

Driver retention in the southeast region Less Than Truck load trucking industry: A
qualitative analysis.

By

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Dedicated to:

I dedicate this work to my wife Jennifer McGee, my love, my light, my life.

Thank you for seeing in me what I could not; Continuing to push me to become what you
and only you could see.

“Three little Birds”

In Loving Memory

Of

Robert Dale Fisher

“You are going to change the world” he told me. Robert, you forever changed my world,
and all of those you touched along the way. We miss you.

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ABSTRACT

As the U.S. truck driving industry suffers as a whole, Less Than Truck load (LTL) trucking companies are seeing differing rates of turnover as compared to the overall trucking industry. Research via Qualtrics surveys were sent out to distinguish the practices used by LTL companies. We will explore the tactics hiring managers are using in the LTL trucking industry and what is helping to recruit and retain drivers. We will also explore the actions that Human Resource Managers (HRM's) are using. By analyzing the tactics HRM's are using to recruit and retain drivers we will help the truck driving industry and their managers better understand what factors truck drivers are weighing when deciding for whom they will work.

Table of Contents:

Introduction	1
The driving force	1
What is Less Than Truckload?	3
The Truck Driver Shortage	4
Affecting the Supply Chain	5
The Truth about the trucking turnover post COVID-19	7
Top factors that are currently impacting the LTL freight market	8
Methodology	9
Research and findings	10
Conclusions	20
Summative Comments	21
Appendix	23

Introduction:

The United States truck driver shortage has been a heavily covered topic. Companies rely heavily on truck drivers to get raw materials and finished goods from a starting point to final points of purchase. However, there is a truck driver shortage in the United States, and no resolution in sight. Current estimates show a deficit of 80,000 truck drivers (Smith,2021). Studies have been published highlighting the issue of truck driver shortage, but none have long term solutions, thus the industry has struggled to respond to the shortage. Truck driver shortage solutions have often centered on pay increases, sign-on bonuses, better benefit packages, and other solutions to attract and retain truck drivers. Solutions such as sign on bonuses are valuable to the incumbent truck driver, however, they may only provide a temporary solution and not provide a long term solution to the driver shortage. The overall solution may require many changes for a trucking company, including wage increases, an option most trucking companies simply cannot afford (Smith,2021).

The driving force:

During the onset of the distribution phase of the COVID-19 vaccine, the supply chain system was unable to meet the demand for the newly developed vaccine (Alam,2021). The ability to produce and distribute the vaccine in the worldwide pandemic was the new priority in the medical supply chain. The balance between supply and demand grossly favored the demand side of the scale. Unexpected issues in automation, refrigeration and

distribution on a global scale was new to Supply Chain Management (SCM). Unknown issues that arose from the pandemic caused lags in supply chain and the distribution of the vaccine. Lags in vaccine distribution as a result of previously unexpected issues endangered the health and lives for millions in the United States and the world (Kumar, et al,2021). Studies of the COVID-19 vaccine production and distribution have led to few effective approaches in an effort to decrease demand fluctuations. The results have shown that managers trained properly in the field of SCM and the right amount of transportation could reduce the number of fluctuations in the effects of supply chain and make it more stable (Weintraub, et al.,2021).

Examining what LTL Human Resource Management (HRM) are doing or not doing to recruit and retain their drivers could be key to unlocking the issues with the lack of truck drivers in the U.S. and preventing another supply chain disruption within the trucking industry. Using surveys and interviews from HRM from the southeast regional trucking companies we examine what trucking companies are doing and what the root causes are for the lack of interest in being a truck driver. The findings of this research will assist HRM's in understanding what factors truck drivers are weighing when deciding for whom to work.

Prior to the pandemic, driver shortages were not in the forefront of the national news. Since then, the driver shortage has slowed our supply chain especially, in the trucking industry (Nickolopoulos et al.,2020). Surveys of HRM's of LTL companies were conducted for comparison. Aspects of the work life of a driver will be asked via survey, vlog, phone references and mail in reviews, in an effort to gain insight into the life of a LTL driver. We need to understand better the motivation that is driving truck drivers in

this country. The topic chosen is imperative to righting the supply chain constraints in the LTL market, as it is relevant to current times, and detrimental to the future recovery of supply chains. Structuring processes, and processes as a whole HRM's have had to change and adapt to overcome driver shortages. (Lambrecht's, Tharsi, Styn, & Poisquet, 2012). Using literature review and sources from scholarly journals, in conjunction with current and past events in supply chain, news articles, books, and emailed surveys, we explored what LTL companies have been doing to hire and retain their drivers. With IRB, and the approval of the Honors College at Middle Tennessee State University, we conducted research into our topic.

What is Less Than Truck Load?

LTL, is the option for customers who have products that are not large enough to use the entirety of a trailer, to combine those shipments with other like smaller shipments to fill one trailer thereby improving efficiency and capacity utilization. LTL is a delivery service used for materials weighing between 150 and 15,000 pounds. LTL shipments tend to be less expensive than that of Over the Road (OTR) shipments because they are put through many carrier hubs in order to continue the pickup and drop off of materials through a given route. However, the tradeoff of being less expensive is the longer transit times. For example, if a product were moving between Florida and New York City, it may stop and change trucks several times along the way, thus making for longer transit times and more difficult for time sensitive materials. One of the benefits of using LTL is it is proven to be cost effective (Burk, 2021). As stated, the material being shipped is combined with other like shipments, thus sharing the cost of the full truck with other companies shipping their goods. Another benefit of using LTL is the securement of the

company's products. Frequently, those goods are palatized and shrink wrapped to help keep that order together and secure along its journey. Last in consideration of LTL is accessibility. Most LTL companies offer liftgate services that allow for pinpoint deliveries of goods without the use of a warehouse or the need for dock plates to unload those products.

The truck driver shortage:

Among other factors the truck driver shortage can be attributed to the increase in freight demands, lack of growth of the truck driving industry, and the aging out of current truck drivers. The driver shortage as previously stated is estimated to be at 80,000 (Smith, 2021) truck drivers currently, and the shortage is expected to grow. According to the American Trucking Association (ATA), reports show that truck driver shortages are projected to increase. However, the demand for those drivers will increase at a faster pace thus increasing the truck driver shortage over time at a more rapid pace (ATA, 2022). Although the total number of drivers have increased over the past years in the U.S., the great demand for trucks and types of trucking needed has put a strain on the existing drivers available. According to Bob Costello and Rob Suarez's report for ATA in 2015, the need for trucking industry has increased, yet the turnover rate for truck drivers is over 90% (Costello et. al., 2015). The ATA estimates that if current trends continue, the actual driver shortage number may soar to over 160,000 in less than ten years (Cullen, 2021).

There are, as discussed, many reasons for the current driver shortage, but one of the largest factors is the high average age of the existing workforce.

According to surveys conducted by ATA, the average driver age in the truck driving industry is forty-six (ATA, 2022). However, in the same report the age is even higher for the LTL driver market and private carriers. While the driver shortage is not as prevalent in the LTL market as that of the Over the Road (OTR) market, the high average age still affects the overall shortage. As the market sees drivers reaching retirement age, the labor pool will begin to shrink even more (Costello et al., 2019). Another issue to note is prior to the COVID-19 Pandemic, even though there was already a driver shortage, more individuals were entering the trucking industry. In a report to the ATA, Mr. Costello is quoted saying, “The issue is that new entrants into the industry didn’t keep up with the demand for goods.” He further states that “increased demand for freight, pandemic-related challenges from early retirements, closed driving schools and Department of Motor Vehicles (DMV’s) testing centers, and other pressures are really pushing up the demand for drivers and subsequently the shortage” (Cullen, 2021).

Affecting the Supply Chain:

Supply chain, or the ability to plan, source, make and deliver goods is the backbone of commerce in America, and it is one of the main drivers of continual improvements to our lives (Lambrechts, Tharsi, Styn, & Poisquet, 2012). Most purchases we as a society make have supply chain involved in that process. With the announcement of COVID-19 in March 2020 by the World Health Organization, supply chain systems across many manufacturing groups slowed or shut down entirely (W.H.O, 2020). The pandemic has disrupted most aspects of the global supply chain that is, the pathway of getting goods from where they are mined, manufactured, and grown to where they are needed. Scarcity of goods due to failures in the supply chain has caused the prices of goods to increase.

This failure has caused decreased customer satisfaction due to the supply chains failures and rising costs of goods.

