported the U.S. trucking industry employed 3.5 million truck drivers, with a forecast for a 2% increase in truck drivers by 2029. Still many companies reported having difficulties hiring and retaining qualified truck drivers, which will continue to worsen as more drivers retire (ATA, 2019a). The general business problem was trucking companies have low retention rates for qualified truck drivers. The specific business problem was some supply chain and logistics managers with operations in the oil and gas industry lack strategies to effectively recruit and retain qualified truck drivers.

Purpose Statement

The purpose of this qualitative multiple case study was to explore what strategies supply chain and logistics managers with operations in the oil and gas industry use to effectively recruit and retain qualified truck drivers. The research population consisted of six supply chain and logistics managers from three Houston, Texas area oil and gas trucking companies who have implemented successful strategies to recruit and retain qualified truck drivers. The implications for positive social change include the reliable delivery of needed goods to local communities, potentially improving their quality of life from goods delivered. By providing a consistent supply chain delivery system, the trucking industry can potentially maintain and build sustainable businesses that provide a benefit to the communities with local employment opportunities.

Nature of the Study

The three research methods available for researchers are quantitative, qualitative, and mixed (Fassinger & Morrow, 2013). I selected the qualitative approach as the most appropriate method for this study. Researchers use the qualitative approach to answer a research question using open-ended questions (Cox, 2012). I used the qualitative methodology to generate rich descriptions and more in-depth insight into strategies for retaining and recruiting qualified truck drivers through asking supply chain and logistics managers open-ended interview questions (see Bearman, 2019; Cypress, 2019). Researchers use the quantitative method to examine the significance of relationships among variables through testing hypotheses and analyzing associated numerical data (Clark & Veale, 2018). I did not examine the relationships among variables by testing hypotheses; therefore, a quantitative approach was not appropriate for this study. A mixed-method study is a combination of qualitative and quantitative methods that researchers use to combine the best of both methods for addressing complex research questions (Fassinger & Morrow, 2013). The mixed-method approach was not appropriate for this study because I did not need to use the quantitative aspect to answer the research question.

Three common qualitative research designs are: (a) ethnography, (b) phenomenological, and (c) case study. An ethnographic study is an in-depth study of participants conducted over extended periods where the researcher takes an observatory role within the natural setting and culture being studied (White et al., 2009). While ethnographic and case studies may have overlapping methods to understand groups' cultures and organizations' characteristics, an ethnography was not appropriate for this research topic because I did not conduct this study to understand a group's culture. Researchers conduct a phenomenological study to understand the personal meanings of participants' real-world experiences based on exploring the participants' recollections and interpretations of their personal feelings from experiencing a single lived event or phenomenon (Larkin et al., 2019; Leggett & Yates, 2016). The phenomenological design did not align with the purpose of the current study because the study was not focused on exploring the participants' meanings of experiencing a single lived event or phenomenon. Researchers use a multiple case study design to explore multiple cases for more than one organization using various lenses in a comprehensive study (Farrugia, 2019). I selected a multiple case study design to collect rich data from multiple organizations and explore and compare specific strategies participants used across multiple companies to effectively recruit and retain qualified truck drivers in the oil and gas trucking industry.

Research Question

What strategies do oil and gas industry supply chain and logistics managers use to effectively recruit and retain qualified truck drivers?

Interview Questions

1. What strategies are you using to recruit qualified truck drivers?
2. What are the key challenges your company faces in implementing the strategies for recruiting?
3. How do you address key challenges your company faces in implementing the strategies for recruiting?

4. What process(es) does your company use to assimilate truck driver strategies across the organization?
5. How do you assess the effectiveness of the strategies for recruiting and retaining qualified truck drivers?
6. What other information can you provide regarding your organization's vertical alignment for recruiting and retaining qualified truck drivers?

Conceptual Framework

The conceptual framework selected for this study was total quality management (TQM) theory. The TQM theory is a managerial theory organizational leaders use to integrate cross-functional roles from the top down (Stotz, 2015). TQM in these roles can include operations, accounting, sales, logistics, and customer service (Goyal et al., 2017). The concept of TQM is to align decision making that is appropriate to employees' level within an organization (Goyal et al., 2017). TQM has been linked to job satisfaction and employee work engagement (Oluwafemi & Okon, 2018). Business leaders use the TQM framework to align human resource (HR) activities to organizational strategies (Oluwafemi & Okon, 2018). TQM is not a singular solution; it requires a synergistic approach. TQM focuses on continuous improvement, encouraging employee feedback (Peljhan & Marc, 2018). Hsu (2019) considered process management, within the TQM framework, as a key means for aligning operations with strategic planning (Peljhan & Marc, 2018) and through training programs (Oluwafemi & Okon, 2018). The TQM theory was an appropriate conceptual framework for this study to effectively identify and explore strategies in cross-functional areas such as HR; health, safety, and environmental; and operations that companies use to recruit and retain qualified truck drivers.

Operational Definitions

Backhaul: The trip back from the destination point or delivery point to origin or home office (ATA, n.d.).

Common carrier: A trucking company that hauls for any company (ATA, n.d.).

Contract carrier: A trucking company that hauls for limited companies under contract (ATA, n.d.).

Deadhead: A trip back from the destination to origin while the driver is not hauling any freight (ATA, n.d.).

Detention: Driver delay at the customers facility (American Transportation Research Institute [ATRI], 2019a)

Electronic log device (ELD): A computer system that keeps track of the driver's miles and hours of service (HOS). Federal regulation requires that all truck drivers have an ELD as of November 2017 (ATA, n.d.).

Hard principles of TQM: These principles address processes (Zeng et al., 2015).

HOS: A federal regulation that governs the number of hours a driver can drive within a given period when operating a commercial vehicle (ATA, n.d.).

Long-haul: A long-distance drive, usually serval hundred miles, also referred to as over-the-road (OTR; ATA, n.d.).

OTR: A long-distance drive, usually serval hundred miles, also referred to as long-haul (ATA, n.d.).

Private carrier: A fleet that is privately owned and operated and only hauls goods for their own company (ATA, n.d.).

Soft principles of TQM: Principles that are closely related to human resource management (HRM) concepts, which address human relationships and management (Zeng et al., 2015).

Assumptions, Limitations, and Delimitations

By identifying the assumptions, limitations, and delimitations, researchers describe potential restrictions within the research (Theofanidis & Fountouki, 2019). Each element demarcates the boundaries of the study and identifies areas for future researchers to expand the research (Busse et al., 2016). In the following subsection, I outline the assumptions, limitations, and delimitations related to the study.

Assumptions

Assumptions are considered uncertainties (Yang et al., 2018). A researcher will start with a set of assumptions that are believed to be true but have not been proven (Yilmaz, 2013). In this study, I assumed the participants represented supply chain and logistics managers with operations in the oil and gas industry in the Houston, Texas area who had successfully recruited and retained truck drivers. I also assumed managers had a direct influence on truck drivers’ intention to stay. Another assumption was that participants would have the capability to internalize the open-ended questions asked and respond accordingly. Finally, I assumed participants would answer the questions honestly, truthfully, and completely.

Limitations

Limitations are potential weaknesses of a study outside the researcher's control and directly related to the study (Theofanidis & Fountouki, 2019). Research limitations can also occur when researchers attempt to balance scientific rigor with real events (L. M. Connelly, 2013). The first limitation was the use of TQM theory to explore strategies that supply chain and logistics managers with operations in the oil and gas industry used to effectively recruit and retain qualified truck drivers. Other theories could influence truck driver turnover differently. A second limitation was the limited number of participants in the study, resulting in a generalization that may differ in other settings. The final limitation involved the use of a multiple case study design with which I was unable to make causal inferences because of the broad differences between organizational structures of the companies being studied.

Delimitations

Delimitations are the boundaries of the study determined by the researcher (Theofanidis & Fountouki, 2019). There are multiple challenges trucking companies need to assess; however, the boundaries for this study were based around three delimitations. First, I focused on recruitment and retention strategies. Second, I limited the study geographically to trucking companies in the Houston, Texas area. Third, all participants currently hold a managerial position in the company.

Significance of the Study

Oil and gas company leaders might use this study's findings to better understand the strategies supply chain and logistics managers use to recruit and retain qualified truck drivers. According to ATA’s (2019b) driver shortage report and forecast, the trucking industry will continue to grow along with the need for additional drivers. Understanding and exploring the successful strategies used by others could benefit supply chain professionals in recruiting and retaining qualified truck drivers, resulting in reduced costs and increased revenues through a stable workforce and effecting general beneficial social change.

Contribution to Business Practice

The purpose of this qualitative study was to identify and explore strategies used in the oil and gas industry to effectively retain and recruit qualified truck drivers. Organizational leaders focus on three main areas: financial, operational, and customer satisfaction (Covey et al., 2012). The truck driver shortage in the United States affects these three areas of an organization. To overcome the truck driver shortage’s effects, organizations need to develop strategies to recruit and retain qualified truck drivers. According to Marsden (2016), employee turnover has a $27 billion cost per year in the United States. Employee attrition could cost an organization from 1.2 times (Marsden, 2016) to up to 1.5 times an employee’s annual salary (Frankel, 2016). Identifying effective strategies for employee retention in an industry that has an 89% turnover rate provides significant value to the trucking industry to reduce costs and improve and maintain service levels (see ATA, 2019b). Focusing on continuous improvement develops a success pattern when implementing derivative improvements to identify and improve key business processes (Creech, 1994).

Implications for Social Change

In this study, the iimplications for positive social change stem from successful implementations of supply chain due diligence programs, such as safety and training, fleet management, and subsidized commercial driver's license (CDL), improving safety that may benefit companies, employees, and local communities. Local trucking businesses may create jobs that can stimulate local economic growth, increasing revenues to the local government through larger tax revenues. Tax revenues can be used to improve local communities' quality of life by improving infrastructure and establishing or expanding social programs, such as youth programs, benefiting local residents.

A Review of the Professional and Academic Literature

Researchers perform a literature review to synthesize findings related to a research topic and to legitimize that the study will add value to the research topic (Azungah, 2018). Researchers also use a well-structured and comprehensive literature review to provide insight into the research problem (Linneberg & Korsgaard, 2019). In this literature review, I provide a comprehensive and critical analysis and synthesis of current literature aligned with the conceptual framework as well as explore gaps in the literature to provide a well-structured and comprehensive review of the phenomenon under study. The literature reviewed and analyzed took the form of peer-reviewed scholarly articles, academic journals, and books. Most articles included in this review were peer reviewed and published within 5 years of my completion date. I endeavored to ensure 85% of sources used in the literature review were peer reviewed. A summary of literature review reference types and percentages is shown in Table 1.

One hundred sixty-six references are included in this study; 143 of which are scholarly, peer-reviewed articles, representing more than 85% of the total references. Remaining works included seven books (5% of total references), and 17 non-peer-reviewed references (10% of total references). The literature review includes 95 references. The publication date for 79 of these references is within the 2018–2022 period, representing 83% of all included references in the literature review subsection.

Table 1

Summary of Literature Reference Types and Percentages

References by type	Published 2018–2022	Published before 2018	Total	Percentage of total references
Overall doctoral study references				
Peer-reviewed journals	95	48	143	86%
Books	1	6	7	4%
Other resources	14	2	17	10%
Total	110	56	166	100%
Literature review references				
Peer-reviewed journals	49	30	79	83%
Books	0	2	2	2%
Other resources	13	1	14	15%
Total	62	33	95	100%

The purpose of this literature review was to explore research sources addressing the recruitment and retention of qualified truck drivers, with a focus on the oil and gas industry in Houston, Texas. My objective was to provide context for the issues surrounding qualified truck driver recruitment and retention for the oil and gas industry, strategies used, and influencing factors. I conducted this comprehensive, up-to-date literature review to provide conceptual and key academic and recent writings that support my topic. The literature review includes a discussion of relevant topics, such as driver shortage, driver costs, impacts of the driver shortage, costs of retention, and proposed strategies to address the driver shortage in the United States. To locate academically approved sources, I searched databases accessible through the Walden University Library using multiple keyword search term combinations, such as *driver shortage*, *supply chain*, *TQM*, *six sigma*, *recruiting*, *retention*, *work–life balance*, *demographics*, *benefits*, *social change*, and *regulatory*.

I organized the literature review to (a) introduce the framework of TQM and its application to recruit and retain employees, (b) establish the parameters for the study, (c) demonstrate opponents of TQM, and (d) provide a foundation of the study based on present research. I first searched for seminal work on supporting theories within the study. I then expanded the search to peer-reviewed sources with a publication date of 5 years or less from my anticipated completion date. My goal was to identify literature that addressed recruiting and retention strategies that affect all levels within an organization across multiple industries. I also reviewed the literature for factors that directly affect the truck driver shortage in the United States.

Conceptual Framework

I used TQM theory as the conceptual framework for this study. The following discussion of the conceptual framework includes the application of TQM and criticism of the theory. In the following subsections, I also explore strategies in cross-functional areas such as HR; health, safety, and environmental; and operations that companies use to recruit and retain qualified truck drivers.

TQM Theory Historical Literature

The objective of this qualitative multiple case study was to explore what strategies supply chain and logistics managers with operations in the oil and gas industry use to effectively recruit and retain qualified truck drivers. The initial design of the TQM theory was to improve the quality of products and services (Stotz, 2015). The concepts of quality control have been in practice since 1920; however, it was not until post-World War II that the concept of TQM became globally practiced thanks to the works of W. Edwards Deming (Kiran, 2017). The full stages of TQM include controls through document control, management review, audits, data analysis, and managing customer complaints and opinions (Nasir et al., 2020). Leaders use TQM practices to increase customer satisfaction through improvements within their organization’s functions (Kapiki & Tsakiridou, 2018). Youssef and Youssef (2018) postulated TQM impacts on the operational performance would result in improved customer satisfaction. Leaders can evaluate the organization’s financial performance measures based on increased sales resulting from performance improvements in customer service (Madhani, 2016). TQM practices extend past quality controls.

From a global perspective, organizations must meet customer expectations and quality standards within a changing environment. Researchers have suggested leaders can use quality programs, such as TQM, beyond improvements of products and services to incorporate HRM strategies (Hart & Schlesinger, 1992). On this basis, Hart and Schlesinger (1992) posited the convergence of TQM practices as an umbrella strategy that brings together all quality initiatives, resulting in a unified process that cannot be easily split (Nasir et al., 2020). Therefore, leaders should view TQM as an integrated approach.

Through the use of TQM principles, leaders can customize the approach that meets their organizational needs. When separated, different principles of TQM can contribute to various cost savings within an organization (Alkhaldi & Abdallah, 2019). Scholars have separated TQM principles into two categories: hard and soft (Khalili et al., 2017). The soft principles of TQM are closely related to HRM concepts that address human relationships and management, while the hard principles address processes (Zeng et al., 2015). Alkhaldi and Abdallah (2019) found the hard aspects of TQM proved to be effective in reducing manufacturing process costs. HRM practices are centered on the human factor, reflecting the soft aspects of TQM (Abadallah & Alkhaldi, 2019; Nimeh et al., 2018). Abadallah and Alkhaldi focused on employee engagement through combined practices of TQM and HRM's soft aspects, which positively improved processes and reduced operational costs. The focus of this literature review is on the soft aspects of TQM.

To address how TQM can result in positive employee engagement and reduced turnover intentions, I focused on the soft principles of TQM. Soft principles of TQM can result in positive employee engagement and reduced turnover intentions (Abadallah & Alkhaldi, 2019). The soft components of TQM may lead to positive outcomes, enhancing an employee's readiness to change (Hwang et al., 2020). Furthermore, leaders can use the soft principles of TQM for employee retention (Hwang et al., 2020). The soft TQM principles have resulted in positive employee job involvement, career satisfaction, and turnover intentions (Hwang et al., 2020). The fundamental principles of TQM include employee empowerment, teamwork, communication, employee training, and top management leadership (Hwang et al., 2020). Deming has offered 14 key principles that consist of six hard and eight soft aspects of TQM (Stotz, 2015). TQM can be used as a complementary practice to companies that excel in talent management help secure internal consistency, complementarity, and competitive advantage (G. K. Stahl et al., 2012). I focused on six of the eight soft principles of Deming’s key principles to demonstrate how soft principles in TQM can result in positive employee engagement and reduced turnover intentions.

Create Purpose and Constancy

Leaders have the responsibility to create a work environment that leads to employee engagement, reduces turnover, and achieves its goals; therefore, setting purpose and constancy within the organization should be the primary focus of organizational leaders (Stotz, 2015). Leaders should aim for consistency and purpose to become competitive, stay relevant, and retain employees (Stotz, 2015). Setting the purpose and constancy should be incorporated into strategic employee retention planning, innovation and technology, and promoting education and training (Stotz, 2015).

As applied to this study, leaders in the oil and gas trucking industry may gain an understanding of the importance of investing in human capital. When making critical business decisions, leaders should consider the strategic employee retention plan (King & Tang, 2017). Leaders should start with the customer and work backward to develop the organization’s strategy and purpose without losing focus on the day-to-day challenges

(Stotz, 2015). Orr and Jadhav (2018) explained that organizations require an integrative and adaptive strategy to achieve sustainability. The retention strategy should include organizational culture, training programs, strong leadership, and employee involvement in the decision-making process (King & Tang, 2017). Leaders should also share strategic plans within the organization. Examining strategic retention initiatives throughout the organization must be improved by leaders to close the expectation and reality gap.

Leaders can enhance their strategies through innovation and technology. With advanced technology, data have become more readily available and are valuable resources in decision making (Grable & Lyons, 2018). The speed at which data are available will allow leaders to react quickly to changing environments; however, leaders should avoid knee-jerk reactions, termed as fast breeder reactors, because they can fail, but nonreaction also has consequences when leaders fail to innovate (Khan & Sawicka, 2016). Purkayastha and Sharma (2016) identified that innovation has extended beyond products and services to include strategic business models. Business models are useful tools in identifying innovation opportunities in a standardized fashion (Khan & Sawicka, 2016). Leaders use information obtained through technology to gain insight into the current market conditions by studying competitors and can apply that knowledge to improve customer satisfaction.

Education and training programs can increase employee efficacy and strengthen their commitment to the organization. Pradhan and Jena (2019) found that employee transformation occurs when employees link their work with higher purposes beyond just financial gain. Based on this finding, leaders should seek to design jobs in a way that will satisfy both the extrinsic and intrinsic needs of their employees. The more employees understand their value and purpose within an organization, the customer's resulting value will result in employee pride (Petit, 2010). Plaskoff (2017) suggested that employees are not only resources but are meaning-making, purposeful, learning, and experiencing human beings. By providing employees with education and training, leaders can promote purpose and constancy across the organization.

Employers who invest in employee purpose and constancy may have a positive impact on employee retention. Stotz (2015) argued purpose and constancy supports employee retention. Pradhan and Jena (2019) echoed this sentiment, stating that establishing a higher purpose has been linked to employee satisfaction. Furthermore, King and Tang's (2017) findings support purpose and constancy gained through implementing an employee retention strategy to reduce excess turnover. These findings collectively support leaders' responsibility to create a work environment that leads to employee engagement, reduces turnover, and achieves its goals.

Adopt the New Philosophy

TQM practices work when entire organizations adopt the changes in their philosophies and HRM programs. Leaders alone cannot create change within an organization, so adopting the organization's philosophy must be accepted at all organizational levels (Stotz, 2015). The employees' attitudinal reactions to the organization's change initiatives will determine its success (Hwang et al., 2020). Leaders can accomplish the adoption of change through leadership, cultural change, and acceptance.

Effective leaders take ownership, and their actions enhance the entire organization, not just their department. To achieve successful TQM integration across the organization, leaders must manage the planning, programs, and integrated resources (García-Alcaraz et al., 2019). Thus, leaders must require transformation and remove the perception that quality initiatives, such as TQM, add cost to the process (Stotz, 2015). The leader's role is to motivate their workers to engage and create a work environment that fosters collaboration and meets the employee's individual needs to feel valued (Bake, 2019). Leaders must rise to the challenge and drive their employees' desired transformation to meet the organization's goals (Stotz, 2015). As such, leaders are key to promoting and ensuring the success of change initiatives in the organization.

Leaders can accomplish cultural change by creating a sense of togetherness. A direct relationship exists between the organization's culture and employee turnover intention, motivation, job satisfaction, and organizational commitment (Molahosseini et al., 2020). The successful implementation of TQM relies on leaders' ability to understand its cultural values and customize the TQM practice to fit within those values (Hilman et al., 2019). TQM implementation is enhanced when HR manages the change programs (García-Alcaraz et al., 2019). Socializing the change throughout the organization as part of the retention strategy reduces excess turnover (King & Tang, 2017). It is important to have a unified culture to ensure employees focus on the same organizational goals.

All levels of the organization must accept the change to effect change. The change starts with frontline leaders supporting and executing the change (Fu et al., 2020). The causal effect of change initiatives from the top down will result in the employee's lived experience (Fu et al., 2020). Change strategies should consider how the individuals within the organization will adopt the change. The employee's lack of understanding and purpose of the change may act as a stressor as it changes their employment stability perception (Bugdol, 2020). Therefore, leaders' responsibility is to support TQM implementation through formalized plans, training, and education programs at all organizational levels (García-Alcaraz et al., 2019). A holistic strategy on all levels of the organization will promote the adoption of the new philosophy.

Employee commitment to an organization is a critical predictor of employee turnover. Bake (2019) found employee work environment directly impacts the employee's individual needs to feel valued. This is consistent with the findings of Molahosseini et al. (2020) and Hilman et al. (2019) that noted employee turnover intentions are linked to the employee's perception of their value within the organization. Such research supports the importance of the role of the leader and consistent organizational culture to support employee turnover intentions.

On-the-Job Training, Education, and Self-Improvement

On-the-job training programs focus on TQM philosophy training, education, and self-improvement programs to improve employee knowledge of how their job performance impacts quality. Training programs should be part of an organization's employee retention strategy to reduce excess turnover (Kalyanamitra et al., 2020; King & Tang, 2017; Molahosseini et al., 2020). Ahire et al. (1996) found that employee training and involvement programs are common strategies. The success factors of TQM have led to an increased focus on training, top management engagement, and resource allocation

(Abd-wahed & El-Baz, 2018). In addition to the quality, productivity, and performance gains through training, TQM practices have led to a positive relationship resulting in decreased turnover, lowered staffing costs, and improved communication (Albuhisi & Abdallah, 2018). Training programs have also been linked to increased employee efficacy and a strengthening of employees' commitment to the organization (Kalyanamitra et al., 2020). From an analysis viewpoint, leaders need to design and offer training programs that will intellectually stimulate their workforce, which could benefit both the employees and the organization (Pradhan & Jena, 2019). On-the-job training, education, and self-improvement programs can help the organization adopt the philosophy, increase employee engagement and commitment to the organization, and identify barriers to success.

Training is optimal tool leaders use to gain adoption of change across the organization effectively. A difference exists between the understanding and adoption of TQM tools and techniques. Abd-wahed and El-Baz (2018) posited that formal training programs had shown success in implementing change. Like gaining buy-in from all organization levels, leaders should incorporate training into formal training at all organization levels to aid in adoption (Hwang et al., 2020). In-person training has produced a greater impact and more result in commitment to change (Davis & Fifolt, 2017). Comingling multiple training levels can enhance sessions' quality and act to break down barriers between ranks (Ahire et al., 1996). Training can reduce employee resistance to change and positively affect the organization's change initiatives (Hwang et al., 2020). Leaders can use a well-structured training program to engage the employees in understanding the need to change.

In addition to supporting change initiatives, leaders can use training programs to increase employee engagement and commitment to the organization. Employees' opportunities to develop skills and increase knowledge positively impact job satisfaction by focusing on their need for growth (Molahosseini et al., 2020). Kalyanamitra et al. (2020) posited that leaders could meet an employee's need through relevant and effective training to increase their knowledge and skill. Further, the fulfillment of the employee's need will result in employee empowerment and decreased turnover intentions (Kalyanamitra et al., 2020). Employee empowerment is a key aspect of improving quality control (Ahire et al., 1996). Empowerment is not a singular action and extends beyond shifts in accountability and responsibility; therefore, leaders must also provide the necessary resources to help apply knowledge in decision making (Ahire et al., 1996). As leaders shift responsibility and equity to their employees, employees start to gain an increased sense of empowerment and commitment to the organization.

Training programs are a useful resource to eliminate barriers to success. Leaders can increase employee motivation by creating a positive condition or modifying or eliminating adverse conditions that affect success (Molahosseini et al., 2020). Leaders should especially focus on the barriers that impact performance improvement (Abd-wahed & El-Baz, 2018). Leaders can use training and employee improvement programs to remove barriers and support productivity and performance (Albuhisi & Abdallah, 2018). Lack of training and employee engagement is a major barrier to implementing

TQM practices (Abd-wahed & El-Baz, 2018). Leaders should link TQM practices to organizational strategies to ensure TQM efforts' success (Abd-wahed & El-Baz, 2018). Failure in TQM efforts contributes to unfocused improvements or training programs not tied directly to quality improvement (Ahire et al., 1996). When these programs are unfocused and implemented in isolation, they have a greater propensity for failure (Ahire et al., 1996). Thus, TQM training institutions should ensure their curricula prepare graduates with problem-solving skills and skills to use TQM techniques (Abd-wahed & El-Baz, 2018). Leaders must be able to identify and eliminate barriers to success through training programs.

Studies of employee engagement supported the relationships between employee training programs and reduction in employee turnover intentions. Molahosseini et al. (2020) found that training programs that develop employees increase employee job satisfaction, Kalyanamitra et al. (2020) echoed this sentiment and determined training programs also contribute to employee efficacy. Pradhan and Jena (2019) likewise supported the need for corporate leaders to design and offer training that will support both the intrinsic and extrinsic needs of the employee.

Leadership

Leadership has been one of humankind's oldest preoccupations; leaders have existed in every nation across the globe. Leaders have shaped cultures, politics, education, religion, and history. While leadership has spanned centuries throughout multiple nations, there has not been a consensus on defining what makes a leader. With the introduction of major corporations, management formed as a need to guide the business. The critical role of a leader is to retain and engage employees (Bake, 2019). An effective leader will motivate their employees to engage, foster collaboration, and create an environment in which they feel valued (Bake, 2019). Leadership within an organization increases focus on achieving a common goal, increasing job satisfaction, and reducing turnover.

Leaders are key to creating an environment where employees focus on a common goal. The workforce is the most critical component of the organization, and as such, leaders need to focus on relations with their employees (Dalkrani & Dimitriadis, 2018). Leaders should place a greater emphasis on inspiring their workforce to work together towards a common goal (Stotz, 2015). Therefore, leadership is responsible for promoting unity between the departments (Stotz, 2015). Realizing the need for tactfulness and resolving issues can deliver a win–win for all and encourage disagreements with a continuous and open dialogue (Srivastava & Yadav, 2017). Initial stages of eliminating barriers in distributed teams may result in conflict. Each department strives to understand their respective goals and how they can merge them into a common goal.

The change in thinking from management to leadership has occurred to serve as critical channels to communicate values and strategic changes and motivate employees. Employee job satisfaction is an essential factor in the organization’s success (Dalkrani & Dimitriadis, 2018). Carter et al. (2019) found that one of the most consistent job satisfaction attributes is the workers’ relationship with their boss. Leaders’ communication style also plays a significant role in the relationship between employer and employee (Carter et al., 2019). Leader–employee communication has a direct relationship to employee retention (King & Tang, 2017). Beyond communication, leaders should link work with a higher purpose beyond financial gain to achieve greater organizational transformation (Pradhan & Jena, 2019). The work should be meaningful, noteworthy, valuable, and serve each employee's purpose (Grama & Todericiu, 2017). Grama and Todericiu (2017) found when employees view the work to be meaningful, the work enhances their value and contribution, respectively, resulting in higher job satisfaction. Moreover, a leader's focus on employees' value may help shape the organizational operations' economic and working environments (Dalkrani & Dimitriadis, 2018). When employees understand their work's value, they may work harder to achieve recognition of their contributions.

A positive relationship exists between employee job satisfaction and employee retention. Carter et al. (2019) found strong leadership has a direct correlation with increased retention rates. Molahosseini et al.'s (2020) findings are consistent that a supportive work environment and strong leadership play a critical role in employee job satisfaction and reduction in excess turnover. Plaskoff (2017) urged leaders to put the employee's total experience at the center of their focus. Plaskoff asserted that leaders must reframe their approach to how they relate to their employees, focusing on retention, engagement, and innovation. Similarly, Shahsavan and Safari (2017) showed employees with high job satisfaction have a higher affective commitment creating a continuance commitment to their employer, thus reducing turnover intentions. Leaders should strive to motivate by creating a work environment that challenges their employees, creates job satisfaction, thus reducing turnover intentions.

Drive Out Fear

Employee engagement is crucial for an organization’s success; however, fear in the workplace is a barrier to success. Reinert and Yakaboski (2017) found that a positive or negative culture directly impacts employee turnover intentions. Beyond excess turnover, fear in the workplace acts as an enemy to creativity and progress (Stotz, 2015). Leaders must drive out fear of continuous change, fear of speaking up, and fear of criticism.

The change to a continuous improvement model is established in its culture and encouraged by leadership. To achieve a continuous sustainable change, culture leaders must drive out fear in the workplace (Stotz, 2015). Based on the fear of punishment, employees may be reluctant to suggest corrective actions to promote continuous change (Bugdol, 2020). Additionally, employees may attempt to cover up mistakes versus learning from the continuous improvement processes (Stotz, 2015). Leaders should focus TQM efforts on continuous improvement to enhance employee empowerment in decision making, which will result in superior value to the customer (Nguyen & Nagase, 2019). Results of improvement activities create a feedback loop, which results in continuous improvement (Acharya et al., 2018). Based on this feedback loop, leaders should empower their employees to make quality-driven decisions. Eliminating the fear of change is the first step to creating a culture of security.

The next step to achieve an open feedback loop is by driving out the fear of speaking up in the workplace. Leaders must create a culture of trust and a working environment employees can be proud of (Stotz, 2015). Two-way communications should be encouraged to build a culture of trust (Stotz, 2015). Ananny and Crawford (2018) described transparency as a physical ideal that, if seen, can be understood. Performance appraisals can be a powerful tool between the employee and employer to align on past performance and enhance future expectations to improve job satisfaction (Kalyanamitra et al., 2020). The performance appraisal process allows for open two-way communications in a transparent and fair employee assessment (Kalyanamitra et al., 2020). Many times, employees are looking for a tangible explanation of leaders' actions.

Fear of job loss caused by mistakes can lead to low employee morale and increase turnover intentions. Leaders should consider a more subtle, helpful, and positive approach to errors versus strong criticism, leading to a reduction in motivation (Stotz, 2015). Constructive feedback versus criticism will give an employee dignity in their work, creating a higher quality of performance (Stotz, 2015). Thus, the degree to which an employee values their work is vital for balancing personal and professional work, enhancing their value and contribution, respectively (Grama & Todericiu, 2017). Employees should not fear making mistakes in the workplace.

Organizational leaders must support a positive work culture. Reinert and Yakaboski's (2017) findings show that a positive or negative culture directly impacts employee turnover intentions. Stotz (2015) and Bugdol (2020) likewise found fear in the workplace creates a negative culture within the organization. To combat fear in the workplace, Acharya et al. (2018) suggested open communication can help create a feedback loop.

Involve All Workers in the Transformation

Leaders can strengthen the civic behavior of employees in an organization through involvement practices. Managing processes is the responsibility of all employees within the TQM environment (Abadallah & Alkhaldi, 2019). Molahosseini et al. (2020) posited that individual variables, such as job involvement and social variable, affect employee retention. King and Tang (2017) stated involving employees in the decision-making process is part of an employee retention strategy to reduce excess turnover. Leaders can earn respect and build relationships by involving and listening to their employees (Bake, 2019). To promote employee involvement, leaders should consider engaging employees, creating an inclusive work environment, and supporting that change through the organization's culture.

Employee involvement and employee engagement are complementary concepts. Tian and Gamble (2018) identified five aspects where leaders can engage in employee involvement practices: business planning, job arrangement, work process changes, compensation policies, and health and safety issues. Employee engagement is crucial to process improvements. Employees should drive change, not simply point out what needs to be changed (Stotz, 2015). The involvement practice has reduced work stress as the employee gains a greater sense of empowerment through decision-making, autonomy, and less role ambiguity (Tian & Gamble, 2018). Srivastava and Yadav (2017) offered that since employees are the organization's greatest assets, ensuring that the right person is doing the right job at the right time is essential for making the system work. The perception of being a valued member of the organization has led to job satisfaction. The employee has greater ownership of their work and a heightened commitment to the organization (Tian & Gamble, 2018). The use of employee involvement practices will lead to greater employee engagement.

The key factor of employee involvement is creating an environment where they feel like they belong. In 1983 Bateman and Organ coined the term organization citizenship behavior, a voluntary individual behavior exhibited by employees of an organization (Raza, 2017). Organization citizenship behavior strengthens the individual's need for accomplishment, competency, belonging, and closeness (Sonmez Cakir & Adiguzel, 2020). When exhibited as motivation, a leader's motivating behavior develops positive and motivating behaviors of the employees, which results in good behaviors towards the organization (Raza, 2017). The cultural change should encompass all levels of the organization.

An inclusive work environment will support employee involvement practices. Lauring and Klitmøller (2017) found that leaders who demonstrate more inclusiveness through inclusive language create an atmosphere in which there is a shared sense of identity and unity amongst the workers to meet production and performance goals best. Organizations that offer full engagement from all levels and outlets for employees to voice their views have seen greater success (Aperian Global, 2019). Davis and Fifolt (2017) also asserted employees are more willing to accept change when they have a voice in the direction. Additionally, Lauring and Klitmøller found leaders should balance between using terms, words, and expressions, creating a single identity for employees in the workplace so that they all are united. Inclusivity in the workplace will start with a cultural shift.

Opponents of TQM

Compared to human resource concepts such as HRM, TQM concepts are not widely adopted. TQM is one of the most effective strategies to produce increased productivity, profitability, and service quality; however, there is still confusion on achieving total quality (Hart & Schlesinger, 1992). Zeng et al. (2015) noted some researchers argued that TQM is not compatible with innovation, as the principles of TQM focus on improving current processes versus continuous improvement. Some view Six Sigma and other quality models are better suited for manufacturing versus organizational change (Davis & Fifolt, 2017). TQM critics have noted several shortfalls of TQM implementation, such as its short-term benefit, lack of adoption across the organization, and customized approach.

TQM opponents see TQM practices' implementation hurt the organization's value since there is a high commitment with short-term results. Opposition to TQM emerges from resource limitations, cost constraints, and a focus on short-term goals (Wilkinson et al., 1990). Carmona-Márquez et al. (2016) found that organizations may not see the success of TQM in the implementation or in the initial phases of TQM considering the time and resources needed for change. Like Carmona-Márquez et al.'s findings, Youssef and Youssef (2018) found that the benefits of TQM are not immediate but are seen 3 to 5 years after implementation. The long timeline to benefits may lead to reluctance in management engagement to commit resources since the financial benefits of TQM can be difficult to measure in the short-term (Hart & Schlesinger, 1992).

In addition to long time commitments, organizational leaders may find additionally opposition to implementing TQM practices. Leaders' time commitment and long timelines to see financial results may deter innovation because of the risk of failure (Petit, 2010). Opponents argued that the focus on short-term goals to increase the customer's immediate needs creates a siloed view of current products and markets (Zeng et al., 2015). Leaders need to focus on increasing the organization's value, and TQM implementation may appear to have a counter benefit to value.