Truck drivers keep supply chains moving, but driver shortages and high turnover levels plague the industry. The United States trucking industry is suffering from the shortage of drivers, and in turn hurting U.S. supply chains across most avenues of industry. The driver shortage was brought to the forefront of industry needs as a result of COVID-19. Consumers may not consider how the goods they are purchasing get to where they purchased it. However, consumers understand the goods come from a tractor trailer to their retailer, but they do not give much thought to the drivers. Furthermore, most consumers may not consider the wellbeing of driver(s) delivering those goods, which is often not good. During a random survey of 316 male truck drivers at a rest stop near Greensboro, North Carolina, 28% reported being lonely, 27% felt depressed, and 21% reported chronic sleep problems. (Merrefield, 2021). Days on the road can take their toll on a drivers' well-being.

Another area that has been impacted in the LTL freight market is the increase in e-commerce. Due to the pandemic, there has been a growth of people who prefer to shop online for their safety and convenience (Burk, 2021). With the supply chain constraints currently being faced, and the inability to get products to store in a timely manner, there has also been a shortage of product in brick-and-mortar stores further driving the e-commerce industry. This shift in purchasing positions has resulted in a significant increase in the home delivery market, which has further impacted the already strained LTL carrier networks (Burk, 2021).

Human Resource Managers can use better technology to help with the driver shortage (Forde, 2020). During the early days of the pandemic the goal of innovative technology was to transport goods to the final destination while minimizing human contact. Once the vehicle arrived at the delivery point, a signal would be sent to the customer's cell phone so the customer could come to retrieve the freight. The company employed tens of thousands of employees working in the area, providing them with masks, and body suits to protect them from being exposed to the virus as they worked in the warehouses, loading the vehicles. In the span of one month, JD Logistics opened a steady supply chain for delivering food supplies and medical gear in the region. The delivery of over 2.36 million pieces of medical and preventive supplies that included goggles, masks, gloves, disinfectants, and other items to the area hospitals was made possible as a result of this resiliency and adaptability (Forde,2020). Ideas such as the example given, helped the LTL industry overcome the hurdles they faced during the hottest times of the pandemic.

The Truth about the trucking turnover Post COVID-19:

As the world recovers from the COVID-19 pandemic, supply-chain challenges are still being brought to the public's attention. Studies have been conducted to explain the issues that plague the American trucking industry. Research has shown that for decades truck drivers have quit their jobs, leading to a shortage of drivers even before the COVID-19 pandemic. "The turnover rate was at a staggering 91% in 2019," (ATA,2022) Put in perspective as an example, ninety-one people out of 100 hired, quit during a one year period. If this were truly the case, society would have heard of driver shortages long before the pandemic, because there would have been extremely limited drivers to drive the trucks. Instead, turnover rate is not an indicator of drivers exiting the industry forever;

it more accurately measures drivers moving between trucking companies. Defined as Churn in the trucking industry, the turnover rate measures, predominately, drivers moving between trucking companies, making up only a small percentage of that churn within the industry (ATA,2022). The actual turnover is, for an example, a truck driver who has been driving for a company for a while but knows he can go to another carrier and receive a \$5,000 sign on bonus, plus a pay raise. Compounding the issue further, six to twelve months later he can do the same thing again. “This churn-or poaching, or whatever one wants to call it, is what inflates turnover in a tight labor market” (ATA, 2022). Part of the turnover is actually churn within the industry, which is drivers switching companies to take advantage of sign on bonuses (Cullen, 2021).

Top factors that are currently impacting the LTL freight market:

The shortage of dock workers, and other carriers support staff, coupled with the shortage of truck drivers has impacted the LTL freight market. COVID-19 fallout is still having a direct effect in the decrease in carriers’ workforces, causing carriers support staff to work from home that has hindered LTL carriers. LTL shipments differ from Over the Road (OTR) freight, as LTL freight moves through multiple terminals requiring multiple people to manage the freight from origination point to the final destination point. Labor in those touch points has been a difficult problem due to the setbacks of the pandemic in the labor market. The pandemic has also affected the hiring process, making it more difficult for carriers to bring in new employees to overcome the increased volume and labor needs (Burk, 2021). The reason for the hesitancy to either return to that type of work, or the difficulties that freight corporations are facing due to the pandemic will be an area of further future research.

Normal constraints for LTL carriers still require consideration and planning. Extreme weather events such as winter storms, extreme flooding events, wildfires and tornado destruction affect transportation networks in the impacted region and the nation. Seasonal spikes in demand of goods is another normal constraint with which carriers deal. Each spring, and early fall there is typically an increase in freight shipping. Compounded with the issues listed above, the supply chain in the freight industry is having a difficult time keeping up with the demand from the consumer (ATA, 2022).

Methodology:

As the U.S. truck driving industry suffers as a whole, Less Than Truck load (LTL) trucking companies are seeing differing rates of turnover as compared to the overall trucking industry. Our survey was developed to not only determine the reasons behind driver retention rates but to also identify the characteristics of the LTL companies that were most successful in retaining drivers over an extended period. Using correlation coefficients, we were then able to determine which of these characteristics were most and least important as well as most impactful in recruiting and retaining drivers.

Data collection was conducted through the Qualtrics platform. Surveys were sent to HRM's in the LTL market anonymously, to protect the anonymity of both the surveyed and their employer. Demographic questions were posed to determine the qualities of the company using a Likert scale and then compared to the qualities of the drivers that were recruited and retained as drivers. Characteristics including the size of the company, number of drivers, pay scale and average length of tenure, were addressed in the company profile while age, workload, length of career as a driver and overall satisfaction were addressed for the drivers. Correlation coefficients were then used to determine the

relationship of the variables. During the research survey process, 304 surveys were sent out to HRM's using emails links to the Qualtrics survey. Of those 304-surveys sent, 157 surveys were completed, giving us a 52% response rate for this study.

Research and findings:

Number of employees - An increase in the number of employees, given the same across-the-board limitations of profit margin in the trucking industry leads to an expectation that smaller companies will have fewer resources to recruit and retain drivers. In comparison, larger companies will have more resources to recruit and retain drivers, expand benefits and provide higher driver satisfaction. However, given that our research studies LTL market and not that of OTR market, the size of the truck fleet could be smaller for LTL companies overall and still be beneficial to the driver.

Length of driver tenure - The length of time with a company was used to compare the characteristics of the company with the satisfaction of the driver. Additionally, tenure was used to determine the correlation between job satisfaction and the success rates of recruitment and incentives offered by other companies.

As with most industry, the more experience individuals have, the more valuable those individuals become. A driver who may have less than a year of experience may not be a good fit for more difficult driving scenarios. Scenarios such as alley backing in city types of traffic, narrow street adjustments that cannot be taught, however can be learned over time with direct application. The more

experience a driver has the more money that driver can demand, and the better quality driver the company can expect. Our research show a direct correlation between the number of drivers at a company with more than one year experience, and those driver's satisfaction.

Drivers with longer tenure - Further insight into the experience value of the truck driver, we can see that the majority of those surveyed had over 3 years of experience. A company wants to have and retain drivers with more than 3 years of experience to be able to operate more efficiently, a direct correlation to the drivers experience. Experience cannot be taught in a trucking school classroom; it takes time for the driver to build his/her driving skills. Furthermore, drivers with longer tenure are more apt to remain with a company due to seniority. We see a direct correlation between longer tenure and driver retention rates in the LTL market.

Average age of drivers - Posing this question we gained insight on the average age of the LTL driver of the companies surveyed. Our hypothesis was we would see a direct correlation between the number of drivers ready to retire, or age out, and find a reason for the driver churn. However, our research did not conclude that hypothesis to be true. Our research did show the highest age group of those surveyed was the 31-40 age group, but did not show a direct correlation between the average age of a driver and their satisfaction with being a LTL driver.

Average work hours per day – An average work day per hour was used to compare the satisfaction of the driver and the characteristics of the company. The idea was the more a driver had to work in a day, the less satisfied he or she would be due to having to devote more time to their jobs, than other endeavor's they

may want to pursue. Our results show the highest response rate between 6-10 hours per day, when calculating the mean as 8 hours per day on average. Given the response we correlate that drivers are more satisfied with 6-10 hour, of operation, lending more time to devote to other facets of life thus resulting in a higher driver satisfaction rating.

Average miles driven per day – Posing this question we analyze the driving distances among the different LTL companies, to determine if drivers want to work for a company due to the milage driven per day. Our research show that the majority of the drivers do want to work for LTL companies for the reason of miles driven vs. greater miles driven. The driver can work and drive less miles with LTL companies, again giving more time to the pursuit of other personal endeavor's.