Implementation of TQM programs requires a cultural shift that must be adopted by all individuals within the organization. The most common barrier to TQM implementation efforts is a lack of commitment (Wilkinson et al., 1990). Implementation of TQM practices can show obstacles to TQM from weak leadership engagement, weak or nonexistent vision and mission statements, and influence of poor government policies (Nasir et al., 2020). Another major factor of TQM implementation is employee involvement (Abadallah & Alkhaldi, 2019). Those opposed to TQM view it as a management fad or a sales gimmick (Wilkinson et al., 1990). Internal fears of reduction, restructuring, and redundancies in the workforce can also limit TQM efforts' effectiveness (Wilkinson et al., 1990).

Opponent of TQM may find TQM practices increase the leader's workload. Additionally, employees can view TQM implementation as an additional burden on the organization (Wilkinson et al., 1990). With the increased focus on leadership, TQM makes leaders' jobs appear more demanding (Wilkinson et al., 1990). TQM implementation efforts will fail without the support and adoption of TQM at all levels of the organization.

For TQM practices to be successful, a customized approach is needed to fit the organization's structure and environment. TQM models have failed when organizations take a one size fits all approach versus adopting a model that fits their unique needs (Hart & Schlesinger, 1992). TQM models' duplication may be from consultants selling an out of the box solution or leveraged from a competitor (Hart & Schlesinger, 1992). This need for customization may act as a barrier to successful implementation.

Several scholars have pointed out flaws in the TQM approach. As Davis and Fifolt (2017) argued, TQM is better suited for manufacturing versus human resource practices. Youssef and Youssef (2018) and Carmona-Márquez et al. (2016) further showed TQM's long timeline of implementation to produce results acts as a barrier to adoption. One limitation in past studies is the focus on the relationship between TQM and adoption, rather than on close study of how TQM and HRM practices create a combined value.

Alternative and Complementary Theories

Comprehending theories of management is critical to understanding this study. Companies that excel in talent management help secure internal consistency, complementarity, and competitive advantage (G. K. Stahl et al., 2012). G. K. Stahl et al. (2012) provided insights on the challenges involved in top talent management in the global environment and the ways companies deal with these challenges, including the dilemma of the global pool of talents versus the local pool. While talent management policies are crucial to an organization's success, G. K. Stahl et al. concluded that true competitive advantage comes from proper internal alignment among various elements of the talent management system within an organization's value system, business strategy, organizational culture, and global coordination. The management theories applicable to this study include HRM, transformational leadership, and resource-based view (RBV).

HRM

People management is a foundational component of every organization globally. Retention of a competent workforce is among the fundamental goals of HRM (Molahosseini et al., 2020). HRM is the policies and actions used to recruit, train, reward, and create a positive culture within an organization (Molahosseini et al., 2020). HRM activities, such as training and development, directly influence leadership, quality and operational results, and customer focus and satisfaction (Hart & Schlesinger, 1992). Leaders can use HRM practices to engage employees to fulfill their goals (Kalyanamitra et al., 2020; Mayrhofer et al., 2019). The value of HRM practices has increased, caused by the increased challenges of employee retention (Kalyanamitra et al., 2020). People management will remain the organization's greatest asset and the critical component to success.

HRM theory is a solid theory to support employee recruitment and retention, and it is closely related to the foundation of the soft principles of TQM. TQM theory is gaining popularity beyond products and services; however, TQM is still a new HRM concept. TQM strategies lag 20 years behind HRM philosophies (Hart & Schlesinger, 1992). Many researchers have found both HRM and TQM as the main pillars of competitive sustainability (García-Alcaraz et al., 2019). The TQM model focuses on customer satisfaction to increase market share and profitability, whereas HRM models focus on employee satisfaction (Hart & Schlesinger, 1992).

TQM and HRM are not mutually exclusive. Hart and Schlesinger (1992) found both these models are complete independently; however, both in concert can create greater results. Similarly, Obeidat et al. (2019) outlined the importance of HRM and TQM practices to gain a competitive advantage. HRM will be the foundation of recruitment and retention practices in an organization.

Transformational Leadership

A leader's primary role is to promote employee engagement to reach the organization's goals. Leadership is vital to an organization's success by inspiring subordinates to achieve their goals through empowerment (El Toufaili, 2018). Transformational leadership involves motivating and encouraging employees to challenge the status quo and seek innovative solutions to existing problems (Pradhan & Jena, 2019). A transformational leader's significant roles are to help promote the organization's long-term vision, give inspiration to their employees, and increase overall performance (Shahsavan & Safari, 2017). Transformational leaders create a motivational change in their employees to reach the organizations' goals.

Employees can be the organization's most significant resource which affect the organization's innovation initiatives. Pradhan and Jena (2019) found that transformational leaders significantly influence employee's innovative work behavior.

Pradhan and Jena also revealed that high-performance expectations from transformational leaders resulted in positive employee outcomes such as creativity, innovativeness, and entrepreneurial intentions. El Toufaili (2018) suggested that performance will increase when transformational leaders can attract loyal workers, clearly define, and inspire their employees to strive to the same goals to reach the organization’s mission. Transformational leadership’s effects depend highly on the level of trust between the leader and employee (Altunoğlu et al., 2019). Moreover, transformational leaders consider employees’ personality in the perception of and reaction to leadership (Hildenbrand et al., 2018). Eberly et al. (2017) captured that transformational leaders can help increase job embeddedness, reducing turnover rates. Therefore, transformational leaders can serve as a resource that protects employees from burning out (Hildenbrand et al., 2018).

Transformational leadership theory has merits in promoting an employee’s commitment to the organization, and it also supports the soft principles of TQM. The impact of leadership in TQM is vital to the organization’s success to guide their employees to achieve the organization’s goals (Kumar & Sharma, 2018). Kumar and Sharma (2018) suggested from their findings that effective leadership may be the most vital component of TQM. Like HRM and RBV, transformational leadership can have a positive impact when coupled with TQM.

RBV

RBV theory focuses on internal resource capabilities and how leaders can use those internal resources to exploit advantages. Each organization has resources and capabilities that create goods and services. However, simply bundling resources and capabilities do not create a competitive advantage without the resources' heterogeneousness. According to the concepts of RBV, to gain a competitive advantage, the resources should be valuable, rare, inimitable, and nonsubstitutable (Escrig Tena et al., 2001). Unique resources gain a competitive advantage within an organization, such as financial, human, physical, and organizational (Barbosa et al., 2018). A path dependency exists among the unique resources to produce a sustainable competitive advantage (Nagano, 2020). Therefore, to capitalize on the opportunity to gain a sustainable competitive advantage, leaders must organize their heterogeneous resources to exploit the advantage.

RBV theory leverages resources to create competitive advantages and increase organizational performance but does not align with employee recruitment and retention considerations of this study. RBV applies to the soft TQM concepts specific to an organization and has certain isolating mechanisms that cannot be replicated by the competition, thus creating an inimitable competitive advantage (Escrig Tena et al., 2001). Escrig Tena et al. (2001) found RBV theory, when used as a theoretical framework for TQM, will support TQM soft concepts' direct effect on performance. Barbosa et al. (2018) and Nagano (2020) also asserted that soft concepts create a competitive advantage.

The Impact of the Driver Shortage

Organizational leaders must identify the cause of truck driver turnover to improve employee retention. Trucking industry leaders expect a surge in activity caused by economic growth; however, there is a growing concern about the truck driver labor shortage's impact on increasing capacity (Mittal et al., 2018; Nandonde, 2019). The modern consumer has shifted their buying patterns trending towards online shopping (LeMay & Keller, 2019). This shift will significantly impact the trucking industry as companies decentralized from a brick-and-mortar model and push towards an omnichannel model putting greater focus on last-mile logistics (ATRI, 2019b; LeMay & Keller, 2019). Economic growth and increased buying power of consumers directly affects the supply chain (Nandonde, 2019). The supply chain's greatest challenge is balancing consumer demand to the trucking industry's truck driver supply as trucking is critical in the supply chain (Mittal et al., 2018). The increased demand will result in a 25% increase in new truck driver hires by 2028, the second-highest percentage following 54% for new truck hires attributed to retirement (ATA, 2019b). The surge in trucking transportation has created a higher demand for truck drivers, which the trucking industry will struggle to fill because of the truck driver labor shortage.

The trucking industry will face a truck driver shortage as they struggle with the labor market supply and demand shifts. The topic of a truck driver shortage is not a new problem; it has been a long-standing issue spanning the past 40 years (Mittal et al., 2018). The truck driver shortage will strain the economy (Stockard, 2019), as trucking is vital to the U.S. economy, transporting 72.5 % of domestic goods by weight (ATA, 2019a). In 2020 the ATRI reported the truck driver shortage as the largest issue the industry is facing. The ATA (2019b) estimated a 61,000-truck driver shortage at the end of 2018, with the shortage expected to reach 160,000 by 2028. Mittal et al. (2018) posited that truck driver demand would continue to rise, maintaining a driver shortage. As a result of this challenge, leaders at trucking organizations must focus on strategies to retain their current truck drivers and increase their capacity through effective recruitment programs.

The truck driver shortage is not the only change the trucking industry is facing. The economic consequences of the truck driver shortage and high turnover affect both the consumer and trucking organization by placing increased constraints on capacity and higher freight costs (LeMay & Keller, 2019). In April 2017, the ATA reported driver turnover reached an annualized 71% rate (Hawes, 2017). Leaders in trucking organizations need to determine the high turnover cause and implement retention strategies to mitigate talent loss (Stockard, 2019). To support employee retention, leaders need to be aware of retention challenges, the cost of turnover, and recruitment strategies.

Retention Challenges of Truck Drivers

Leaders need to be aware of the challenges that contribute to truck driver turnover intentions to support employee retention strategies. One principal factor of retention is the employee's occupational and organizational identification (Steigenberger & Mirc, 2020). Steigenberger and Mirc (2020) found a strong correlation between an employee's intention to stay and their positive sense of occupational and organizational identification. The occupational and organizational challenges impacting truck driver retention are work–life balance, health and wellness concerns, demographics, HOS, compensation, and organizational leadership.

Work–Life Balance

Truck driving jobs are not the most sought-after occupation attributed to the disparity in work–life balance. Truck driving is considered a lifestyle choice as there is a considerable time commitment the driver will be away from home (BLS, n.d.-c). Consequently, the lifestyle of a truck driver, recruitment, and retention can be challenging (BLS, n.d.-b). The truck driver's attitude and aspirations will ultimately play the deciding factor in the truck driver's commitment to both the organization and the occupation (Mittal et al., 2018). Truck driving requires most drivers to spend extended periods away from home working long hours (Mittal et al., 2018). The majority of these hours are spent in isolation resulting in loneliness (Hatami et al., 2019). In addition to loneliness, truck drivers will spend most of their work time sedentary, with meager sleeping accommodations and poor options for eating healthy (Staats et al., 2017). These working conditions' consequences contribute to the high turnover rate plaguing this profession (Prockl et al., 2017). The truck driver must determine if the lifestyle is well suited for them.

Health and Wellness

Health and wellness are major concerns for truck drivers. Truck driving limits movement while driving, coupled with poor options for healthy eating and opportunities for exercise, may contribute to challenges in retention (ATRI, 2019b). The truck driver will spend most of their life inside their vehicle where they work, eat, and sleep (Staats et al., 2017). In addition to the physical limitations, the variability of work shifts creates a stressful working environment, which challenges truck drivers' adaptability to temporal change (Varianou-Mikellidou et al., 2019). This type of lifestyle affects their physical and mental health (Hatami et al., 2019). The improvement of drivers' health could improve the driver shortage (Staats et al., 2017). However, these improvements are not without challenges. Staats et al. (2017) found that increased exercise opportunities were not feasible for drivers since they lacked the time or had limitations on truck parking at gym locations. Health and wellness associated with truck driving will continue to challenge truck driver retention.

Age

The aging population is a major threat to the skilled labor workforce. The leading factor contributing to the driver shortage is the high average age of the existing workforce (ATA, 2019b). More people are exiting the workforce than the number entering (Varianou-Mikellidou et al., 2019). The skilled labor workforce shortage poses a problem; as people retire, there are not enough trained workers to replace them (Stockard, 2019). This issue is compounded in the trucking industry as truck drivers leave before retirement because of low job satisfaction (Mittal et al., 2018). Leaders in the trucking industry need to consider retaining their aging workforce and recruiting younger truck drivers.

Truck driving is not an attractive occupation. Young adults are not entering the trucking industry since the current challenges of work–life balance, health and wellness, and compensation (Mittal et al., 2018). Further, young adults are more interested in high pay, career growth, and low work hours (Mittal et al., 2018). Another limitation is the current age restriction of 21 on a CDL for interstate truck drivers. High school graduates entering the skilled labor pool look to other occupations as they start to enter the workforce since the age restriction to become a truck driver (LeMay & Keller, 2019). Leaders in the trucking industry need to partner with state and federal authorities to change the age restriction to mitigate the truck driver shortage by expanding the truck drivers' labor pool.

Another underrepresented demographic group in the trucking industry are women. Mittal et al. (2018) attributed the truck driver shortage to the lack of female truck drivers. In 2020 the trucking industry had 6.7% female truck drivers than 75.2% White males (BLS, n.d.-d). Compared to other male-dominated industries such as construction, women represented 12% compared to the lower 6.7% in the trucking industry (Giazitzoglu, 2018). Giazitzoglu (2018) found support within the trucking industry and truck drivers to increase female truck drivers' presence. LeMay and Keller (2019) also posited an opportunity for trucking managers to attract women to the trucking industry.

Regulations

Government regulations control the trucking industry. The United States has a strict legal system that impacts the trucking industry (Mittal et al., 2018). Entities such as the United States Department of Transportation and the Federal Motor Carrier Safety Administration (FMCSA; 2020) and regulations related to the North American Free Trade Agreement (NAFTA) have a direct impact on the trucking industry. Trade regulations can cause uncertainty in the trucking industry (LeMay & Keller, 2019). Under NAFTA, government leaders created a free trade zone for Mexico, Canada, and the

United States. NAFTA is important to the continuity of cross-border operations in the trucking industry (ATA, 2020). Changes in NAFTA directly impact trucking operations.

The FMCSA (2020) regulates the HOS a heavy truck driver can drive. The HOS regulation specifies allowable drive time, required break periods to ensure drivers stay awake and alert. Shin and Byung Yong Jeong (2020) found that long driving hours will impair the truck drivers' ability to safely operate a truck. The main purpose of HOS is to reduce truck accidents caused by driver fatigue; however, unintended consequences have followed this change.

The mandate of HOS has directly impacted driver's pay and does not solve all conditions that contribute to truck accidents. These HOS changes directly affect drivers' pay, as most drivers are paid based on miles driven (BLS, n.d.-b). The average miles driven has decreased owing to the HOS regulation, requiring trucking companies to increase pay to retain their truck drivers (Mittal et al., 2018). Additionally, driver fatigue can be related to other factors outside of distance driven (Jiang et al., 2017). Truck drivers contend with variable work shifts because of loading and unloading times and physical labor associated with loading and unloading (Jiang et al., 2017). Based on the findings by Staats et al. (2017), truck drivers have expressed that social and political influences are responsible for improving the current situation. The government's continued focus is needed to make certain HOS regulations effectively reduce truck accidents.

Compensation

Employee compensation is a contributing factor to reduce turnover intentions. An employee's normative commitment and satisfaction of pay, promotions, and nature of work are all correlated with the employee's intention to stay (Prockl et al., 2017; Ramalho Luz et al., 2018). Prockl et al. (2017) found that employee pay does not create job satisfaction for truck drivers; however, it will assist in employee retention. Hawes (2018) reported in 2018 the positive impact of driver's pay, which improved turnover rates. Attractive pay is a key factor in retaining truck drivers (Mittal et al., 2018). Employee pay should be sufficient compared to the job duties performed to reduce the risk of turnover.

Leadership

The level of engagement of a leader will have a significant impact on employee turnover intention. Leaders play a vital role in employees' decisions to remain with an organization (Collins, 2020; Covella et al., 2017; Prockl et al., 2017; Staats et al., 2017). Leaders need to change the relationship between leaders and employees to combat the labor shortage (Hegyes & Fekete-Farkas, 2019). The relationship shift needs to start with tangible changes in daily operations and long-term strategic planning focused on employee retention (Hegyes & Fekete-Farkas, 2019). One function of daily operations to improve is dispatchers' supervisory skills (Prockl et al., 2017). This mismanagement by dispatchers is the main reason truck drivers leave an organization (Prockl et al., 2017). Other areas that leaders can focus on to improve employee turnover intentions is corporate social responsibility that connects the truck drivers to the communities they support (Low et al., 2017). Effective leadership engagement will increase employee retention.

Turnover Cost

Employees can be an organization's most significant resource and can affect profitability and the organization's ability to achieve goals. Turnover costs can significantly impact organizations; therefore, leaders should consider turnover costs as part of total compensation (Marsden, 2016). In 2018 the cost for driver turnover was $2,243 to $20,729 (Rodriguez et al., n.d.). The impact of turnover cost to a business can vary greatly depending on the variability of cost and the broad range of fleet size for the average carrier, between 32 to 9,463 trucks (Rodriguez et al., n.d.). Organizational leaders should have strategies for employee retention to mitigate the risk of high turnover costs.

High turnover intentions can result in a multinegative effect impacting high costs of rehiring, role stressors, and performance reduction. High rates of employees leaving an organization could create role stressors by increased workloads and excess work hours for existing employees (Bake, 2019). Role stressors reduce overall productivity levels because of low morale (Bake, 2019; Shahsavan & Safari, 2017). Moreover, the reduction in productivity impacts the organization's overall performance (Shahsavan & Safari, 2017). A stable workforce can reduce role stressors.

Recruitment Strategies

Examining strategic retention initiatives throughout the organization must be improved by leaders to close the expectation and reality mismatch. Leaders need to understand the cause of turnover and develop strategies to resolve the issue (Bake, 2019; Kalyanamitra et al., 2020). To achieve the organization's goals, leaders need to have a strategy to retain and recruit employees (Bake, 2019; Kalyanamitra et al., 2020). Strategies include graduated CDL programs, national truck driving programs, streamlining license requirements, and extending recruiting to women and minorities (ATRI, 2020). Other strategies can be leadership support of nondriving activities, work–life balance, and nonmonetary rewards (Mittal et al., 2018). The use of recruitment and retention strategies provides leaders with a roadmap that aligns with the organization's goals.