Hours worked per week on average - Asking this question helps us to analyze how many hours per week on average LTL drivers are working. This data helps us to see that the majority of the LTL drivers are receiving at least 31-40 hours per week. Furthermore, the data shows us that the thought that most LTL drivers were working extraordinarily long work weeks is incorrect, and that the amount of time the LTL driver works compared to the home/work balance, is indeed one of the reasons for the LTL industry being able to keep drivers in the seats. Obviously, the reason the drivers are doing what they are doing is to support their families, and the being away from home and missing events within their families due to the amount of time being spent at work, is a contributing factor in the turnover rate at trucking companies.

Average annual salary – The average annual salary was used to compare driver satisfaction and the amount of money a company pays that driver. With the data given, we found the average pay annually for the majority of those surveyed was \$40,001-\$45,000. Of those surveyed we do not see a direct correlation between average annual salary and driver satisfaction.

Recruitment of new drivers – Identifying how LTL managers are recruiting new drivers is important because recruiting new drivers takes time and money. How LTL managers do this indicates their commitment to hiring and retaining a truck driver and indicates their commitment to keep that driver once they are onboarded. Job Fairs require time and money for brochures, table set ups, refreshments, and swag to attract possible driver candidates. Social Media is becoming the new medium for recruiters to reach out to potential candidates. By not having to spend time in person, or the money that it takes to try to impress a new candidate, companies are able to reach out to those interested in a timelier manner. Recruiting is a very important thing LTL managers do to find the right driver; however, we do not find any correlation between the way companies recruit vs. the reason the LTL driver is staying with that company.

Benefits to attract new hires - As we stated earlier there was not a direct correlation between the size of the company and their driver retention rate, and the same results are found after reviewing the data for the benefits being able to attract new hires. Safety bonus programs are an industry standard and not a tool for HRM's to use as a hiring perk. Our hypothesis was that we would see a direct

correlation between Paid Training and driver satisfaction. However, this data does not support that theory, and there is not a direct correlation in this study.

COVID-19's impact on your driver shortage – COVID-19's impact on LTL

driver shortage was used to obtain a numerical value of how COVID-19 impacted the LTL managers ability to hire/retain truck drivers. The highest response was the median choice, meaning, companies were affected by the COVID-19 pandemic. However, they had to continue to operate, adjust , and overcome difficult situations that arose from COVID-19. We cannot see a direct correlation between the COVID-19 pandemic and the LTL market being able to retain their truck drivers. COVID-19 did affect all LTL managers and their respective companies during the time of the pandemic. No company was immune to the setbacks that the pandemic created. One finding in our research was that the same amount of LTL managers said they had little to no impact to their driver situation, as did the LTL managers said they were impacted by the pandemic. Both categories' selections were 11 responses, and could suggest that the amounts offset each other, and has not been properly captured in industry reviews. Further research is needed on the depth of the effects of the COVID-19 pandemic has had on the LTL trucking industry.

Volume over the past 12-months - It has been proven earlier in this research that COVID-19 affected supply chains worldwide. Freight volumes most certainly increased due to factors and defense of statements discussed earlier in this paper. Given the results from this question we do not see a direct correlation of the volume of freight and LTL managers being able to hire or retain drivers. We tend

to believe these are anomalies in the response data. We support this by stating, LTL hiring managers lend themselves to filling the driver seat with the right candidate, more than understanding the freight volume currently.

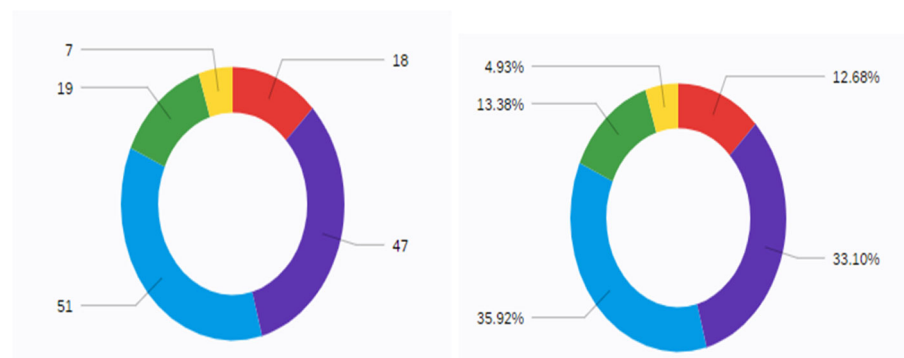
Truck driver's overall satisfaction - The purpose of this question was to quantify responses of LTL managers to rate their driver's satisfaction rates. Driver happiness directly correlates with driver retention rates. The happier, or more satisfied the driver is with their position and company, the more likely that driver will not leave that company. With the results of this question being the majority surveyed were neither satisfied nor dissatisfied with their overall satisfaction, no direct correlation can be determined.

Reasons for leaving – The reasons for leaving was used to compare what reasons drivers are giving when leaving a position. The highest reason chosen reason for a driver leaving was the health related reasons option, making up 30% of the results. Government regulations for fitness criteria; a question to be asked in question #17 correlates directly to the main reason given when drivers leave a company. Drivers lifestyles, eating habits, and other unhealthy choices make it difficult on truck driver. Unhealthy food options are the standard for most truck drivers. Fast food options are higher in calories and higher in unhealthy fats. additionally, high amounts of caffeine are the norm for most drivers to stay alert behind the wheel, leading to increased blood pressure and heart disease. Couple these occupational choices with a stationary job such as truck driving, can lead to serious health conditions.

Loads dispatched daily – The loads dispatched daily was used to determine if a direct correlation between the amount of work a LTL company does, vs. the driver retention/shortage rate exists. With only a 0.7% difference between the first and second response rates, we cannot conclude that the average amount of freight shipped daily affects the overall driver shortage or satisfaction. Further, more in-depth research could be done in relation to the drivers staying with busier companies vs. drivers staying with less busy companies.

Positions currently available - The reasoning behind this question was to obtain data showing that the LTL market is not facing driver shortages. However, we do see driver shortages in the LTL market as shown in the responses, negating the thought that LTL driver markets have not had driver shortages. Contrary to that belief, we can see there is a 35.9% driver shortage in the LTL companies of those responding to this survey (Figure 1). This data supports the position that there is indeed a driver shortage in the LTL market, given the amount of open driving positions available currently in the companies that participated in this survey. Figure

1: How many positions are currently available?



Government regulations impacting the shortage of truck drivers – The question and response relate to our previous question responses; What drivers tend to indicate as their reason for leaving a company. The two highest responses were 1) Government regulations have mildly impacted our driver shortage; 2) Government regulations have impacted our driver shortage. The reasoning for the regulations might improve overall health and safety of the drivers. However, it would seem in this study, Government regulations and the constraints they have imposed on the drivers, are causing some of the driver shortage issues the LTL market is facing. Given the number of HRM's interviewed in this survey, I propose this could be an area of study in the OTR driver market as another reason that industry is seeing driver shortages. This finding does not show reason driver rates are better at LTL markets vs. OTR markets. However, there is enough evidence to suggest further research on this topic should be done.

The government regulation that has been the most impactful - With prior knowledge, and experience in the LTL market of over 18 years, I asked this question knowing that Government regulations impacted me while I was a truck driver. Relating back to the aforementioned questions #14 and #17, I wanted to see an actual answer to which Government regulation was causing the most impact to LTL drivers. In my experience while being a LTL truck driver the government regulation that impacted me, and my fellow truck drivers at the time was the medical requirements required to continue to operate a commercial

vehicle. Every two years commercial truck drivers must undergo a medical assessment in person with a certified Department of Transportation (DOT) examiner. Eyesight and hearing are checked, weight, blood pressure is measured, and neck circumference was measured, along with other standard physical procedures. The test that impacted me and a vast majority of drivers I was employed with was the neck circumference measurement. If ones neck measured over a certain circumference and your Body Mass Index (BMI) was over 35%, one was not given medical clearance to drive again until one underwent a sleep apnea test with a government approved sleep apnea test doctor. Some drivers were clearly a health risk being overweight, however there were those drivers who like myself were borderline but sent anyway to have this test performed. At my own expense I had to pay for this test, and after review was diagnosed with sleep apnea. The doctor prescribed me a breathing machine that would help me breath at night, and once I purchased said device for over \$1000.00, that doctor would clear me to go back to driving. When the government regulations start digging into my family's income that I was barely making "ends meet" at the time, I started to question my line of work. Perhaps government should pay for this treatment as a safety measure. This research did find that there was a direct correlation between these government regulations and the impact it has on LTL truck drivers.

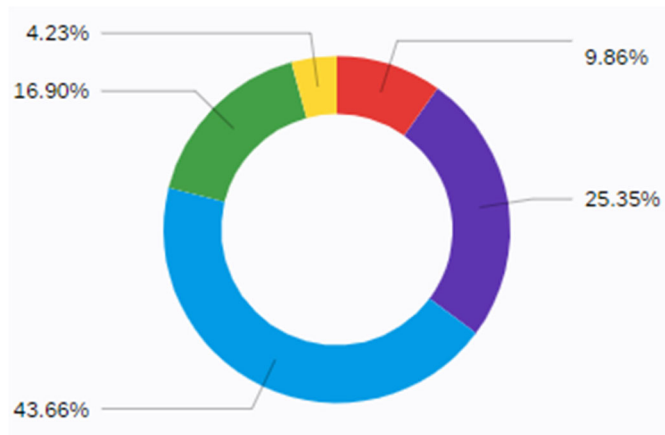
Percentage of truck drivers return home every night - One of the benefits typically with a LTL truck driving position is to be able to go home every day at

the end of your shift or route. With that being the case, we would expect a higher number of homes every night responses in the 51% or more category.

The second highest response rate was 21-30% of truck drivers returning home every night with 34 respondents. Other data collected was 41-50% of drivers returning home every night, with 31 respondents selecting this option, and 0-20% of truck drivers returning home every night with 16 respondents selecting this option. There is a direct correlation between driver retention in the LTL market and being home daily. I know it was a deciding factor for me when I drove, and the data here does show that the majority of drivers still do return home every night.

How long will the driver shortage continue - One of the best ways to gauge a topic, and get data is to interview those individuals that are working day in and day out in that market (Figure 2). This question asks them directly if there is a truck driver shortage, and how long do they believe it will last give their knowledge of the industry or company for which they work. LTL managers in this research indicates to us that we are going to see a truck driver shortage for the next 3-4 years given that 43.6% believe there is a driver shortage and selected the 3-4 years option in the survey.

Figure 2: How long will the driver shortage continue?



43.66% of LTL managers believes the truck driver shortage will continue for 3-4 years.

Conclusions:

The purpose of this thesis was to examine what LTL's and their HRM's are doing or not doing to recruit and retain their drivers to unlock some of the issues with the lack of truck drivers in the U.S. and preventing further supply chain disruptions within the LTL trucking industry. This research has shown that LTL's HRM's has the ability to help ease the driver shortage situation, and that keeping and retaining those drivers is key to the longevity of the LTL industry. LTL trucking is likely to remain cheaper to corporations than that of the OTR trucking industry and vital for interstate commerce that is needed to expedite consumer purchasing relationships. Additionally, the driver mindset, living conditions, and wellbeing as a whole cannot be overlooked as a way to continue to recruit new truck drivers into the industry. Those things alone will not fix truck driving shortage, but this LTL research could serve as a guide for OTR trucking industries to explore ways to retain and attract drivers to their industries.

Failure to implement solutions to the truck driving shortage in all disciplines, whether it be LTL, or OTR will continue to increase costs of goods sold. Truck driving is a fantastic way for individuals to continue chasing the “American Dream” providing above standard income to most families. However, with increased pay to drivers, cost of services rendered will continue to increase further increasing the pressure on the supply chain industry.

Summative Comments:

My experience as a 18-year veteran of the trucking industry, helped to spark my interest in this research. Furthermore, the questions behind the LTL driver’s need were inflamed during the onset of the rollout of the COVID-19 vaccine distribution. At the time our trucking industry was unable to get vaccines to distribution points in a timely manner, and I believe could have caused more deaths due to not receiving the vaccine fast enough to battle COVID-19. I knew of the LTL industry in a qualitative sense due to my prior job positions of being a truck driver but having this opportunity has enabled me to add quantitative results to further my knowledge of the LTL industry.

I am thankful for the opportunity to do this research thesis and that I have become a better academic scholar from doing so. This thesis has taught me much more about LTL driver market and supply chain, a field in which I will be entering upon completion of my undergraduate studies in Supply Chain Management. I know that this work, and my classroom instruction, will prepare me for challenging situations I may encounter in the workplace. This thesis has taught me that it is vital to stay current with the latest news, and research

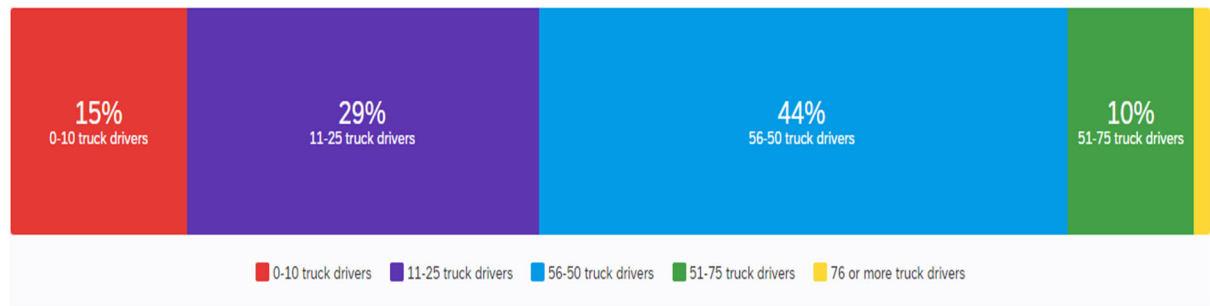
surrounding my field. This opportunity to grow as a student and a professional during my next to last semester will have impacts on me long after this thesis process is complete and will help springboard my experience going forward into graduate studies.

Appendix:

Research Questions and response rates :

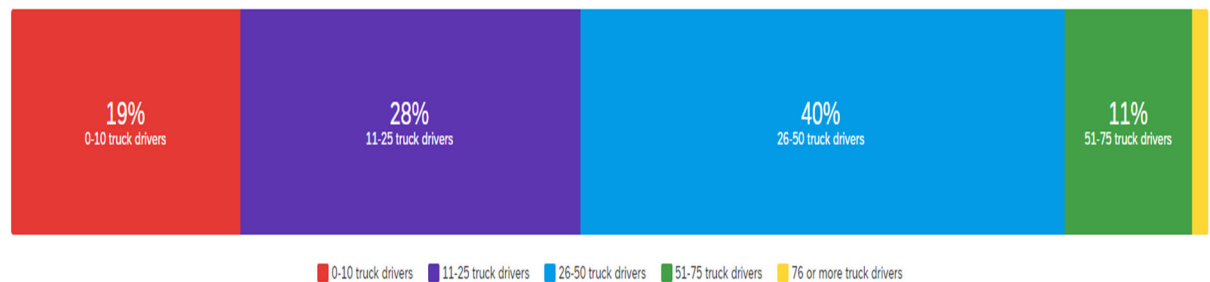
1) How many truck drivers does your company employ?

Choices that were given: 0-10 drivers, 11-25 drivers, 26-50 drivers, 51-75 drivers, and 76 or more drivers. The highest response rate was in the 26-50 drivers' selection, with 63 of the group selecting this response, and the lowest response rate being 76 or more drivers, with only 2 respondents. Other responses worth mentioning were 0-10 drivers, 21 respondents selected this option, along with 42 respondents selecting the 11-25 drivers' option. Only 15 respondents selected the 51-75 driver's section.



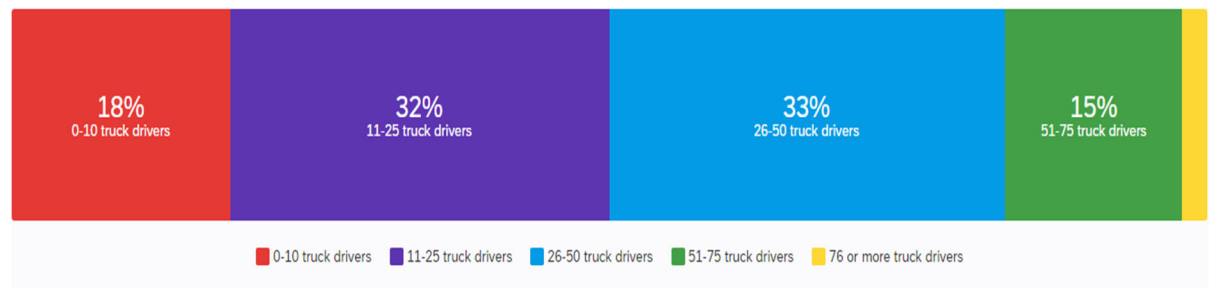
2) How many of the company's truck drivers have been with the company at least a year?