Training

The greatest risk to an organization gaining a competitive advantage is employee retention. Leaders' commitment to training is the most valuable element in achieving competitive advantage through their human assets (García-Alcaraz et al., 2019). Training is performed as on-the-job training or through more formal approaches such as vocational training (Nasir et al., 2020). Leaders in the trucking industry can help increase the truck driver labor pool by supporting vocational education and bringing awareness to the communities they operate in (Stockard, 2019). Leaders of trucking companies may consider on-the-job paid CDL training to attract new talent to the industry (Mittal et al., 2018).

Technology

Organizational leaders must identify potential effects caused by technology advancement. With the added demand on the supply chain and truck driver shortage, the automated vehicle option is becoming a reality (LeMay & Keller, 2019). The technology factors are the innovative technological advances that affect the organization's operations (Widya Yudha et al., 2018). Trantopoulos et al. (2017) found a positive effect on innovation and the organization's economic gain. Acuna-Opazo and Castillo-Vergara (2018) found that organizational innovation and marketing innovation have positive, significant, and higher effects on companies' business performance in the introductory-growth stage. Leaders must continue to innovate to stay relevant in their industry.

Within the trucking industry, autonomous technology in trucks has the potential to disrupt the industry. Truck drivers do more than drive, which mitigates the risk that autonomous trucks will hurt the truck driver labor market (Gittleman & Monaco, 2020). Further, autonomous truck technology will encompass long-hauls, approximately one-quarter of total truck demand (Gittleman & Monaco, 2020). While there is no immediate concern for driver demand attributed to autonomous technology, the trucking industry should plan how the change will impact their truck drivers' current roles.

A quality transportation system is dependent on human resources that have the qualifications and training to perform in changing market conditions. One factor in meeting the customer's need at the lowest possible cost is the organization's logistics capabilities (Marchesini & Alcântara, 2016). These logistics capabilities impact customer service through effectiveness, efficiencies, and differentiation in the market (Marchesini & Alcântara, 2016). Logistics innovation is key in most supply chain management systems (Khan & Sawicka, 2016). Improvements in the supply chain can reduce costs, optimize asset utilization, and improve efficiencies and effectiveness (Madhani, 2016).

Logistics systems continue to change even though the goal remains the same: to deliver products (Marchesini & Alcântara, 2016). Trucking companies will need to continue to innovate through technology to gain a competitive advantage.

Infrastructure

As truck driver demand increases, combined with the increased limitations on drivers because of HOS, drivers find truck parking increasingly difficult. The associated trucking industry growth will create a shortage of truck parking (ATRI, 2020). ATRI (2020) reported truck parking ranked as the second biggest industry issue. Strategies to mitigate the truck parking shortage include state and federal programs to fund truck parking facilities (ATRI, 2020). In short, the responsibility of solving for the truck parking shortage extends beyond each trucking company.

Transition

Section 1 of the study contains information on the business problem, the purpose of the study, the conceptual framework used, and a review of the professional and academic literature. TQM concepts may provide a foundation for leaders of important key principles developed over time to effectively recruit and retain qualified truck drivers. Leaders may use TQM soft aspects to create purpose and constancy, adopt the new philosophy, provide on-the-job training, education and self-improvement, create a strong leadership, drive out fear, and involve all workers in the transformation.

In Section 2, I will provide my role as the researcher in the data collection process. I will explained the instruments and techniques for data collection, organization of data, and ethical techniques used within the study. I will describe the participants, research method and design, and population and sampling. Finally, I will detail the proposed procedures to analyze the data and address both reliability and validity.

In Section 3, I will present the findings of the study, the application to professional practice, and implications for social change. I will follow with the recommendations for action and further research. I will end Section 3 with my reflections regarding the research experience and a concluding statement.

Section 2: The Project

Purpose Statement

The purpose of this qualitative multiple case study was to explore what strategies supply chain and logistics managers with operations in the oil and gas industry use to effectively recruit and retain qualified truck drivers. The research population consisted of six supply chain and logistics managers from three Houston, Texas area oil and gas trucking companies who have implemented successful strategies to recruit and retain qualified truck drivers. The implications for positive social change include the reliable delivery of needed goods to local communities, potentially improving the quality of life for local residents from goods delivered. In addition, the trucking industry can potentially maintain and build sustainable businesses that could result in a benefit to communities with local employment opportunities.

Role of the Researcher

As the researcher in this case study, my role was to explore the strategies supply chain and logistics managers with operations in the oil and gas industry use to recruit and retain qualified truck drivers effectively. The researcher is the primary search instrument (Clark & Veale, 2018; Shufutinsky, 2020; Yin, 2018). As such, the researcher should ask carefully constructed questions, be a good listener, stay adaptive, have a firm understanding of the topic, and conduct their research ethically (Yin, 2018). Furthermore, the researcher should understand their role directly influences the participants, data collection, and data interpretation (Karagiozis, 2018). I was the primary instrument for recruiting qualified participants, performing data collection, and analyzing findings to complete this study.

In a qualitative study, the researcher should acknowledge any connection with the topic, research area, or participants (Pratt, 2009). Having a relationship with the subject or participants may introduce personal biases; therefore, a researcher needs to understand the influence their personal biases could have on the study (Clark & Veale, 2018). Additionally, the relationship between the researcher and the study is crucial because it will inform the reader of how the researcher approached the research (Johnson et al., 2020; Karagiozis, 2018; Pratt, 2009). While I am currently a supply chain professional in the oil and gas industry, I selected trucking companies as participants with which I had no personal relationship or prior knowledge of the strategies they use to recruit and retain qualified truck drivers. To further reduce the risk of bias, I followed the interview protocol with carefully constructed interview questions, performed member checking and data triangulation, achieved data saturation, and maintained a reflectivity journal.

It is the researcher's responsibility to protect the participant's privacy (Briggs & Murphy, 2011; Husband, 2020; Karagiozis, 2018; Saxena, 2017). The researcher must be aware of and sensitive to ethical issues, develop the participants' trust, respect the participants, and acknowledge their perspectives related to the study (Karagiozis, 2018). Because most case studies involve human subjects, there is a necessity for governing rules to protect the participants (Yin, 2018). *The Belmont Report* is a set of ethical principles and guidelines that a researcher uses to guide them through ethical issues that may arise in their study (National Commission for the Protection of Human Subjects of

Biomedical and Behavioral Research [NCPHS], 1979). To verify that I had considered ethics in my research, I aligned this study with *The Belmont Report* principles.

The Belmont Report contains the ethical principles and guidelines that govern research involving humans, so it is a valuable resource for a researcher to reduce ethical risks (NCPHS, 1979). *The Belmont Report* has three principal constructs that aim to protect research participants. The first principle is respect for the participant; the researcher can demonstrate respect by providing the informed consent form, which notifies the participant why and how the study is being conducted and requests a written voluntary agreement for participation. The second principle is beneficence; this principle is an obligation of the researcher to minimize the risk and maximize the participant's benefit. The third principle is justice; when in use, the researcher will use justice to distribute the risk and benefit to ensure each participant is treated fairly. Following the principles of *The Belmont Report*, I adhered to the ethical protocols outlined by providing participants with an informed consent form, analyzing my ethical responsibilities as the researcher, and participant selection to reduce biases.

I was the data collection instrument for this study. The researcher should have a profound understanding of their perspectives, resulting in a personal bias in data collection, interpretation, analysis, and findings of the study (Clark & Veale, 2018; Haven & Van Grootel, 2019; Karagiozis, 2018; Leggett & Yates, 2016). The data collected should reflect the participant's voice based on their lived experience and not reflect the researcher's perception of the experience (Azungah, 2018). The researcher can gauge their personal biases by understanding their acceptance of contradiction to any preconceived notions (Yin, 2018). The researcher should incorporate strategies to mitigate biases into the research design, data collection, and data analysis (Yeong et al., 2018).

The researcher's bias and personal lens or perspective are risks to the study; therefore, the researcher should take multiple approaches to mitigate personal biases (Karagiozis, 2018). One method to reduce bias in the data collection process is to maintain objectivity through triangulation and member checking (Yeong et al., 2018). Triangulation of multiple sources reduces the influence of potential research biases in a study by corroborating data (Azungah, 2018; Mackieson et al., 2019). Member checking is an approach that reduces biases through accuracy validation of the interpretation and conclusions of the researcher by the participant (Candela, 2019). Another approach to mitigate bias is through developing and following an interview protocol (Briggs & Murphy, 2011). The researcher constructs interview questions in an open-ended fashion, soliciting participants to voice their perception of their lived experience without a predetermined opinion of the researcher imposed on them (Azungah, 2018). The researcher can use data saturation to reduce biases by validating common themes between participants (Clark & Veale, 2018). Throughout the research process, the researcher should keep a reflective journal to acknowledge and demonstrate considerations to mitigate biases (Johnson et al., 2020). To reduce the risk of bias, I first followed the interview protocol with carefully constructed interview questions. Second, I performed member checking to increase accuracy and reduce biases. Third, I corroborated data through data triangulation and data saturation. Finally, to acknowledge and demonstrate my consideration of personal biases, I maintained a reflective journal throughout the course of the study.

I used an interview protocol to guide the interview process. The interview protocol is not merely a set of questions; it is a process guide to confirm the researcher will conduct the interviews in an ethical manner (Briggs & Murphy, 2011). Researchers use a well-structured interview protocol to obtain rich data (Braaten et al., 2020; Yeong et al., 2018). When used consistently amongst interviews, researchers leverage an interview protocol to mitigate biases and increase reliability by asking the same carefully constructed questions to all the participants (Briggs & Murphy, 2011; Yin, 2018). Additionally, the researcher should provide an informed consent form that notifies the participants why and how the study is being conducted and requests a written voluntary agreement for participation (Briggs & Murphy, 2011; Farrugia, 2019; NCPHS, 1979). I used the interview protocol (see Appendix B) to guide the interview process with a systematic approach among all participants as well as an informed consent form to inform participants of my study's purpose and gain their consent by acknowledging their agreement to participate.

Participants

Participant selection is a critical step for a successful research study (Kalman, 2019). Research participants should have the ability, knowledge, and experience to answer the research question (Yin, 2018). The researcher should select participants who will enrich the research question's understanding (Gill, 2020). Additionally, the participant selection and sample size will affect the rich description of data collected

(Farrugia, 2019; Gill, 2020; Hennink et al., 2019; Morse, 1995). By gaining trust and building rapport with the participants, the researcher is more likely to obtain quality data (Amundsen et al., 2017; Johnson et al., 2020; Karagiozis, 2018). Finally, the researcher will need to have access to the participants (Amundsen et al., 2017; Yin, 2018). I aligned the participant's qualification criteria to their characteristics and ability to answer the research question, gained access to the participants, and developed a strategy to build rapport with them.

A researcher needs to define the participant criteria (Yin, 2018). The participant criteria should be related to the research question (Farrugia, 2019; Johnson et al., 2020). I developed the participant criteria to align with the research question to explore supply chain and logistics managers with operations in the oil and gas industry to recruit and retain qualified truck drivers effectively. The participants met the following criteria for participation:

- Presently employed in a managerial role.
- Employed at a trucking company in the greater Houston, Texas, area with trucking operations in the oil and gas industry.
- Successfully managed truck driver recruitment and retention strategies for 5 years.

The first step at establishing a working relationship with participants was by gaining access to the participants. A study's success will be subject to the access of participants who meet the eligibility criteria (Amundsen et al., 2017; Yin, 2018). Gaining access to participants can be challenging and may affect the timeliness of completing the project (Kalman, 2019; K. Roberts et al., 2020). Researchers can use industry associations, network websites, or personal contacts to find participants for a study (Saxena, 2017). I developed a strategy to gain access to qualified participants before participant selection. To gain access to participants, I utilized my industry network contacts. My tenure and, more importantly, my relationships in the trucking industry afforded me access to participants. Participants meeting the selection criteria were solicited directly via email or phone calls. Initial contact included an email invitation to participate in the study (see Appendix A).

I developed a positive working relationship with participants through trust. I earned this trust using three primary means. First, I promoted transparency through the informed consent form to provide participants with the purpose and process of the study prior to the interview. Second, I involved the participants in member checking to verify the accuracy of my interpretations of their interview responses. Finally, I effectively communicated the findings while considering participant confidentiality. The crucial secondary step after contacting the participant is creating a connection (Amundsen et al., 2017; Johnson et al., 2020; Karagiozis, 2018). To establish a cordial working relationship, the researcher should clarify their position and thoroughly explain the study (Pratt, 2009). Additionally, the researcher ought to be sensitive, respectful, and aware of the participant's perspective (Karagiozis, 2018). The researcher can further develop trust between the researcher and the participant through the informed consent form that notifies the participant why and how the study is being conducted and requests a written voluntary agreement for participation (Briggs & Murphy, 2011; Farrugia, 2019; Johnson et al., 2020). The informed consent form can be relayed to the participant by email invitation, including the purpose of the study and its practical use (Saxena, 2017). I kept open and transparent communication with the participants starting with an email invitation (see Appendix A), which included the informed consent form, and then continuing the same open communication throughout the research process. By developing trust, I aimed to sustain a good working relationship with the participants.

Research Method and Design

The three research methods are qualitative, quantitative, and mixed method (Creamer & Reeping, 2020). Three common qualitative research designs include phenomenology, ethnography, and case study (Yin, 2018). The qualitative method was most suitable for this study because it aligned with the research goal and research question.

Research Method

I employed a qualitative method in this study. Researchers use the qualitative methodology to examine participants' worldview who have similar opinions, feelings, and experiences (Clark & Veale, 2018; Cypress, 2019; Pratt, 2009). The goal of a researcher conducting a qualitative study is to address the "how, where, when, who, and why" questions versus the "how many" questions of a quantitative study (Leggett & Yates, 2016; Leung, 2015; Pratt, 2009; Yin, 2018). Researchers use a qualitative approach to answer a research question using open-ended questions (Cox, 2012). The qualitative researcher aims to understand a particular phenomenon (Clark & Veale, 2018; Gill, 2020). Researchers also use the qualitative methodology to generate thick and rich data descriptions and more in-depth insight into the human experience (Bearman, 2019; Cypress, 2019). The qualitative researcher does not present the results in the form of numbers (Clark & Veale, 2018; Guest et al., 2020); instead, it will be an in-depth review of thick and rich data to address the research question (Bearman, 2019; Cypress, 2019). Future researchers can determine the transferability of a qualitative study's findings to other related studies within the same context; however, unlike quantitative research, the qualitative findings are not generalizable (Gill, 2020; Hartley et al., 2019; Steel et al., 2020). Therefore, the variability of results within the context is acceptable for a qualitative study (Leung, 2015). I considered the quantitative method and the mixed method before choosing the qualitative approach.

I first considered the quantitative method. Quantitative studies are appropriate when the researcher wants to test a hypothesis among variables (Leggett & Yates, 2016). Researchers gain knowledge from a quantitative study by conducting experiments (Sahin & Öztürk, 2019). Another significant difference is the reliability check for quantitative research (Leung, 2015). A quantitative study reliability check is an exact replication of the process; a qualitative study gauges reliability through data saturation (Leung, 2015). I did not plan to test hypotheses in this study; therefore, I did not select the quantitative method.

I also considered the mixed-method approach. Researchers who do not adopt a single method approach of quantitative or qualitative methods may choose a mixed-method approach (Creamer & Reeping, 2020; Sahin & Öztürk, 2019). The mixed-method approach integrates both quantitative and qualitative research methods (Dupin & Borglin, 2020). I did not choose the mixed-method approach because I did not plan to test hypotheses and use the quantitative approach. I employed the qualitative approach to explore a more in-depth understanding of the study topic versus the quantitative or mixed-method approach used to test hypotheses. Additionally, I used the qualitative approach to ask open-ended questions to allow participants to express their lived experiences openly. Based on the three research methods available, the qualitative method was the most appropriate option for this study.

Research Design

I selected a multiple case study design for this study. Researchers use a case study design to answer “how” and “why” questions based on contemporary events (Yin, 2018). Researchers also employ a case study design to gain an in-depth investigation into a recent phenomenon within its real-world context (Leggett & Yates, 2016; Yin, 2018). The researcher can use a case study design for single or multiple phenomenon evaluations (Farrugia, 2019). Researchers use a multiple case study design to explore multiple cases for more than one organization using various lenses in a comprehensive study (Farrugia, 2019). Researchers also employ multiple case studies to gather rich data and validate and triangulate findings for added confidence using multiple sources (Farrugia, 2019; Gaus, 2017). I selected a multiple case study design to collect thicker data from various organizations and explore and compare specific strategies participants use to effectively recruit and retain qualified truck drivers in the oil and gas trucking industry.

I also considered the ethnographic design. Researchers conduct an ethnography to study participants in their real-life experiences (Leggett & Yates, 2016). The researcher uses the ethnographic design when they intend to study the participants over an extended time (Bird, 2020; Pratt, 2009). The primary collection instrument for ethnography is through participant observation to collect real-life experiences in the field (Yin, 2018). The researcher takes an observatory role within the natural setting and culture being studied (White et al., 2009). I did not need to study participants' real-life experiences over an extended time to address the research question. Moreover, cultural or ethnological factors were not the intent of this study; therefore, I did not select the ethnography design.

I also reviewed the phenomenological design. In a phenomenological design, the researcher focuses on studying the participant's lived experiences (Leggett & Yates, 2016; Thomas, 2021). A phenomenological design would be appropriate when the researcher explores a phenomenon's shared experiences amongst a set of participants (Larkin et al., 2019; Leggett & Yates, 2016). I did not want to explore the participants' lived experiences; therefore, the phenomenological design was not appropriate. I used a multiple case study to answer a research question that did not include cultural or shared lived experiences. Based on the three designs for research, the multiple case study design was the most suitable option.