Choices that were given were: 0-10 drivers, 11-25 drivers, 26-50 drivers, 51-75 drivers, and 76 or more drivers. As before the highest selected option was the 26-50 drivers' selection with 57 respondents, and the 76 or more drivers being the lowest with only 2 respondents. Other responses worth mentioning were 0-10 drivers, 27 respondents selected this option, along with 40 respondents selecting the 11-25 drivers' option. Only 15 respondents selected the 51-75 driver's section.



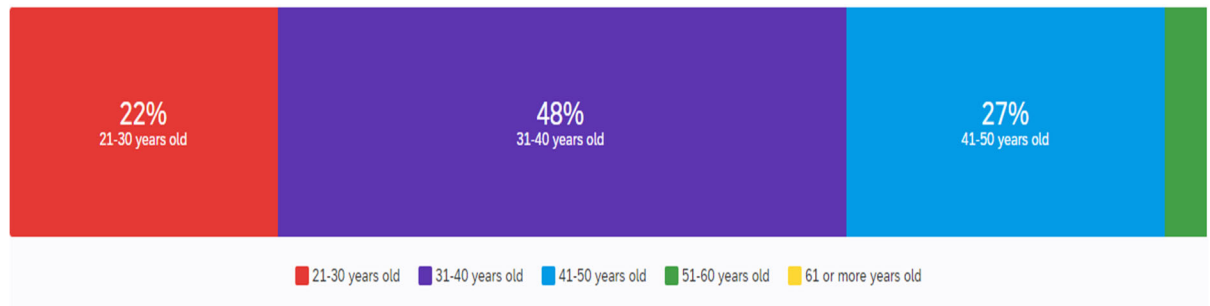
3) How many of the company's drivers have 3 or more years truck driving experience?

Choices that were given were: 0-10 drivers, 11-25 drivers, 26-50 drivers, 51-75 drivers, and 76 or more drivers. Again, as before the highest selected option was the 26-50 drivers' selection with 47 respondents, and the 76 or more drivers being the lowest with only 3 respondents. Other responses worth mentioning were 0-10 drivers, 26 respondents selected this option, along with 45 respondents selecting the 11-25 drivers' option. Only 21 respondents selected the 51-75 driver's section.



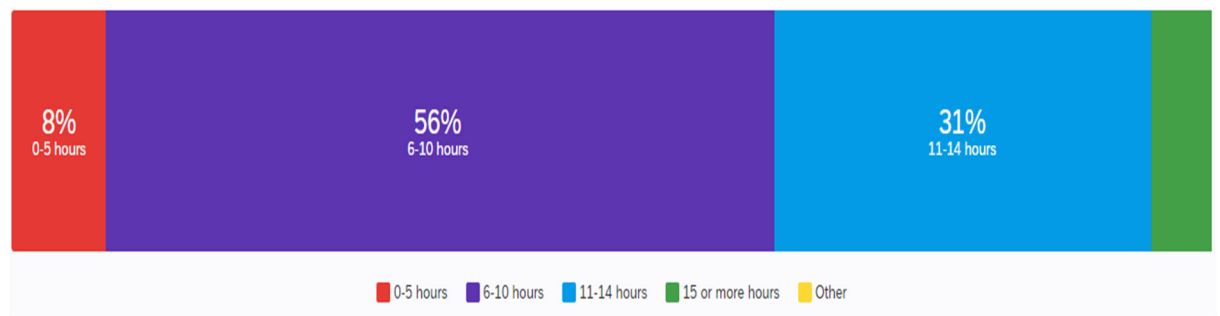
4) What is the average age of your drivers?

Choices that were given were: 21-30 years of age, 31-40 years of age, 41-50 years of age, 51-60 years of age, and 61 or more years of age. The highest selected option was 31-40 years of age, with 68 respondents. While the lowest was 61 or more years of age with 0 respondents. The second highest responses came in the 41-50 years of age with 38 people selecting that option, 32 people selecting the 21-30 years of age option, and 5 people choosing the 51-60 years of age option.



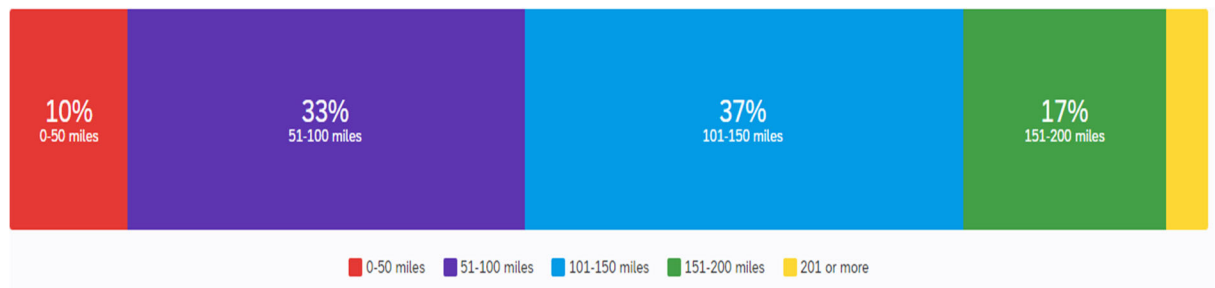
5) What is the average on duty hours per day for your truck drivers?

Choices that were given: 0-5 hours, 6-10 hours, 11-14 hours, 15 or more hours, and other. Other was added to the survey because some drivers may be paid differently than by the hour and was allowing for that to be an option to the respondents. The highest response rate was 6-10 hours, with 78 respondents selecting this option, and the lowest was Other, with 0 responses. Thus, answering the before mentioned allowance for drivers being paid other than hourly. The second highest response was the 11-14 hours option with 44 responses to that option. Only 11 respondents chose the 0-5 hours per day option.



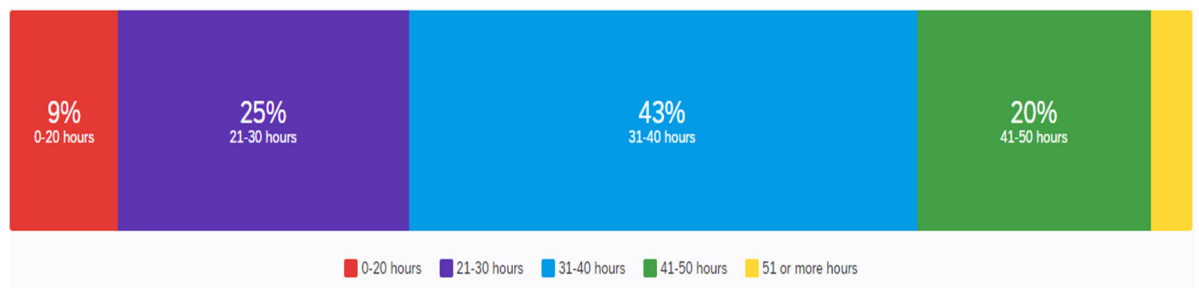
6) What is the average miles driven per day by your individual truck drivers?

Choices that were given: 0-50 miles per day, 51-100 miles per day, 101-150 miles per day, 151-200 miles per day, and 201 or more miles per day. The highest response rate was 101-150 miles per day, with 52 respondents selecting this option. The least chosen option was 201 or more miles per day, with only 5 respondents selecting this option. The second highest chosen option was 51-100 miles per day with a response rate of 47 people selecting this option. Other data collected was the 151-200 miles per day option, with 24 respondents selecting this option. Finally, 14 respondents selected the 0-50 miles driven per day option.



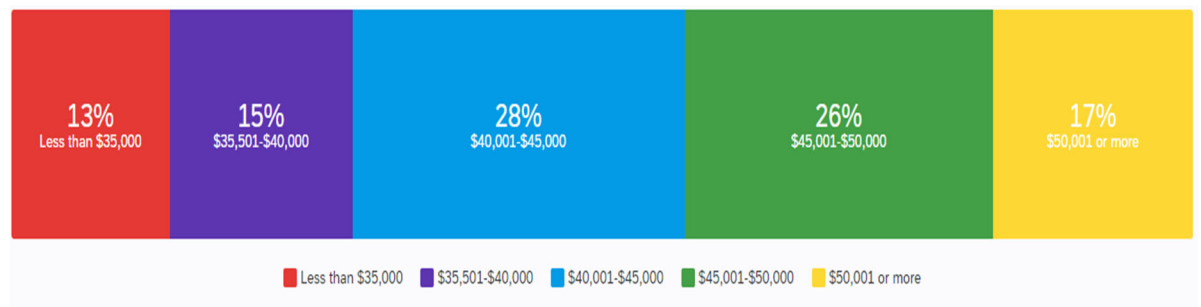
7) How many hours per week on average does your truck drivers work?

Choices that were given: 0-20 hours per week, 21-30 hours per week, 31-40 hours per week, 41-50 hours per week, and 51 or more hours per week. The highest response rate was 31-40 hours per week, with 61 respondents selecting this option. The least chosen option was 51 or more hours per week, with only 5 respondents selecting this option. The second highest chosen option was 41-50 hours per week, with a response rate of 28 people selecting this option. Other data collected was the 21-30 hours per week option, with 35 respondents selecting this option. Finally, 13 respondents selected the 0-20 hours per week option.



8) What is your truck drivers average annual salary?

Choices that were given: Less than \$35,000 annually, \$35,501-\$40,000 annually, \$40,001-\$45,000 annually, \$45,001-\$50,000 annually, and \$50,001 or more. The highest response rate was \$40,001-\$45,000 annually, with 40 respondents selecting this option, and the lowest was less than \$35,000 annually, with 19 responses. The second highest response was the \$45,001-\$50,000 annually option with 37 responses to that option. 24 respondents chose \$50,001 or more annually option, and only 22 respondents chose the \$35,501-\$40,000 annually option.



9) What are your company's principal method for recruiting new truck drivers?

Choices that were given: Social Media outlets, Job Fairs, Educational Facilities, Personal Recruiters, Other sources that may not have been mentioned in the survey question. The highest response rate was Job Fairs, with 52 respondents selecting this option. The least chosen option was other sources that may not have been mentioned in the survey question, with only 3 respondents selecting this option. The second highest chosen option was social media with a response rate of 37 people selecting this option. Other data collected was Personal Recruiters, with 32 respondents selecting this option. Finally, 17 respondents selected the Educational Facility option.



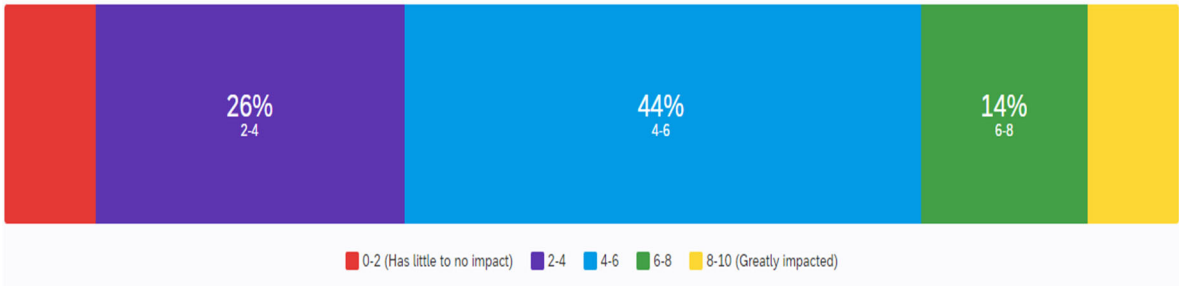
10) What benefits does your company currently offer to incentivize new truck driver hires?

Choices that were given: Retirement benefits such as 401K, profit sharing etc., Safety bonus programs such as miles vs. zero accidents, Paid training such as license assistance programs, Company assisted insurance plans that provide health insurance for the driver and or his/her family, and an Other option that may have been an incentive that was not mentioned in the survey questions. The highest response rate was Safety Bonus Programs, with 57 respondents selecting this option. The least chosen option was other incentives that may not have been mentioned in the survey question, with only 1 respondent selecting this option. The second highest chosen option was Paid Training, License assistance programs with a response rate of 38 people selecting this option. Other data collected was Company Assisted Insurance, with 24 respondents selecting this option. Finally, 21 respondents selected Retirement Benefits, 401K, Profit sharing option.



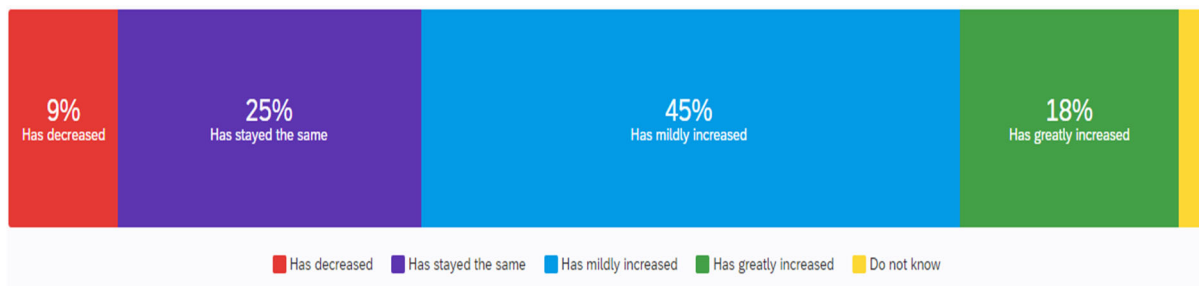
11) Has COVID-19 or other variants impacted your company’s situation of truck driver shortage?

Choices that were given: The choices that were given were given in a Likert scale of 0-2 being the little to no impact due to COVID-19, 2-4 slightly more impacted by COVID-19, 4-6 being the median choice that COVID-19 impacted their company, 6-8 very impacted by COVID-19, and 8-10 greatly impacted by COVID-19. The highest response rate was 4-6 the median choice, with 62 respondents selecting this option. The least chosen option was a tie between 0-2 Little to no impact with 11 respondents, and 8-10 greatly impacted response with 11 respondents. The second highest chosen option was 2-4 slightly more impacted due to COVID-19 with a response rate of 37 people selecting this option. Other data collected was 6-8 more than average was impacted by COVID-19, with 20 respondents selecting this option.



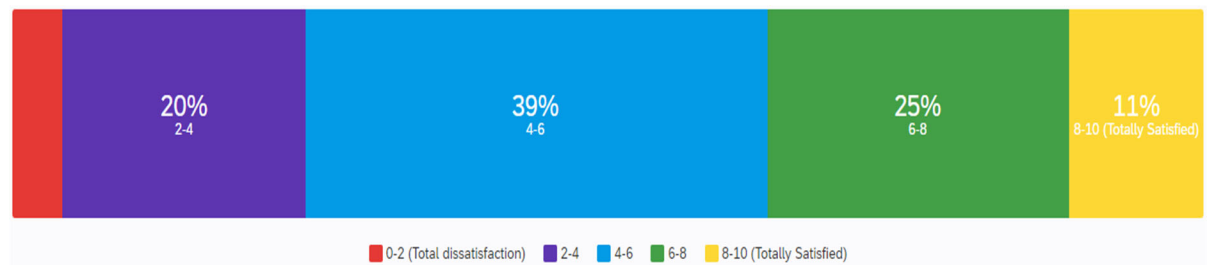
12) Has the volume of freight increased or decreased in the past 12 months?

Choices that were given: Volume of freight has decreased, volume of freight has stayed the same, volume of freight has mildly increased, volume of freight has increased, and do not know if the volume of freight has either increased or decreased. The highest response rate was volume of freight has mildly increased, with 64 respondents selecting this option, and the lowest was do not know if the volume of freight has either increased or decreased, with 3 responses. The second highest response was the volume of freight stayed the same option with 36 responses to that option. 26 respondents chose volume of freight greatly increased option, and only 13 respondents chose the volume of freight has decreased option.



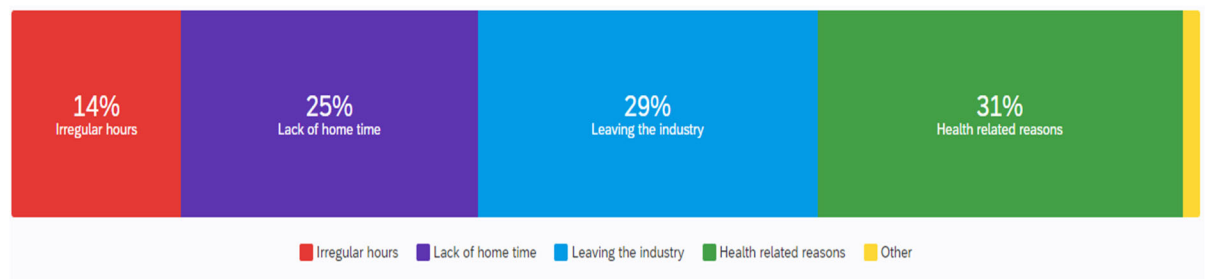
13) How would you rate on average your truck driver’s overall satisfaction?