I explored multiple research strategies to determine when I reached data saturation. Data saturation occurs when no new themes emerge from the data collected (Farrugia, 2019; Gill, 2020; Guest et al., 2020; Gugiu et al., 2020; Hennink et al., 2019;

Morse, 1995; Sim et al., 2018). The researcher can corroborate data saturation by triangulation and member checking (Yeong et al., 2018). Additionally, researchers can gain data saturation through the strategies used to select the sampling method and sample size for rich data collection (Farrugia, 2019; Gill, 2020; Hennink et al., 2019; Morse, 1995). The researcher will select participants based on their direct experience and ability to answer the research question (Gill, 2020; Morse, 1995; Yin, 2018). Qualitative researchers will determine their sample size based on similar studies' logic (Sim et al., 2018). I further corroborated data saturation through triangulation and member checking.

Population and Sampling

The population and population sample need to be determined to identify the participants (Farrugia, 2019). In a qualitative study, the researcher will use nonrandom sampling methods, known as nonprobability sampling (Gill, 2020). The most frequently used nonprobability sampling types are purposive sampling, quota sampling, self-selection sampling, and snowball sampling (Berndt, 2020; Gill, 2020). The sampling method used for a study will depend on the population who will best answer the research question (Farrugia, 2019). The researcher will use the sampling method as a guide to determine the population size (Berndt, 2020). The population size will vary based on the population method selected for a study (Gill, 2020). The most crucial factor to consider when choosing a population size is the participant's contribution to the study (Campbell et al., 2020).

Researchers use the purposive sampling method to select the appropriate sample population. The type of sampling method commonly used in a qualitative study is purposive (Gill, 2020). Participant selection in the purposive sampling method relies on the researcher's discretion to select participants who meet the research eligibility criteria (Berndt, 2020; Farrugia, 2019). A researcher uses purposive sampling to ensure that the study's population has a strong understanding and experience related to the research question (Campbell et al., 2020). The researcher will select participants based on their judgment on how they will enrich the study (Berndt, 2020). I chose a purposive sampling method to explore strategies supply chain and logistics managers use to recruit and retain qualified truck drivers.

Before selecting the purposive method, I explored four common nonprobability sampling methods: purposive sampling, quota sampling, self-selection sampling, and snowball sampling (Berndt, 2020; Gill, 2020). A researcher will use quota sampling when grouping participants into groups with shared characteristics (Berndt, 2020). I did not select quota sampling since I did not intend to split the participant population into groupings. Researchers use self-selection sampling method to select participants via voluntary participation based on the research topic (Berndt, 2020). I did not select self-selection since I wanted to guarantee purposeful participant selection based on eligibility criteria. The researcher uses the snowball sampling method to access a small population of hard to access people, then requests existing participants to share contacts with others who meet the research criteria (Berndt, 2020; Farrugia, 2019). I did not select the snowball sampling method since the target population was not hard to recruit population.

I applied purposive sampling to determine the participants I interviewed. Unlike quantitative research, there is no specific rule or calculation for determining sample size

(Gill, 2020). The sample size will depend on the qualitative research approach and the research question the researcher is seeking to answer (Gill, 2020; Pratt, 2009). For a qualitative study, the sample size is small to get an in-depth view of the phenomenon (Farrugia, 2019; Gill, 2020; Hennink et al., 2019); however, the population size will depend on the research question (Pratt, 2009). When the participants impart rich information that answers the research question, the researcher will require fewer participants (Farrugia, 2019; Gill, 2020; Morse, 1995). Hennink et al. (2019) found four focus groups produced code saturation, with 84% of codes developing after two focus group discussions. Campbell et al. (2020) suggested that an inverse relationship exists between the number of participants and the number of new themes produced. Data collected after the initial sampling will validate the sampling method and sample size (Farrugia, 2019). My initial proposal was to use six participants.

I used the purposive method to collect data from participants. There is a direct correlation between data saturation and the sampling strategy to collect rich data (Gill, 2020). As such, qualitative researchers should determine how they will measure data saturation based on the sampling method and sample size of data collected (Hennink et al., 2019). The sample size should represent a population that will impart rich data that answers the research question (Farrugia, 2019; Gill, 2020; Hennink et al., 2019; Morse, 1995). A predetermined sample size is not a static quantity. The researcher should review their data saturation strategy to determine if the researcher should adjust the sample size after each interview (Gill, 2020; Hennink et al., 2019; Sim et al., 2018). I adjusted the sample size accordingly to reach data saturation.

The criteria for selecting participants will strengthen the data collected and ensure participants have a strong understanding and experience related to the research question. When using a qualitative method, there is no specific measure to gauge quality (Pratt, 2009). The researcher should select participants who will impart rich data that answers the research question (Farrugia, 2019; Gill, 2020; Hennink et al., 2019; Morse, 1995). A smaller sample size will produce richer data in a qualitative study (Farrugia, 2019; Gill, 2020; Morse, 1995). I aimed to obtain rich data through purposive sampling of six participants.

Ethical Research

The Belmont Report includes the ethical principles and guidelines which govern research involving humans. Human protection in a qualitative case study is necessary since nearly all studies involve human subjects (Yin, 2018). I utilized the guidelines as described in *The Belmont Report* to establish ethical considerations. Following *The Belmont Report*, I adhered to the ethical protocols outlined by providing participants with an informed consent form and participant selection. Additionally, all interviews followed *The Belmont Report* interview protocol (Appendix B).

The first principle in *The Belmont Report* is respect for the participant; the researcher can demonstrate respect by providing an informed consent form that notifies the participant why and how the study is conducted and requests a written voluntary agreement for participation. The three consent elements include information, comprehension, and voluntariness (NCPHS, 1979). The researcher should present the informed consent agreement to the participants before starting the initial interview, including the participant's role and goal of the research (Bearman, 2019; Husband, 2020). The researcher should provide an informed consent form to notify the participants why and how the study is being conducted and requests a written voluntary agreement for participation (Briggs & Murphy, 2011; Farrugia, 2019; NCPHS, 1979). The participants should have time to read the presented agreement and be allowed an opportunity to ask questions to confirm the participant comprehends their study involvement (Briggs & Murphy, 2011; NCPHS, 1979). The interview should not proceed without a signed or acknowledged informed consent form by the participant (Briggs & Murphy, 2011). I used the interview protocol (Appendix B) to guide the interview process in a systematic approach amongst all participants, inform participants of my study's purpose, and gain the participant's consent by acknowledging their agreement to the informed consent form.

The second principle in *The Belmont Report* is beneficence; this principle is an obligation of the researcher to minimize the risk and maximize the participant's benefit. It is the researcher's responsibility to conduct an ethical interview (Husband, 2020). The research should consider the sampling approach to mitigate ethical issues that may arise if a power imbalance may be present between the researcher and participants (Farrugia, 2019). The researcher will interview ethically by following the interview protocol to confirm consistency across interviews (Briggs & Murphy, 2011). As a researcher, I designed the interview protocol to protect participants ethically.

The third principle in *The Belmont Report* is justice; when in use, the researcher will use justice to distribute the risk and benefit when selecting participants. Participation in a research study is voluntary, and the participant has the right to withdraw at any time (Husband, 2020). A participant should not be coerced or compelled by anyone to participate in a study against their consent (Briggs & Murphy, 2011; NCPHS, 1979). All participants had the right to withdraw at any time without giving a reason and had a right to receive updates on any changes which alter the original understanding based on the informed consent (Husband, 2020). I requested the participants to notify me via written communication if they intend to withdraw from the study at any time during the research process. To mitigate the risk of participant withdrawal, I divulged information through transparency and effective communication.

The value gained will be an increased awareness of the phenomenon. Participation in a research study is voluntary. The incentive gained for participation is contribution to further developing knowledge on the related phenomenon (Campbell et al., 2020). The use of incentives, such as gift cards, is an appropriate incentive for research participation (Bearman, 2019). However, I did not offer monetary or other incentives for participation.

Ethical research is an essential consideration for researchers. The researcher must protect their research participants' confidentiality (Husband, 2020; Johnson et al., 2020; Saxena, 2017). Careful consideration and planning in coding and labeling can protect participants' identification (Azungah, 2018; Saxena, 2017). Further, the researcher should securely store research data for 5 years (Cypress, 2019). I used alphanumeric coding to protect the identification of research participants. I identified managers as M1, M2, M3, M4, M5, and M6, with C1, C2, and C3 representing the companies. The label M1:C3 indicates that the first participant was from the third trucking company. I will securely store all data for 5 years after completing the study. I will physically destroy all hard copy documentation and permanently erase all electronic documentation. Further, I did not start the data collection process until after receiving approval from Walden International Review Board to conduct the research. The final doctoral manuscript included the Walden IRB approval number 02-07-22-0915529.

Data Collection Instruments

The researcher is the primary research instrument (Clark & Veale, 2018; Shufutinsky, 2020; Yin, 2018). Yin (2018) indicated six sources of data in a case study: documentation, archival records, interviews, direct observation, participant observation, and physical artifacts. Triangulation of multiple sources reduces the influence of potential research biases in a study by corroborating data (Azungah, 2018; Mackieson et al., 2019). I was the primary data collection instrument. I selected two of the six sources of data, interviews and documentation, as additional data collection instruments. Further, I used the two sources to triangulate the data.

I used semistructured interviews as the main instrument for data collection. A semistructured interview is the most common data collection instrument for qualitative case studies (Bearman, 2019). Researchers use a well-structured interview to collect rich data (Braaten et al., 2020; Yeong et al., 2018). Use of a semistructured interview method allows the researcher the flexibility to ask open-ended and probing questions (Azungah, 2018; Briggs & Murphy, 2011; Yeong et al., 2018). The researcher will determine the location and time necessary for the interview to accommodate both the researcher and the participants (Steel et al., 2020). Digital recording is a standard tool used to capture the interview for future transcription (Leggett & Yates, 2016; Yin, 2018). When no other themes emerge, and the data has started to repeat, the researcher has reached saturation (Farrugia, 2019; Gill, 2020; Guest et al., 2020; Gugiu et al., 2020; Hennink et al., 2019; Morse, 1995; Sim et al., 2018). The researcher can use triangulation and member checking to corroborate data saturation has been met (Yeong et al., 2018). I conducted a semistructured interview using a well-structured interview protocol to collect rich data. I considered the participants availability when scheduling interviews. The interviews was conducted by videoconference or telephone interview with open-ended questions to invite participants to express lived experiences freely. I used a digital audio recorder to record the interview, which lasted 45 to 60 minutes. Once I reached data saturation, I discontinued further interviews. I used data triangulation and member checking to corroborate data saturation was met.

The secondary data collection instrument I used was internal and publicly available company documentation. A qualitative researcher should have multiple instruments of data collection (Yin, 2018). The researcher can gain insight into the study through document analysis (Gill, 2020; Leggett & Yates, 2016). A researcher can rely on stable and discreet data sources retrieved from the participant's organization's website, such as mission, vision, and value statements (Azungah, 2018; Yin, 2018). Reviewing documentation before other data collection methods can equip the researcher with preliminary information, which will help familiarize them with their case subjects (Yin, 2018). I used company documentation such as mission, vision, goals, and value statements to corroborate the findings of the organization’s strategies on recruitment and retention of truck drivers.

To further verify the data collection instruments, I demonstrated reliability and validity. Leung (2015) posited validity within a qualitative study relates to the appropriateness of the instruments used to answer the research question. Reliability and validity are gauged by triangulating data through multiple data collection instruments (Gaus, 2017; Mackieson et al., 2019). Further, engaging participants to verify the data’s accuracy through member checking adds rigor and credibility to the study (Candela, 2019; N. A. Stahl & King, 2020). I selected two data collection methods to strengthen validity through triangulation. I further enhanced reliability and validity through member checking.

Data Collection Technique

The researcher should review all data collection instruments to verify they are appropriate (Yeong et al., 2018). Interviews are a common data collection technique researchers use to conduct a qualitative case study (Gill, 2020; Leggett & Yates, 2016; Pratt, 2009; Yeong et al., 2018; Yin, 2018). When paired with purposive sampling, the researcher can select participants who have experience and knowledge to impart rich data that answers the research question (Bearman, 2019). The researcher can obtain thick and rich data by using a semistructured interview (Bearman, 2019). The researcher structures interview questions to gain a thick and rich description of the participant’s lived experience without the researcher’s biased view (Azungah, 2018). The interview protocol is used by the researcher as a guide to ensure the same carefully constructed questions are asked to all the participants (Briggs & Murphy, 2011). The researcher should consider their research question and verify the data collection instruments are appropriate (Yeong et al., 2018). The researcher should understand each collection instrument's advantages and disadvantages and confirm it is suitable for their study.

The interview collection method has both advantages and disadvantages. The advantage of a semistructured interview approach is it is less structured and more flexible; this allows the researcher to approach each participant differently as necessary to dig deeper or by asking probing questions (Azungah, 2018; Bearman, 2019). A well-constructed interview protocol will help the researchers gather rich data focused on the research question (Braaten et al., 2020; Yeong et al., 2018). A semistructured interview has disadvantages as well. Bearman (2019) noted new researchers have difficulties writing an interview protocol to produce rich data descriptions. Even if the interview protocol is well-constructed, the interview protocol alone does not guarantee a successful interview (Bearman, 2019; Briggs & Murphy, 2011; Yeong et al., 2018). Additionally, the flexibility in a semistructured interview allows the researcher to ask probing questions, which opponents criticize because of the inconsistency between interviews (Azungah, 2018). I closely followed the interview protocol to mitigate the risks of incomplete, inconsistent, or biased data collected during the participant interviews.

Document review is also a standard data collection technique researchers use to conduct a qualitative case study (Gill, 2020; Leggett & Yates, 2016; Pratt, 2009; Yeong et al., 2018; Yin, 2018). The document review will enhance the data collected to answer the research question (Karakas & Sarigollu, 2019). Researchers use documents retrieved from company websites to triangulate the interview data (Azungah, 2018; Mackieson et al., 2019). Researchers use triangulation of interview data and document review data to mitigate bias in the analysis phase (Mackieson et al., 2019). The researcher should review the advantages and disadvantages of documentation analysis.

Documentation analysis in data collection has both advantages and disadvantages. Documents present a stable and discreet data instrument (Azungah, 2018). Documentation also gives the researcher insight into the social world the participants live in (Gaus, 2017; Gill, 2020). The documents can also be easy to find on the company's website (Yin, 2018). However, the documentation found on company websites is not consistent between companies and may be challenging to gain access to (Azungah, 2018). Another disadvantage of using company website documents is data reliability (Mackieson et al., 2019; Yin, 2018). Interpretation of data is subjective to the researcher's biases (Mackieson et al., 2019). When effectively used, documentation analysis can enhance the data collected in the interview. Additionally, I triangulated the data obtained in the interview with the company archival documentation.

An interview-based study's success will depend on the researcher's ability to access participants who meet the research criteria (Amundsen et al., 2017). If a researcher cannot access the participants, it can hinder the study's projected timeliness (Kalman, 2019; K. Roberts et al., 2020). The use of purposive sampling will increase the possibility the participants are accessible (Berndt, 2020). Researchers can use an email invitation with the purpose of the study and its practical use, as well as a copy of the informed consent (Saxena, 2017). The interview time should be suitable for both parties (Briggs &

Murphy, 2011). The researcher should consider the interview's length to establish the researcher has the time to capture rich data (Briggs & Murphy, 2011; Steel et al., 2020). Based on several scholarly articles, 30 to 90 minutes is the average length necessary for a semistructured interview in a qualitative study (Karakas & Sarigollu, 2019; Saxena, 2017; Steel et al., 2020). After obtaining permission for my proposal from Walden University's IRB, I used a semistructured interview with open-ended questions to interview the six selected research participants. The data collection techniques included organization document review and conducting a semistructured interview. I did not conduct a pilot study. I used semistructured interviews and document analysis as the collection instruments to produce triangulation. I did not have an issue recruiting participants. I used industry contacts to get a list of qualified participants. One to 2 weeks before the interview, I sent out an email invitation (see Appendix A) to the selected participants requesting participation. The email invitation included the informed consent form for the participant's review and acceptance. The participant responded with consent either in writing or through verbal communication. Upon agreement of the participant, I proposed a location that accommodates the participant.

A well-structured interview protocol is key to data collection in a qualitative study (Braaten et al., 2020). The creation of interview protocol questions requires strategic planning, which aligns with the research question and literature review (R. E. Roberts, 2020). The goal of the researcher is to obtain thick and rich data from participants who answer the research question (Bearman, 2019; Cypress, 2019; Mackieson et al., 2019). The interview protocol guides the researcher to ensure consistency, not a verbatim script

(Husband, 2020). However, the interview protocol is a prescriptive guide to help maintain consistency across participants' interviews (Briggs & Murphy, 2011; R. E. Roberts, 2020).

Before starting an interview, the researcher will provide the informed consent form to the participants, verify the participants comprehend their purpose in the study, and acknowledge all participation in a study is voluntary (NCPHS, 1979). At the start of the interview, the research should ensure the time scheduled is still convenient for the participant (Briggs & Murphy, 2011; Saxena, 2017). The participant should review the information made available on the informed consent form for documented consent (Bearman, 2019; Briggs & Murphy, 2011; Husband, 2020). The researcher will advise the participant of the nature of the research, methods used, the intended outcome, and the participant's role (Bearman, 2019; Husband, 2020; Saxena, 2017). Participation in research studies is voluntary, and participants have the right to withdraw at any time by contacting the researcher (Briggs & Murphy, 2011; Husband, 2020). The researcher should also disclose any compensations for participation (Bearman, 2019). The researcher should share confidentiality and privacy practices with the participant to know how the researcher will protect their information and identity (Briggs & Murphy, 2011; Husband, 2020; Karagiozis, 2018; Saxena, 2017).

Additionally, the researcher will notify the participant of the records' retention schedule (Briggs & Murphy, 2011). The researcher should not proceed with the interview without confirmed consent (Bearman, 2019; Briggs & Murphy, 2011; Husband, 2020). On the day of the interview, after greeting the participant, I asked the participant if the time commitment of 90 minutes still works. Before I started recording the interview, I reviewed the informed consent form to verify the participant was still in agreement to continue with the interview. Agreement between both parties was in the form of documented acknowledgment of the informed consent form. I did not proceed with the interview if the participant did not provide documented informed consent. If the participant did not provide their informed consent, I thanked the participant for their consideration and end the meeting.

Audio recordings were used to increase the accuracy of the data captured in the interview. It is common practice for a researcher to audio record the interview for transcription (Briggs & Murphy, 2011; Leggett & Yates, 2016; Saxena, 2017; Steel et al., 2020). The researcher should get the approval of the participant to record the interview (Saxena, 2017). If the audio recording fails, the researcher should have a backup plan (Briggs & Murphy, 2011; Leggett & Yates, 2016; Saxena, 2017). Additionally, researchers use handwritten notes to increase the interview findings accuracy (Briggs & Murphy, 2011; Karagiozis, 2018). The researcher should advise the participant they will have an opportunity to review the researcher’s interpretations of the participant’s responses to the interview questions for accuracy (Briggs & Murphy, 2011). If the participant consents, I continued with the interview using the interview protocol to establish consistency between participant interviews. I asked for permission from the participant to audio record the interview. I used an audio voice recorder to record the interview and had my cellular phone as a backup. I took handwritten notes during the interview. I advised the participant that I would send them via email a summary of my interpretations of their responses to the interview questions within a week after the interview for their review and request a follow-up secondary interview. At which time, I turned on the audio recording and start the interview.

The interview questions are crucial to answer the research question (Bearman, 2019). Building rapport and making the participant comfortable will create a positive atmosphere to produce higher quality answers (Bearman, 2019; Briggs & Murphy, 2011). One method to build rapport is to ask the participants about themselves (Briggs & Murphy, 2011). The researcher should then ask the research questions ranked by easy to answer and then proceed to more thought-provoking questions (Bearman, 2019; R. E. Roberts, 2020). The list of questions should be short, open-ended, and delivered in a noninterrogatory manner (Bearman, 2019; Husband, 2020). The benefit of a semistructured interview is the researcher can ask probing questions based on the participant's responses (Azungah, 2018; A. S. Connelly et al., 2020; Yeong et al., 2018). Researchers use probing questions to take a different approach when asking the same question and dive deeper to get quality answers (Azungah, 2018). Each interview started with ice breaker questions; these include questions not related to the research topic but related to the participant, such as where they grew up and what they like to do. I asked six questions, starting by asking the easy to answer questions first. Probing questions helped me to get richer data to answer the research question. The interviews took 45 to 60 minutes.

Member checking is an essential factor to maintain credibility in a qualitative study (Candela, 2019; N. A. Stahl & King, 2020). The researcher should include the participants in the data analysis by allowing the participant to check the researcher's interpretation of the participants' responses to interview questions for accuracy (Candela, 2019; Saxena, 2017; N. A. Stahl & King, 2020; Yeong et al., 2018). The researcher can perform the member checking discussion in a secondary interview (N. A. Stahl & King, 2020). After the interview, I thanked them for their contribution and turn off the audio recorder. I reiterated that I would supply them with a summary of my interpretations of their responses to the interview questions within a week after the interview. I requested a follow-up interview to review responses. I requested the participant attest to the accuracy or offer feedback for revisions as needed within a week of receipt of the summary. Based on the review feedback, I asked for consent to follow-up with a secondary phone interview not to exceed 30 minutes.

Data Organization Technique

Researchers combine all data collected to demonstrate a holistic view of the participant's lived experience (Karakas & Sarigollu, 2019). To confirm data captured in the interview is accurate, the interview transcription should be copied verbatim (Saxena, 2017). Labeling and coding data will transform the raw data into a story (Linneberg & Korsgaard, 2019). Qualitative researchers use computer programs to electronically organize data (Cypress, 2019; Leggett & Yates, 2016). Following data collection, I used an alphanumeric coding system to classify all data collected. I transcribed interview recordings, create and label folders for hard copies of data. I used NVivo software to organize, store, and retrieve data.

As a researcher, I had an obligation for data storage security. As part of the ethical consideration during the research process, the researcher should consider how they will manage the participant’s confidentiality and anonymity (Husband, 2020; Johnson et al., 2020; Saxena, 2017). The researcher can maintain the participant’s confidentiality and anonymity by developing a pseudonym coding system (Azungah, 2018; Saxena, 2017). The researcher should securely store the research data for 5 years (Cypress, 2019). I communicated with the participants my plan to protect the information I gathered, which included pseudonym coding, document security, and 5-year retention. I assigned an alphanumeric pseudonym coding system as M1–M6 to protect the identity of each participant. I transferred all electronic data to a Google Drive cloud storage for version history control and deletion prevention I stored hard copied documentation in a fireproof bag in a locked safe in my home office. After 5 years of completing my study, I will physically destroy all hard copied documentation and erase all electronic documentation to prevent access and retrieval.

Data Analysis

The data analysis process included methodological triangulation from two data collection methods: open-ended interviews and reviewed internal archived and publicly available documents retrieved from the participant’s company’s website. Researchers use data triangulation to establish a firm source for validity (Gaus, 2017). The data analysis process will run parallel with the data collection (Johnson et al., 2020). I used methodological triangulation and Yin’s (2018) five-step process in the data analysis process.

Methodological Triangulation

I used methodological triangulation to compare the data collected. A common data analysis process in a case study is methodological triangulation (Moser & Korstjens, 2018). This triangulation method combines more than one data collection instrument to include interviews and documents (Moser & Korstjens, 2018; N. A. Stahl & King, 2020). Methodological triangulation is a valuable method to confirm a study’s finding by establishing a systematic approach to increase validity and reliability (Gaus, 2017; Leggett & Yates, 2016; Yeong et al., 2018; Yin, 2018). Researchers use methodological triangulation to understand the phenomenon (Denzin, 2012; Yeong et al., 2018). I used methodological triangulation to compare the data collected from the semistructured interviews and documents retrieved from the relevant company websites. I used methodological triangulation to gain an in-depth understanding of the phenomenon to produce rich data.

Data Analysis

I collected and analyzed the data from the participants. The researcher is the primary instrument for collecting, analyzing, and interpreting data (Cypress, 2019; Johnson et al., 2020; Linneberg & Korsgaard, 2019; Shufutinsky, 2020). Researchers should start the analysis process after the first interview; after this review the researcher can establish if the sample size should be adjusted (Moser & Korstjens, 2018). The first interview may establish the major themes; the first interview informs each succeeding interview (Saxena, 2017). I started the data analysis process after the first interview. I used the data captured to determine if I needed to adjusted the sample size when I reached data saturation.

Researchers commonly use computer-assisted qualitative data analysis software (CAQDAS) to generate codes, identify patterns and themes, mind mapping, and process large volumes of data (Cypress, 2019; Linneberg & Korsgaard, 2019). Leggett and Yates (2016) suggested some qualitative researchers use sophisticated software programs, including Atlas and NVivo. Researchers use CAQDAS to organize, store, and retrieve data (Cypress, 2019). Use of CAQDAS enables the researcher to quickly code collected data to identify patterns and themes (Cypress, 2019; Linneberg & Korsgaard, 2019). CAQDAS is used to generate an audit trail of data increasing the credibility and validity of a study (Cypress, 2019; Johnson et al., 2020). I used NVivo as data analysis software for sorting, coding, and theme identification.

I analyzed the data using Yin's (2011) five-step data analysis method. The five steps include: compile data, disassemble data, reassemble data, interrupt data, and conclude results (Yin, 2011). The first step is compiling, including organizing all the data collected from the multiple data collection instruments to include interviews and documentation (Azungah, 2018). The interviews' data will be in transcription format after member checking (Hartley et al., 2019). I first compiled and transferred all the data from Microsoft Word format into NVivo. I then imported all PDF documentation into NVivo for coding.

The second step is disassembling; this is the coding process that categorizes the data without losing or changing the meaning (Clark & Veale, 2018). The coding process is the transitional process between data collection and data analysis (Clark & Veale, 2018). The most crucial factor for the researcher when coding is to make sure they have their research question in mind (Linneberg & Korsgaard, 2019). Themes will emerge from the coding process (Forbes Shepherd et al., 2017; Hartley et al., 2019). I then used NVivo to code, categorize, and review collected data. I aligned coding to my research question to ensure themes support my research topic.

The third step is reassembling; this step involves combining codes that form common themes (Hartley et al., 2019). Combining codes is also known as sorting, in which themes emerge based on the codes' patterns (Clark & Veale, 2018; A. S. Connelly et al., 2020). Data saturation occurs when no additional themes appear, and the data collection starts to offer repeating themes (Farrugia, 2019; Guest et al., 2020; Hennink et al., 2019; Morse, 1995). I checked for data saturation by verifying new themes generated after each interview.

The fourth step is data interpretation; through themes created by NVivo, the researcher can analyze and interpret the meaning of the patterns and themes (A. S. Connelly et al., 2020; Leggett & Yates, 2016). The fifth and final step is formulating a conclusion. Researchers use the formulated conclusion to support the conceptual framework of the study (Johnson et al., 2020). I used the themes and patterns to present a meaningful context of the findings. Lastly, I concluded by connecting the themes identified and my conceptual framework.

The themes that emerge from my analysis through NVivo were focused on alignment with the conceptual framework. I used TQM as the guiding theory to understand the linkage in the themes. In TQM, certain principles influence employee retention and recruiting, specifically (a) create purpose and constancy; (b) adopt the new philosophy; (c) on-the-job training, education, and self-improvement; (d) leadership; and (e) involve all workers.

Reliability and Validity

Qualitative researchers' goal is to demonstrate reliability and validity in their research, gauged by trustworthiness (N. A. Stahl & King, 2020). Lincoln and Guba (1985) suggested four general criteria for assessing trustworthiness: credibility, transferability, dependability, and confirmability. The requirements proposed by Lincoln and Guba are analogous to criteria used to judge a quantitative study, which are: reliability–dependability, internal validity–credibility, external validity–transferability, and objectivity–confirmability. The researcher can create trustworthiness throughout the research process (N. A. Stahl & King, 2020). I used Lincoln and Guba's proposed criteria to support my study's reliability and validity.

Reliability

Reliability is a standard check for quantitative studies (Leung, 2015). In quantitative research, a reliability check is the ability for another researcher to conduct an exact replication of the research process (Leung, 2015). The replication concept in qualitative research is problematic since the dynamic and changing perceptions of participants' reality (Gaus, 2017; Leung, 2015). Attributable to this diverse paradigm Lincoln and Guba (1985) proposed using dependability to gauge reliability. I demonstrated reliability through dependability.

Dependability

The researcher can demonstrate dependability in a qualitative study in multiple ways throughout the research process. The use of an interview protocol will establish reliability in a case study (Yin, 2018). The qualitative researcher should verify any data collection instrument chosen will uphold reliability and validity to produce reliable data (Yeong et al., 2018). Reliability and validity in a study are corroborated by triangulating data through multiple data collection instruments known as methodology triangulation (Gaus, 2017; Mackieson et al., 2019). After the interview the researcher will request member checking. I contacted the participant to review the data collected, interpretation, and conclusions to attest to the accuracy. This check enhances the credibility and validity (Thomas, 2021). Another factor that researchers use to demonstrate dependability is the richness and thickness of data collected (Mackieson et al., 2019). Sample size in a qualitative study will influence the richness of data; a smaller sample size in a qualitative case study will produce richer data (Farrugia, 2019; Gill, 2020; Hennink et al., 2019; Morse, 1995). The tools used, data collected, and processes all support the findings (Johnson et al., 2020). I enhanced dependability by using the interview protocol, methodological triangulation, member checking, sample size, and data saturation. I used a well-structured interview protocol asking participants the same questions until no new themes emerge to verify I reached data saturation. I used two data collection methods to establish methodological triangulation to include semistructured interviews and document analysis. I performed member checking through a secondary interview during the data analysis phase. The participation sample size was limited to a small set of six participants.

Validity

In a qualitative research study, the term validity describes the findings' accuracy (Gaus, 2017; Leggett & Yates, 2016). Lincoln and Guba's (1985) expanded the validation criteria to include credibility, transferability, and confirmability. The tools used, data collected, and processes all support the findings and validity in a study (Leung, 2015). I used credibility, transferability, and confirmability to establish validity.

Credibility

Credibility in a qualitative study refers to the confidence in the researcher's findings (Farrugia, 2019). N. A. Stahl and King (2020) suggested that credibility is how close the research findings are to reality. To support credibility, researchers can perform a member checking by requesting a participant's review of the data captured (Leggett & Yates, 2016; N. A. Stahl & King, 2020). Further, engaging participants to verify the data's accuracy through member checking adds rigor and credibility (Candela, 2019; N. A. Stahl & King, 2020; Thomas, 2021). Another method to validate findings and increase credibility is triangulation (Leggett & Yates, 2016; N. A. Stahl & King, 2020). I used member checking to judge my findings' accuracy and multiple data collection instruments for data triangulation to confirm credibility.

Qualitative researchers often use multiple sources for data collection. Reliability and validity in a study demonstrate methodological triangulation through multiple data collection instruments (Denzin, 2012; Gaus, 2017; Leggett & Yates, 2016; Mackieson et al., 2019; N. A. Stahl & King, 2020). In qualitative research, methodological triangulation combines other life stories, case studies, interviews, participant observations, and ethnography to improve credibility (Denzin, 2012). To gain added confidence through triangulation, a researcher will explore multiple cases within the single study (Azungah, 2018; Farrugia, 2019; Gaus, 2017; Steel et al., 2020). I used two data collection methods to strengthen validity through triangulation to include semistructured interviews and document analysis. I further strengthened my study through the triangulation of multiple case studies.

The second process to demonstrate credibility is member checking. Member checking adds rigor and credibility to a study by allowing the participants an opportunity to review the data collected for accuracy (Leggett & Yates, 2016; N. A. Stahl & King, 2020; Thomas, 2021). Member checking should occur during the data analysis phase and include feedback from the participant based on the pre-publication study findings or during a secondary interview (Briggs & Murphy, 2011; N. A. Stahl & King, 2020; Yeong et al., 2018). The primary benefit of member checking is the researcher’s findings (Campbell et al., 2020; N. A. Stahl & King, 2020). I used member checking to validate my data and establish credibility. I performed member checking through a secondary interview during the data analysis phase. I used the participant’s feedback to strengthen my findings and establish credibility.

Transferability

Transferability of a study refers to the extent that future researchers can use the data. Lincoln and Guba (1985) described transferability as the ability for the findings to be used in other contexts. A qualitative researcher aims to establish an in-depth understanding of the research phenomenon by providing thick and rich data (Bearman, 2019; Cypress, 2019). In a qualitative study, the patterns and descriptions of findings may apply to other studies and contexts (Hartley et al., 2019; N. A. Stahl & King, 2020). A researcher should be clear on the methods, criteria, and processes taken in their study to evaluate reliably (Campbell et al., 2020; Pratt, 2009). The degree to which the researcher can transfer the data will depend on the richness of the data description revealed in a study (N. A. Stahl & King, 2020). Researchers use a well-structured interview protocol to collect rich data (Braaten et al., 2020; Yeong et al., 2018). The sample population should have related lived experiences that impart rich data to answer the research question (Farrugia, 2019; Gill, 2020; Hennink et al., 2019; Morse, 1995). The participant selection that shares the same lived experience will corroborate data saturation when answering the research question (Morse, 1995). I clearly outlined the methods, criteria, and processes I used for reliability evaluation. I adhered to the interview protocol to capture quality information to produce a thick and rich data description. These selected participants answered the research question and verified I reached data saturation in all interviews performed.

Confirmability

Confirmability in a qualitative study is essential to confirm the findings. In this context, confirmability refers to how close the findings are to reality (N. A. Stahl & King, 2020). Lincoln and Guba (1985) suggested that the researchers assess objectivity in a qualitative study based on confirmability. In a qualitative study, the researcher brings subjectivity based on their personal social history and perspectives, which creates a personal bias (Clark & Veale, 2018; Haven & Van Grootel, 2019; Karagiozis, 2018). To maintain objectivity, the researcher should include validity, credibility, and transferability checks to reduce biases through triangulation and member checking (Yeong et al., 2018). Researchers use the coding process to categorize data without losing or changing the meaning (Clark & Veale, 2018). Data categorization in a systematic and replicated manner will strengthen objectivity in a study (Mackieson et al., 2019). I used triangulation and member checking to maintain objectivity and reduce biases. I coded and categorized data using NVivo software to represent the data as collected without losing or changing the meaning.

Data Saturation

The researcher has reached data saturation when the themes become repetitive, and no new themes emerge (Farrugia, 2019; Gill, 2020; Guest et al., 2020; Gugiu et al., 2020; Hennink et al., 2019; Morse, 1995; Sim et al., 2018). Within a qualitative case study, the researcher must not seek to validate a preconceived position (Yin, 2018). Instead, the researcher should develop a data saturation plan to uphold the study's rigor (Morse, 1995). The plan should include how the researcher will measure data saturation based on the sampling method and sample size (Hennink et al., 2019). Data saturation is a crucial component of enlisting participants with the knowledge, ability, and experience to impart rich data to answer the research question (Farrugia, 2019; Gill, 2020; Morse, 1995). Smaller sample sizes will produce rich data in a qualitative case study (Farrugia, 2019). A researcher uses a well-structured interview protocol to collect rich data (Braaten et al., 2020; Yeong et al., 2018). I used a well-structured interview protocol to reduce personal biases. The participation sample size was limited to a small set of six participants. To achieve data saturation, I confirmed the participants meet the criteria to reveal thick and rich data; additionally, I asked the participants the same questions until no new themes emerge to verify I reached data saturation.

Transition and Summary

In Section 2, I provided the purpose of my study, my role as the researcher, criteria of participants, qualitative method, and case study design. In addition to providing supporting criteria for population and sample size selection, I also explained the ethical considerations. I further enhanced my research by providing data collection, organization, and analysis processes. Finally, I detailed the proposed measures to address both reliability and validity.