Choices that were given: The choices that were given were given in a Likert scale of 0-2 drivers are totally dissatisfied, 2-4 slightly dissatisfied, 4-6 being the median choice meaning they are neither dissatisfied or satisfied, 6-8 very satisfied, and 8-10 totally satisfied. The highest response rate was 4-6 the median choice, with 55 respondents selecting this option. The least chosen option was 0-2 totally dissatisfied with 6 respondents,. The second highest chosen option was 6-8 very satisfied with a response rate of 36 people selecting this option. Other data collected was 2-4 slightly dissatisfied with 29 respondents, and 8-10 totally satisfied with 16 respondents selecting this option.



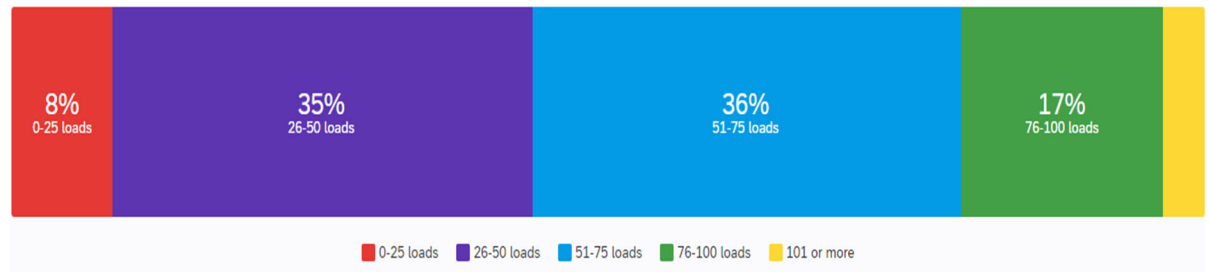
14) When you have a truck driver leave your company, what do drivers tend to indicate as their reason for leaving?

Choices that were given: Irregular work hours, the lack of home time, leaving the industry, health related reasons, and other reasons not listed in the questionnaire. The highest response was health related reasons, with 43 respondents selecting this option. The least chosen option was other reasons not listed with 6 respondents,. The second highest chosen option was leaving the industry with a response rate of 40 people selecting this option. Other data collected was lack of home time with 35 respondents, and irregular work hours with 20 respondents selecting this option.



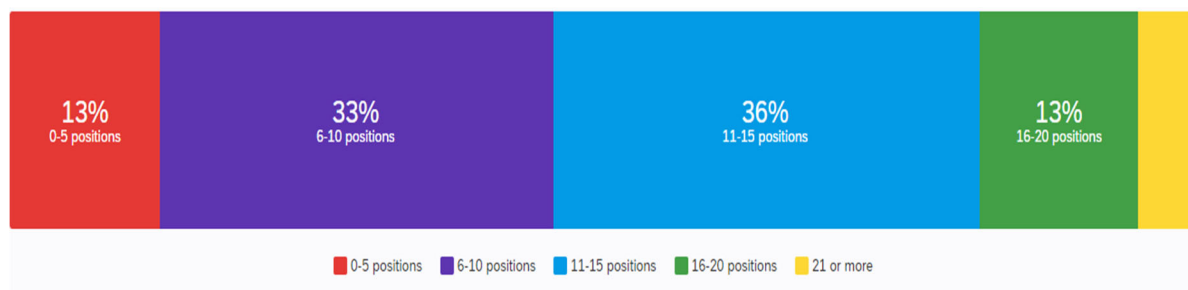
15) How many loads on average does your company dispatch daily?

Choices that were given: 0-25 loads daily on average, 26-50 loads daily on average, 51-75 loads daily on average, 76-100 loads daily on average, and 101 or more loads on average daily. The highest response rate was 51-75 loads daily on average, with 51 respondents selecting this option. The least chosen option was 101 or more loads daily on average, which is what we expected to see with LTL companies compared to OTR companies, with only 5 respondents. The second highest response rate was 26-50 loads daily on average with 50 respondents, only one less than the highest response. Other data collected was 76-100 loads daily on average, with 24 respondents selecting this option, and the least selected was 0-25 loads daily on average with 12 selecting this response in the survey.



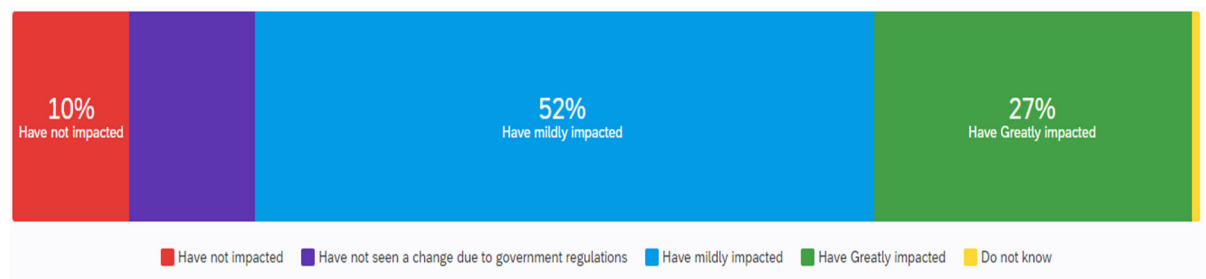
16) How many truck drivers' positions are currently available?

Choices that were given: 0-5 driver positions currently available, 6-10 driver positions currently available, 11-15 driver positions currently available, 16-20 driver positions currently available, and 21 or more driver positions currently available. The highest response rate was 11-15 driver positions currently available, with 51 respondents selecting this option, and the lowest was 21 or more driver positions currently available, with 7 responses. The second highest response was 6-10 driver positions currently available with 47 responses to that option. 19 respondents chose 16-20 driver positions currently available option, and 18 respondents chose the 0-5 driver positions currently available option.



17) Have government regulations impacted the shortage of truck drivers within your company?

Choices that were given: Government regulations have not impacted the shortage of truck drivers to the company. We have not seen a change in the shortage of drivers due to Government regulations. Government regulations have mildly impacted the driver shortage at our company. Government regulations have impacted the driver shortage at our company, and do not know if Government regulations have impacted the driver shortage situation at our company. The highest response rate was Government regulations have mildly impacted the driver shortage at our company, with 74 respondents selecting this option, and the lowest response rate was, do not know if Government regulations have impacted the driver shortage at our company, with only 1 response. The second highest response was Government regulations has impacted our driver shortage with 38 responses to that option. 15 respondents chose they have not seen a change in driver shortage in our company option, and 14 respondents chose that Government regulations have not impacted the driver shortage at their company option.



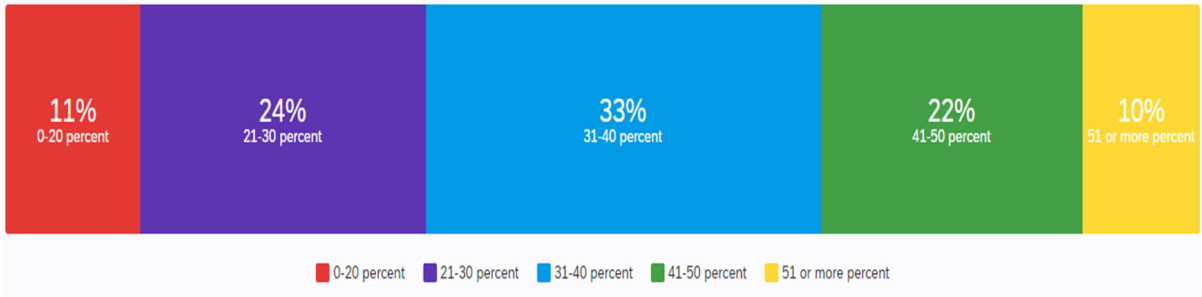
18) Which government regulation has been the most impactful to your truck drivers?