In Section 3, I will include findings on strategies supply chain and logistics managers in the oil and gas industry use to effectively recruit and retain qualified truck drivers. I will present the findings by theme. I will describe the application to professional practice, and implications for social change. I will then follow with recommendations for action and further research. I will end Section 3 with my reflections regarding the research experience and a concluding statement.

Section 3: Application to Professional Practice and Implications for Change

Introduction

The purpose of this qualitative multiple case study was to explore strategies supply chain and logistic managers with operations in the oil and gas industry use to recruit and retain qualified truck drivers effectively. The TQM was used as the conceptual framework of this study. I incorporated the soft principles of TQM, which are used to identify factors that may contribute to positive employee engagement and reduced turnover intentions (see Abadallah & Alkhaldi, 2019).

To collect data, I conducted semistructured interviews with six leaders from three trucking companies in the greater Houston, Texas area and reviewed organizational documents from their companies. I analyzed the data then separated it into codes to identify common themes. The interview participants suggested several strategies for recruiting and retaining truck drivers, which I divided into three main themes: (a) onboarding programs, (b) leadership practices, and (c) competitive compensation. The three themes align with the conceptual framework of TQM and its soft principles. The findings in this study were derived from participant interviews, documentation, and align with the conceptual framework and the literature review.

Presentation of the Findings

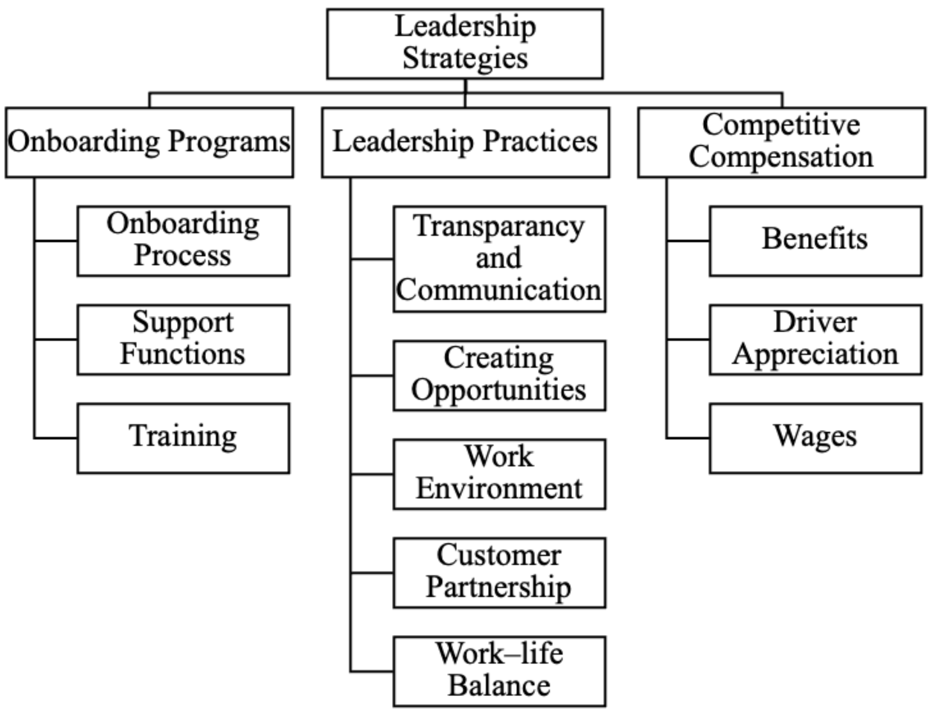
The research question for this study was: What strategies do oil and gas industry supply chain and logistics managers use to recruit and retain qualified truck drivers successfully? To be included in this study, participants had to meet the following criteria: being presently employed in a managerial role, have experience with successful recruitment and retention strategies of truck drivers, and be employed at a trucking company in the greater Houston, Texas area with operations in the oil and gas industry. I completed six individual, phone, semistructured interviews with managers from three trucking companies in Houston. I identified the managers as M1, M2, M3, M4, M5, and M6 and represented companies as C1, C2, and C3. For example, the label M1:C1 indicates that the first participant interviewed was from the first trucking company.

The six managers participated in an individual, semistructured interview and provided answers to open-ended questions that supported the research question. I asked open-ended questions to guide the participants in sharing their knowledge and experiences to provide insight into their strategies to recruit and retain truck drivers. The length of the interviews ranged from 45 minutes to 60 minutes. I also reviewed documentation from each company, including mission and vision statements for hiring used to support recruitment and retention policies. Before starting each interview, I reviewed the consent form with the participant, which included the voluntary nature of participation, the right to withdraw, the study's purpose, and an overview of the interview process. Consent was also obtained via email of the informed consent form and verbal consent to use an audio recording device to record the interview.

After completing each interview, I transcribed the participant's responses and emailed them a summary of my interpretations for review. Member checking was conducted via phone with each participant so they could attest to the accuracy of the data collected and confirm my interpretations. I used the NVivo system to capture interview responses after each interview. Data saturation was reached after six interviews when no new data emerged. NVivo was then used to electronically code the data. Applying methodological triangulation and thematic analysis, I identified three main themes: (a) onboarding programs, (b) leadership practices, and (c) competitive compensation.

Figure 1

Major and Minor Themes of Leadership Strategies Used for Recruiting and Retention



Theme 1: Onboarding Programs

Onboarding programs emerged as the first theme for truck driving managers' strategies to recruit and retain qualified truck drivers. All six participants spoke in-depth about the importance of structured onboarding programs. Among the participant responses, M1 explained how the positive effects of onboarding programs by monitoring the truck driver's assimilation into the company through the first 60 days helped reduce turnover. M3 also identified that a company's reputation of having a proven onboarding process with a proven system makes a first-year driver successful. Viviani and Murphy (2019) posited onboarding programs are a useful tool to assimilate employees, fostering a positive culture and increasing employee retention. Within Theme 1 I also identified the subthemes shown on Table 2.

Table 2

Theme 1 Onboarding Program Subthemes

Subtheme	# of sources	Frequency
Onboarding process	6	21
Support functions	6	19
Training	6	15

The first subtheme to emerge was onboarding processes. Onboarding programs help assimilate an employee into the organization's culture (Sharma & Stol, 2020). M6 stated "We make sure all our teams are connected to make that driver successful." M5 described the purpose of the onboarding program, by saying, "It takes a strong onboarding practice and training program to make sure the drivers are prepared to drive for us." M2 stated the importance of a formal onboarding program:

> We have formal processes for onboarding drivers, which include functions across the organization. For example, we partner with our recruiting team, HR, dispatch, and operations to ensure each department is aware and part of the onboarding process as we bring drivers onboard.

M3 described the onboarding protocol as a proven infrastructure to methodically onboard a truck driver:

> Our counselor managers have a proven infrastructure protocol. The first person they meet after the recruiter is a counselor manager in the training department. The counselor manager is responsible for bringing that driver into the company and getting the driver familiar with all the departments. This portion of the onboarding happens before we start their driver training.

The second subtheme to emerge was support functions. Sharma and Stol (2020) found mentoring programs are the most effective way to transfer knowledge to new employees. Employers should invest in robust onboarding programs that include cross-functional support and training to assimilate an employee in their organization. Participants M4 and M5 emphasized the importance of assigning onboarding duties to support functions to ensure training is administered by the teams performing the day-to-day work. M3 impressed the importance of cross-functional staff from different departments working together to onboard each driver, stating that it has a positive impact on the driver's success within the organization and results in lower retention rates. C1's mission describes creating a team environment at all levels of the organization. M3 also addressed the importance of support functions:

> Our core principles are the same, that is, surround the driver with the support and the tools to be successful. That has changed over the years with increased technology and regulations. We're much more in touch with the drivers because we can monitor them in real-time.

The emergent subtheme of training directly supports a structured onboarding program. All the participants agreed that one of the most important strategies to recruit and retain truck drivers is a structured onboarding program. Through an analysis of the findings related to TQM soft principle of on-the-job training, education, and self-improvement, I examined the findings related to onboard programs. Ahire et al. (1996) found that employee training and involvement programs are common strategies. Training programs should be part of an organization’s employee retention strategy to reduce excess turnover (Kalyanamitra et al., 2020; King & Tang, 2017; Molahosseini et al., 2020). Employee engagement and assimilation programs play a part in the retention of employees. M3 and M5 stressed the importance of having a driver trainer work closely with the driver during the first year to ensure they understand the company's safety culture. Both the online career pages of C1 and C2 support training strategies to start with a comprehensive orientation and training program. These findings aligned with Kalyanamitra et al.’s (2020) findings indicating that training programs have also been linked to increased employee efficacy and strengthened employee commitment to the organization. M6 added the importance of a rigorous first-year training program for all truck drivers regardless of their years of experience in the industry. According to M4, following the exact steps of onboarding training results in higher retention rates of first-year drivers. M2 shared the challenges and benefits of a strong training program,

> The challenge for other truck managers and me is making sure the message is pushed down to the training managers. We all need to understand the importance we play in recruiting and further retaining truck drivers. For example, my company has a driver mentoring program for the first 90 days of training; this

> training has a positive word of mouth results, which brings more drivers interested because they feel we will set them up for success.

The soft principles of TQM relate to the theme of onboarding programs because the truck managers' focal point is on onboarding processes, support functions, and training. Molahosseini et al. (2020) found that training programs that develop employees increase employee job satisfaction. Kalyanamitra et al. (2020) echoed this sentiment and determined training programs also contribute to employee efficacy. Likewise, Pradhan and Jena (2019) supported the need for corporate leaders to design and offer training that will support both the intrinsic and extrinsic needs of the employee. The positive aspects of onboarding programs include the degree of employee engagement and satisfaction with their current position.

Theme 2: Leadership Practices

The second theme that emerged was leadership's impact on retention. Participants discussed many strategies leaders used to increase driver retention by focusing on leadership practices. All six participants spoke in-depth about the importance of leadership's impact on retention. According to Mittal et al. (2018), leaders could implement strategies to support nondriving activities, work–life balance, and nonmonetary rewards. For example, M3 stated, "Our company goal has always been to treat the driver as Number 1."

Effective leadership within an organization increases focus on achieving a common goal, increasing job satisfaction, and reducing turnover. An effective leader will motivate their employees to engage, foster collaboration, and create an environment in which they feel valued (Bake, 2019). For example, M1 stated, “We create an inclusive work environment to make the workplace better to retain and attract drivers.” Within Theme 2 I also identified the subthemes shown on Table 3.

Table 3

Theme 2 Leadership Practice Subthemes

Subtheme	# of sources	Frequency
Transparency and communication	4	13
Creating opportunities	4	13
Work environment	5	22
Customer partnership	6	14
Work–life balance	6	21

The first subtheme found was transparency and communication. Leaders serve as critical channels to communicate values and strategic changes and motivate employees. King and Tang (2017) found leader–employee communication has a direct relationship to employee retention. For example, M4 stated, “Open communication is the most valuable skill set a leader can have to create a positive work environment.”

Leaders can also gain employee loyalty through open and transparent communication. Ananny and Crawford (2018) described transparency as a physical ideal that, if seen, can be understood. Transparent communication should be shared across multiple levels of an organization. For example, M1 shared, “Communication is really important, from our customers communicating down to our customer service team and in turn our customer service teams sharing this communication throughout the organization including our truck drivers."

A critical step to achieving open communication is to develop a feedback loop. Two-way communications should be encouraged to build a culture of trust (Stotz, 2015). For example, M2 noted developing communication loops through employee satisfaction surveys has had a positive impact, saying, "Employee satisfaction surveys allows our drivers to communicate more openly and frequently in a customized way. Rather than one or two questions or recommendations received sporadically we are getting feedback more frequently."

The second subtheme that emerged was creating opportunities. Five participants identified creating opportunities as a common approach for truck drivers to advance their careers. Employees' opportunities to develop skills and increase knowledge positively impacts their job satisfaction by focusing on their need for growth (Molahosseini et al., 2020). C2's company documentation supports this strategy, showing that company leaders recognize that truck drivers are the driving force in the company's continued success. Furthermore, the leaders are committed to "helping each of our members find their fit within this diverse industry and advance their career."

Opportunities created can increase employee efficacy and strengthen their commitment to the organization. The more employees understand their value and purpose within an organization, the more pride they will have in being an employee of the organization (Petit, 2010). For example, M3 and M6 described potential internal opportunities available to their drivers. M3 stated, "Through our training programs, our drivers are ready to be a driver trainer by Year 3, and by Year 5, can be driver–managers or get off the road and move into recruiting." M6 stated, "Career advancement can be key to keeping our drivers, they have the potential to move to a driver trainer, transfer to dispatch, or work as a field recruiter."

All six participants spoke about the importance of the work environment in the trucking industry. A key recommendation for trucking industry leaders is to focus on a positive work environment to increase employee engagement and help reduce the rate of voluntary turnover. Bake (2019) found employee work environment directly impacts the employee's individual need to feel valued. This is consistent with the findings of Molahosseini et al. (2020) and Hilman et al. (2019) that noted employee turnover intentions are linked to the employee's perception of their value within the organization. It is a leader's responsibility to create a work environment that leads to employee engagement, reduces turnover, and achieves its goals. M4 stated, "One of the most important things the company can create is a positive work environment." A truck driver's day-to-day work environment is their truck. For example, M4 further listed ways to improve the drivers' daily work environment, such as (a) newer trucks, (b) entertainment inside the truck, (c) nice bunks, (d) tire and light programs, (e) truck wash stations, and (f) oil change management. M5 stated,

> A driver would rather drive a nice modern truck versus a beat-up truck that they may have to troubleshoot mechanical issues on the road. To help you understand, imagine you are looking for new office space, and you have two different choices an internal office with no windows and one with a large window that overlooks a

nice lake. Imagine which one you would want to spend that 8- to 10-hour workday.

Another strategy leaders can use to improve driver satisfaction is to partner with customers. Leaders should start with the customer and work backward to develop the organization's strategy and purpose without losing focus on the day-to-day challenges (Stotz, 2015). Orr and Jadhav (2018) explained that organizations require an integrative and adaptive strategy to achieve sustainability. The partnership with the customer should include strategies to reduce truck driver stress when at their site. M2 suggested leaders can work with customers to reduce detention time or delay time on the customer site. M1 supports this strategy by stating, "having those conversations with the customer site to partner with the shipper and the consignee to make it driver-friendly." Further, M1 lists ways for customers can improve their site to make it driver-friendly, such as (a) covered areas, (b) areas to sit, and (c) restrooms.

The work–life balance of a truck driver is a challenge for trucking managers to retain a truck driver in their company and retain a driver in the industry. Truck driving requires most drivers to spend extended periods away from home working long hours (Mittal et al., 2018). These working conditions' consequences contribute to the high turnover rate plaguing this profession (Prockl et al., 2017). More trucking companies should incorporate work–life balancing into their company culture. C1 understands that work–life balancing is a key recruiting and retention element; they advertise their company as family-oriented and understands the value of time spent with loved ones at home. Participants M1, M2, M5, and M6 revealed the need to find ways to get drivers home every day. M1 listed several ways to improve the work–life balance, such as (a) increased local operations, (b) hub and spoke models, and (c) relay systems.

Theme 3: Competitive Compensation

The final theme that emerged during data analysis was competitive compensation for truck drivers. Every participant acknowledged a competitive compensation package is a key to retaining a qualified truck driver. The participants' responses implied that a competitive compensation package could attract qualified truck drivers and increase employee retention. These findings confirm the literature stating a positive impact on driver's pay, which improved turnover rates (Hawes, 2018). Within Theme 3 I also identified the subthemes shown on Table 4.

Table 4

Theme 3 Competitive Compensation Subthemes

Subtheme	# of sources	Frequency
Compensation package	5	13
Driver appreciation	6	11
Wages	5	18

The first subtheme to emerge was overall compensation package. Truck managers believe that employees who are satisfied with their overall compensation will not quit their job. For example, the participants acknowledged that competitive compensation is key in recruiting and retaining truck drivers. M2 stated, "It is extremely important to offer a competitive compensation package to recruit and retain qualified truck drivers." M1 stated, “We have to think outside the box on driver compensation; this includes dedicated lanes and pay based on salary versus miles driven.”

Company documentation supported competitive compensation as a key strategy to recruit truck drivers. C1 boasts that the top reason truck drivers choose their company is due to their “extremely competitive pay package.” Further, C1 “strive to be an industry leader in driver satisfaction and build upon our best-in-class benefits plan (dental, medical, vision, disability, life insurance, 401(k) and pension plan, and much more).” C2 advertises “Top Driver Pay Package, Safety Bonus.”

The second theme to emerge was driver appreciation. The participants expressed that nonfinancial compensation such as driver appreciation is another strategy to retain truck drivers. M3, M4, M5, and M6 were empathetic to the drivers' need for appreciation outside of financial compensations. M4 stated, “We offer free fitness memberships to our drivers.” M6 listed additional ways to show driver appreciation, such as (a) pizza parties, (b) family barbecues, (c) free water, and (d) company apparel. M6 further described the positive effects of their hat program:

> We have different company logo hats each year. These hats are specifically for our drivers. Some of our legacy drivers may have a dozen or so hats, which they display in their trucks with pride. Not only does it present their loyalty, but it also shows the company’s loyalty to keep them on the road and employed.

All six participants expressed a competitive compensation is required to both recruit and retain qualified truck drivers. For example, two participants argued that competitive compensation alone is the primary reason truck drivers choose to work for them. Each participant acknowledged that they strive to offer the most competitive compensation packages to recruit and retain their employees. According to Mittal et al. (2018) attractive pay is a key factor in retaining truck drivers. Prockl et al. (2017) found that employee pay does not create job satisfaction for truck drivers; however, it is an important factor in employee retention.

Every participant has managed truck drivers directly. All participants said that pay directly impacts recruiting qualified truck drivers and contributes directly to retention. Hawes (2018) reported the positive impact of driver's pay, which improved turnover rates. M2 described how drivers value pay first when evaluating a new employer. M3 revealed their strategy to allow them to offer a higher wage, "We can keep our pay above the competition because we have a strong business model to keep our drivers moving. We do this by offering competitive pay and keeping that driver on the road."