Choices that were given: Licensure and certification requirements have been the most impactful to your truck drivers. Hours and service limitations have been the most impactful to your truck drivers. Substance abuse laws and regulations have been the most impactful to your truck drivers. Medical requirements have been the most impactful to your truck drivers. Rounding out the question I included Other, as I did could not include every government regulation directed towards truck drivers and their managers in this survey. The highest response rate was substance abuse laws and regulations that are needed for public health and safety, with 48 respondents selecting this option, and the lowest response rate was, other reason Government regulations have impacted the driver shortage at our company, with 3 responses. The second highest response was hours of service Government regulations has been the most impactful to our driver shortage with 44 responses to that option. 29 respondents chose that medical requirement has been the most impactful to your truck drivers option, and 18 respondents chose that Licensure and certification requirements has been the most impactful to your truck drivers option.



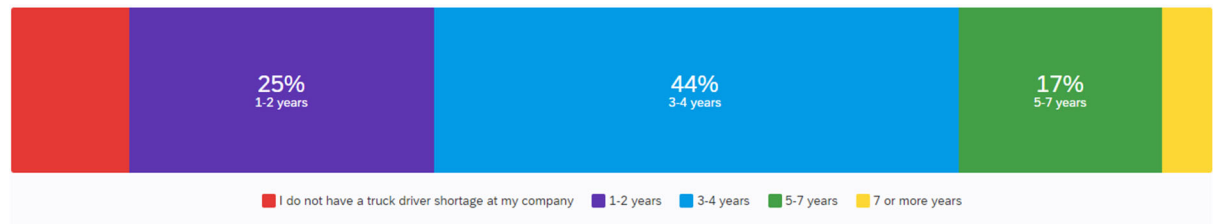
19) What percentage of your truck drivers return home every night?

Choices that were given: 0-20% of your truck drivers return home every night. 21-31% of your truck drivers return home every night. 31-40% of your truck drivers return home every night. 41-50% of your truck drivers return home every night. 51% or more return home every night. The highest response rate was 31-40% of your truck drivers return home every night, with 47 respondents selecting this option. The least chosen option was 51% or more, which was not what I expected to see with LTL companies compared to OTR companies, with 14 respondents.



20) If you believe there is a driver shortage, how long do you feel this will continue?

Choices that were given: The truck driver shortage will continue for 1-2 years. The truck driver shortage will continue for 3-4 years. The truck driver shortage will continue for 5-7 years. The truck driver shortage will last 7 years or more. The last option I do not have a truck driver shortage at my company. The highest response rate from LTL managers at a LTL trucking company was 3-4 years, with 62 respondents choosing this option. The lowest response rate was the truck driver shortage will last 7 or more years, with 6 respondents. The second highest response was 36 of the respondents believe there will be a truck driver shortage for the next 1-2 years. 24 of the respondents believe the driver shortage will continue for the next 5-7 years. While 14 respondents believe they do not have a truck driver shortage.



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IRB

INSTITUTIONAL REVIEW BOARD

Office of Research Compliance,
010A Sam Ingram Building,
2269 Middle Tennessee Blvd
Murfreesboro, TN 37129
FWA: 00005331/IRB Regn.. 0003571



IRBN007 – EXEMPTION DETERMINATION NOTICE

Tuesday, July 05, 2022

Protocol Title *Examining the LTL Specific Industry: A Quantitative Analysis of Driver Shortage*
Protocol ID *22-1163 2q*
Principal Investigator *Michael McGee (Student)* **Faculty Advisor:** Tom Morgan
Co-Investigators NONE
Investigator Email(s) *mdm2aw@mtmail.mtsu.edu; tom.morgan@mtsu.edu*
Department/Affiliation MGMT

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXEMPT** review mechanism under 45 CFR 46.101(b)(2) within the research category **(2) Educational Tests, surveys, interviews or observations of public behavior** (Qualtrics Survey). A summary of the IRB action and other particulars of this protocol are shown below.

IRB Action	EXEMPT from further IRB Review Exempt from further continuing review but other oversight requirements apply		
Date of Expiration	6/30/2023	Date of Approval: 7/5/22	Recent Amendment: NONE
Sample Size	ONE HUNDRED (100)		
Participant Pool	Healthy adults (18 or older) – Human Resource Managers/Directors		
Exceptions	Online consent followed by internet-based survey using Qualtrics is permitted (Qualtrics links on file).		
Type of Interaction	<input type="checkbox"/> Non-interventional or Data Analysis <input checked="" type="checkbox"/> Virtual/Remote/Online Interview/survey <input type="checkbox"/> In person or physical– Mandatory COVID-19 Management (refer next page)		
Mandatory Restrictions	1. All restrictions for exemption apply. 2. The participants must be 18 years or older. 3. Mandatory ACTIVE informed consent. 4. Identifiable information, such as, names, addresses, and voice/video data, must not be obtained. 5. NOT approved for in-person data collection.		
Approved IRB Templates	IRB Templates: Recruitment Email and Online Informed Consent Non-MTSU Templates: Recruitment Script(s)		
Research Inducement	NONE		
Comments	NONE		

Summary of the Post-approval Requirements: The PI and FA must read and abide by the post-approval conditions (Refer "Quick Links" in the bottom):

- **Final Report:** The Faculty Advisor (FA) is responsible for submitting a final report to close-out this protocol before **6/30/2023**; if more time is needed to complete the data collection, the FA must request an extension by email. **REMINDERS WILL NOT BE SENT. Failure to close-out (or request extension) may result in penalties** including cancellation of the data collected using this protocol or withholding student diploma.
- **Protocol Amendments:** IRB approval must be obtained for all types of amendments, such as:
 - Addition/removal of subject population and sample size.
 - Change in investigators.
 - Changes to the research sites – appropriate permission letter(s) from may be needed.
 - Alternation to funding.
 - Amendments must be clearly described in an addendum request form submitted by the FA.
 - The proposed change must be consistent with the approved protocol and they must comply with exemption requirements.
- **Reporting Adverse Events:** Research-related injuries to the participants and other events, such as, deviations & misconduct, must be reported within 48 hours of such events to compliance@mtsu.edu.
- **Research Participant Compensation:** Compensation for research participation must be awarded as proposed in Chapter 6 of the Exempt protocol. The documentation of the monetary compensation must Appendix J and MUST NOT include protocol details when reporting to the MTSU Business Office.
- **COVID-19:** Regardless whether this study poses a threat to the participants or not, refer to the COVID-19 Management section for important information for the FA.

COVID-19 Management:

The FA must enforce social distancing guidelines and other practices to avoid viral exposure to the participants and other workers when physical contact with the subjects is made during the study.

- The study must be stopped if a participant or an investigator should test positive for COVID-19 within 14 days of the research interaction. This must be reported to the IRB as an "adverse event."
- The FA must enforce the MTSU's "Return-to-work" questionnaire found in Pipeline must be filled and signed by the investigators on the day of the research interaction prior to physical contact.
- PPE must be worn if the participant would be within 6 feet from the each other or with an investigator.
- Physical surfaces that will come in contact with the participants must be sanitized between use
- **FA's Responsibility:** The FA is given the administrative authority to make emergency changes to protect the wellbeing of the participants and student researchers during the COVID-19 pandemic. However, the FA must notify the IRB after such changes have been made. The IRB will audit the changes at a later date and the PI will be instructed to carryout remedial measures if needed.

Post-approval Protocol Amendments:

The current MTSU IRB policies allow the investigators to implement minor and significant amendments that would not result in the cancellation of the protocol's eligibility for exemption. **Only THREE procedural amendments will be entertained per year (changes like addition/removal of research personnel are not restricted by this rule).**

Date	Amendment(s)	IRB Comments
NONE	NONE.	NONE

Post-approval IRB Actions:

The following actions are done subsequent to the approval of this protocol on request by the PI or on recommendation by the IRB or by both.

Date	IRB Action(s)	IRB Comments
NONE	NONE.	NONE

Mandatory Data Storage Requirement:

All research-related records (signed consent forms, investigator training and etc.) must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data must be stored for at least three (3) years after the study is closed. Additionally, IRBN007 – Exemption Notice (Stu)

the Tennessee State data retention requirement may apply (*refer "Quick Links" below for policy 129*). Subsequently, the data may be destroyed in a manner that maintains confidentiality and anonymity of the research subjects. **The IRB reserves the right to modify/update the approval criteria or change/cancel the terms listed in this notice.** Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board
Middle Tennessee State University

Quick Links:

- Post-approval Responsibilities: <http://www.mtsu.edu/irb/FAQ/PostApprovalResponsibilities.php>
- Exemption Procedures: <https://mtsu.edu/irb/ExemptPaperWork.php>
- MTSU Policy 129: Records retention & Disposal: <https://www.mtsu.edu/policies/general/129.php>