M5 mirrored the sentiments of M3:

> Trying to pay higher wages is the biggest thing. Sign-on bonus, referral bonuses. The greatest challenge is finding how we are going to pay for increased pay for drivers and new modern equipment. We have pushed at providing the highest pay to drivers, so they see the real dollars in their take-home pay.

A leader's focus on employees' value may help shape the organizational operations' economic and working environments (Dalkrani & Dimitriadis, 2018). For example, M1 stated, "We understand the value qualified drivers bring to our company, so we offer a competitive pay structure to retain drivers." M6 stated, "We differentiate from our competitors by our pay package."

Relevancy of Findings to the Conceptual Framework

The conceptual framework selected for this study was the TQM theory. I used TQM theory as the lens to understand the strategies supply chain and logistics managers with operations in the oil and gas industry use to effectively recruit and retain qualified truck drivers. TQM is a managerial theory organizational leaders use to integrate cross-functional roles from the top down (Stotz, 2015). Researchers suggested leaders can use quality programs such as TQM beyond improvements of products and services to incorporate HRM strategies (Hart & Schlesinger, 1992).

The three themes identified in this study were (a) onboarding programs, (b) leadership practices, and (c) competitive compensation. The three themes align with the conceptual framework of TQM and its soft principles. The soft principles of TQM are (a) create purpose and constancy, (b) adopt the new philosophy, (c) on-the-job training, education, and self-improvement, (d) leadership, (e) drive out fear, and (f) involve all workers in the transformation. The retention strategy should include organizational culture, training programs, strong leadership, and employee involvement in decision-making (King & Tang, 2017). Hart and Schlesinger (1992) posited the convergence of TQM practices as an umbrella strategy that brings together all quality initiatives, resulting in a unified process that cannot be easily split (Nasir et al., 2020). Therefore, leaders should view TQM as an integrated approach.

Onboarding programs support the integrated approach of TQM theory. To achieve successful TQM integration across the organization, the leaders must manage the planning, programs, and integrated resources (García-Alcaraz et al., 2019). All participants supported the TQM principle through structure onboarding programs to create purpose and constancy. Incorporating support functions in onboarding involves all workers in the transformation soft principle of TQM. The participants in the study all practiced involving all workers in the transformation. The participants stressed that onboarding training resulted in higher retention rates of first-year drivers. Training programs should be part of an organization's employee retention strategy to reduce excess turnover (Kalyanamitra et al., 2020; King & Tang, 2017; Molahosseini et al., 2020). Training programs align with the TQM principle of on-the-job training, education, and self-improvement.

The fourth soft principle of TQM is leadership. Molahosseini et al.'s (2020) findings suggested that a supportive work environment and strong leadership play a critical role in employee job satisfaction and reduction in excess turnover. The leadership principle of TQM aligns with the second theme of leadership identified. Bake (2019) found that employees' work environment directly impacts the employee's individual needs to feel valued. The work environment was a common subtheme amongst the participants. The work environment aligns with the TQM principle adopt the new philosophy. M1, M3, and M4 spoke on the importance of communication to build employee loyalty. Two-way communications should be encouraged to build a culture of trust (Stotz, 2015). Open communication aligns with the TQM principle to drive out fear.

Hilman et al.'s (2019) findings noted employee turnover intentions are linked to the employee's perception of their value within the organization. Every participant acknowledged a competitive compensation package is a key to retaining a qualified truck driver. Attractive pay is a key factor in retaining truck drivers (Mittal et al., 2018). M2 stated, “a good recruiting team that remains in contact with the changing trends of what the drivers value and then translating that to actionable sections that can be implemented.” Moreover, a leader’s focus on employees’ values may help shape the organizational operations’ economic and working environments (Dalkrani & Dimitriadis, 2018). The use of competitive compensation packages aligns with the TQM leadership principle adopt the new philosophy.

Relevancy of Findings to the Literature

The three themes identified in this study were (a) onboarding programs, (b) leadership practices, and (c) competitive compensation. The three themes align with the retention challenges of truck drivers in the literature review. The literature review included (a) training, (b) leadership, (c) work–life balance, (d) health and wellness, and (e) compensation. Leaders need to be aware of the challenges contributing to truck driver turnover intentions to support employee retention strategies.

The subtheme training programs found under Theme 1 align with the literature. Leaders’ commitment to training is the most valuable element in achieving competitive advantage through their human assets (García-Alcaraz et al., 2019). Stockard (2019) posited that leaders in the trucking industry could help increase the truck driver labor pool by bringing awareness to the communities they operate. All participants supported training programs as a key strategy to recruit and retain truck drivers.

Leadership practices align with the literature. All participants shared the importance of a leadership role in supporting truck driver recruiting and retention.

Leaders play a vital role in employees' decisions to remain with an organization (Collins, 2020; Covella et al., 2017; Prockl et al., 2017; Staats et al., 2017). A key subtheme identified in the study was work–life balance, which aligns with the literature review. Prockl et al. (2017) found the considerable time commitment the driver will be away from home contributes to the high turnover rate. All participants identified the need to incorporate work–life balancing into their company culture.

The final theme, competitive compensation, aligns with health and wellness and compensation as retention challenges of truck drivers in the literature. M4 described their fitness memberships to promote mental and physical wellbeing. ATRI (2019b) reported that truck driving conditions limits movement and opportunities for exercise, which may contribute to challenges in retention. Staats et al. (2017) found also that improving drivers' health could improve the driver shortage. Employee financial compensation aligns with the subtheme wages. Attractive pay is a key factor in retaining truck drivers (Hawes, 2018; Mittal et al., 2018; Prockl et al., 2017; Ramalho Luz et al., 2018). All six participants found competitive pay as a key strategy for truck driver recruitment and retention.

Triangulation of Data Sources

I used methodological triangulation to support the analysis of strategies supply chain and logistics managers with operations in the oil and gas industry lack strategies to effectively recruit and retain qualified truck drivers. Methodological triangulation combines more than one data collection instrument, including interviews and documents (Moser & Korstjens, 2018; N. A. Stahl & King, 2020). I conducted each interview, transcribed and summarized the interview, and conducted member checking to ensure my interpretations of participants' responses to the interview questions were accurate. I used methodological triangulation to compare the data collected from semistructured interviews with other documents from relevant company websites. I identified three themes from the triangulated data. The member checked data from the interview aligned to the company documents, such as the career page mission and values used to recruit and retain truck drivers. The company documents supported training programs, work–life balance, and competitive pay as key recruiting and retention strategies. I did not discover any new data in the company documents. Based on the results of methodological triangulation, all participants have implemented successful strategies to successfully recruit and retain qualified truck drivers.

Application to Professional Practice

The purpose of the study was to identify specific strategies leaders in the trucking industry can adopt to improve truck driver retention and recruiting. The findings in this study are relevant to improving business practices because they provide effective strategies to recruit and retain qualified truck drivers. Many companies reported having difficulties hiring and retaining qualified truck drivers, which will continue to worsen as more drivers retire (ATA, 2019a). The general business problem was trucking companies have low retention rates for qualified truck drivers. A stable workforce will support competitive advantage, secure supply chain operations, and improve customer satisfaction. The truck driver shortage in the United States affects these three areas of an organization. The economic consequences of the truck driver shortage and high turnover affect both the consumer and trucking organization by placing increased constraints on capacity and higher freight costs (LeMay & Keller, 2019). Leaders in trucking organizations need to determine the high turnover cause and implement retention strategies to mitigate talent loss (Stockard, 2019). In this study I identified key factors that could potentially be used to support truck driver retention and recruiting to increase truck driver retention through onboarding programs, leadership practices, and competitive compensation. The results of this study indicate that to positively impact truck driver retention and recruitment, leaders need to implement strategies which include (a) onboarding programs, (b) leadership practices, and (c) competitive compensation. Leaders in the trucking industry who apply the results of this study could see a decrease in truck driver turnover and an increase in truck driver recruitment. The findings of this study may contribute to improved business practices by providing leaders in the trucking industry with strategies and information on how to effectively mitigate one of the trucking industry's leading business problems, low truck driver retention.

Implications for Social Change

Understanding the strategies supply chain and logistic managers use to recruit and retain truck drivers effectively is paramount to combatting the truck driver shortage. ATA (2019b) estimated a 61,000-truck driver shortage at the end of 2018, with the shortage expected to reach 160,000 by 2028. Understanding and exploring the successful strategies could benefit supply chain professionals in recruiting and retaining qualified truck drivers, resulting in reduced costs and increased revenues through a stable workforce and effecting general beneficial social change. As a result of this challenge, leaders at trucking organizations must focus on strategies to retain their current truck drivers and increase their capacity through effective recruitment programs. Social change implications include reliable delivery of needed goods to local communities, potentially improving their quality of life from goods delivered. The trucking industry can maintain and build sustainable businesses that benefit local employment opportunities by providing a consistent supply chain delivery system.

The findings presented in this study may provide leaders in the trucking industry with strategies to mitigate truck driver turnover and improve recruiting. By focusing on the factors that improve the truck drivers' turnover intentions, leaders can positively impact truck drivers' livelihood through improved internal programs. Additionally, leaders can significantly add value to the trucking industry through reduced turnover to reduce costs and improve service levels (ATA, 2019b). Reduction in turnover may result in job security, positively influencing employees. The organization's stability could result in job creation in their communities, creating a favorable economic impact on their families. Furthermore, the workforce's stability increases the supply chain operations' stability, resulting in increased customer satisfaction.

Recommendations for Action

The findings presented in this study and the insight gleaned from the literature review may assist current and future supply chain and logistic managers from trucking companies in using strategies to recruit and retain truck drivers successfully. These recommendations target organization leaders responsible for the strategies used to recruit and retain truck drivers. Supply chain and logistic managers need to evaluate their market to determine which changes they require. The recommendations for action begin with the supply chain and logistic managers implementing strategies through onboarding programs, leadership practices, and competitive compensation.

My first recommendation is for leaders to develop onboarding programs. Programs should include onboarding practices, training programs, and should be developed to support employees' assimilation, growth, and advancement within the company. My second recommendation is for leaders to creating robust leadership practices. Effective leaders take ownership, and their actions enhance the entire organization, not just their department. My third recommendation is for leaders to offer competitive compensation. Competitive compensation demonstrates how a company values their employees. My three recommendations can help leaders have a positive impact on truck driver retention and recruitment.

Future researchers may find this study beneficial to gain knowledge on leadership strategies to decrease truck driver turnover and increase truck driver recruitment. Leaders in trucking organizations could receive the results of this study through conferences, training seminar, or industry publication. Each participant will receive a copy of this study. In addition, student researchers and scholars may access this study in the ProQuest Dissertations and Theses database as they develop their research studies.

Recommendations for Further Research

The purpose of this study was to explore strategies supply chain and logistic managers with operations in the oil and gas industry use to recruit and retain qualified truck drivers effectively. Hwang et al. (2020) found the soft TQM principles have resulted in positive employee job involvement, career satisfaction, and turnover intentions. I used a qualitative multiple case study to explore the strategies supply chain and logistic managers with operations in the oil and gas industry use to retain and recruit truck drivers successfully. I identified limitations in my study that require further research to enhance leaders' knowledge in the trucking industry for truck driver retention and recruiting strategies.

There are several recommendations for future research. The first recommendation aligns with the limitation of this study to use the TQM theory. Johnson et al. (2020) posited a conceptual framework that guides how the researcher views, records, and reports findings. Other theories applied to the research question could result in a different data collection and analysis approach. A divergent approach could produce findings that may create a distinct perspective than presented in this study.

Another recommendation for future studies is to increase the sample size and use a different population. As mentioned in this study's limitations subsection, one of the notable limitations is the sample size. Morse (1995) argued that the sample size depends on the breadth of the research question. Future research exploring a larger multiple case study with trucking companies outside of the oil and gas industry may validate the findings presented in this study.

The final recommendation for future research is to use a quantitative study. A researcher could choose a quantitative approach to examine the causal relationship among variables (Leggett & Yates, 2016). The quantitative research results could be generalizable across a broader population (Gill, 2020). A quantitative study could examine a potential causal relationship by testing the relationship between the themes identified in this qualitative study and the impact on truck driver recruiting and turnover.

Reflections

My view of doctoral-level research has grown exponentially. I was concerned when working on my literature review whether I could meet the requirements to complete my study. The residency helped me to develop the structure. However, the shared experience with my academic colleagues kept me on track. I was fortunate to have a group of academic colleagues I met at my first residency to encourage me to keep moving forward. My experience with Walden’s doctor of business administration program has changed my perception of social responsibility in my professional and personal life.

Further, the interviews provided insight into leaders’ challenges in recruiting and retaining qualified truck drivers. To mitigate my biases and influence on the study, I selected three companies with no personal or professional relationship. Additionally, I structured the interview questions to reduce the risk that my preconceived notions would influence the participants’ answers. After completing the study, my appreciation for the challenges currently faced in the trucking industry has increased. My work towards earning my doctor of business administration degree has revived my passion as a supply chain professional and scholar.

Conclusion

Leaders’ responsibilities include creating a work environment that leads to employee engagement, reduces turnover, and achieves organization goals. Literature indicates that a holistic strategy at all levels of the organization will increase employee retention. Understanding and exploring the successful strategies used could benefit supply chain professionals in recruiting and retaining qualified truck drivers, resulting in reduced costs and increased revenues through a stable workforce and effecting general beneficial social change.

Three themes emerged after completing a comprehensive data analysis of the participants' responses and company documents: (a) onboarding programs, (b) leadership practices, and (c) competitive compensation. The truck driver shortage has placed a greater emphasis for leaders in the trucking industry to create robust strategies to reduce the high costs of turnover and secure supply chain operations. Failure to incorporate strategies to retain and recruit truck drivers can have a significant negative impact on consumers and trucking organizations by placing increased constraints on capacity and freight costs.

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Appendix A: E-Mail Invitation to Participate in Research

I am a graduate student working on a Doctorate in Business Administration at Walden University. I have reached the point in the doctoral program where I am nearly ready to begin collecting data for my capstone doctoral study. The purpose of my study is to explore what strategies supply chain and logistics managers with operations in the oil and gas industry use to effectively recruit and retain qualified truck drivers. I want to learn more about your strategies that have been successful and why they were successful. The results of my study may be beneficial to supply chain professionals in recruiting and retaining qualified truck drivers, resulting in reduced costs and increased revenues through a stable work force and effecting general beneficial social change.

For my study, I am looking to interview supply chain and logistics managers who work in the oil and gas industry with logistics, operations, or human resources functions that manage truck driver recruitment and retention strategies. The interview would be via videoconference or telephone within the next few weeks and would be scheduled for 90 minutes at a time convenient for each participant. I anticipate the interview will last 45-60 minutes.

If you are interested in participating in the study, please review the attached Informed Consent form for specific details. If you meet the participation requirements and would like to participate or if you have any questions, please contact me via e-mail at [redacted] or by phone [TIME] at [redacted]. A response by [DATE] would be greatly appreciated, so that I can begin data collection for my study as soon as possible. If you do not wish to participate in this study, no further action is needed.

I will share more details about my study and the interview process during our initial conversation. I am excited about conducting the study and sharing what I learn during my research

Sincerely,

Erica Duckering

Appendix B: Interview Protocol

Interview Protocol	
What you will do	What you will say— talking points
Introduce the interview and set the stage	➢ Thank you for taking time from your busy schedule to meet with me. ➢ Is this time still good for you? As a reminder I anticipate the interview will take 45-60 minutes, which is why I have requested 90 minutes to allow us plenty of time. ➢ Do you need to get a drink or any other provisions before we get started? ✓ I would also like to review the participant consent letter sent to you on [DATE] ▪ Let us start with reviewing the background of my study. ▪ The interview will include open-ended questions that are related to my study topic. ▪ You can ask to stop the interview at any time and for any reason. ▪ As a reminder there will be no compensation for participation in my study. ▪ I will not use your name or identifying

	information that could identify you in my research to protect your identity. ▪ Original files will be securely stored, then destroyed after 5 years. ✓ Are you still in agreement with the information supplied and the informed consent form and would like to proceed with the interview? ✓ To verify I accurately document the interview I will be audio recording for interview transcription. Is that okay? ✓ I will also take handwritten notes during the interview. ✓ I will allow you an opportunity to review my interpretations of your responses to the interview questions for accuracy prior to publishing the study results. ➢ Are you ready to begin? (Start both audio recording devices)
➢ Confirm demographic information ➢ Watch for non-verbal	Start with Icebreaker
	1. What strategies are you using to recruit qualified truck drivers?
	2. What are the key challenges your company faces in

queues	implementing the strategies for recruiting?
	3. How do you address key challenges your company faces in implementing the strategies for recruiting?
➢ Paraphrase as needed ➢ Ask follow-up probing questions to get more in depth	4. What process(es) does your company use to assimilate truck driver strategies across the organization?
	5. How do you asses the effectiveness of the strategies for recruiting and retaining qualified truck drivers?
	6. What other information can you provide regarding your organization’s vertical alignment for recruiting and retaining qualified truck drivers?
Wrap up interview thanking participant	Thank you again for taking the time today to share your experience on this topic. This discussion has been highly informative and will add value to my study.
Schedule follow-up member checking interview	As previously mentioned, I will supply you with summary of my interpretations of your responses to the interview for your review. I will prepare an interview summary over the next week. I will e-mail it to you for your review to make sure I have interpreted your responses accurately. Let me confirm that your e-mail address is [redacted]. You will receive the interview summary by [DATE]. I anticipate it will take you 10-30

	minutes to review the interview summary. I would appreciate a response within a week if you agree I have accurately interpreted your responses, if you see anything that needs to be revised, or you wish to clarify or add anything. After I have received your feedback from the summary of my interpretations of your responses to the interview questions. I may request a follow-up interview; I would anticipate that we could arrange a phone call that should not exceed 30 minutes. Would you agreeable to that?