

A STUDY ON CHALLENGES FACED BY LORRY DRIVERS IN HIGHWAY

Submitted in partial fulfilment of the requirements for the award of

MASTER OF BUSINESS ADMINISTRATION

by

GOPI E

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**DEPARTMENT OF BUSINESS ADMINISTRATION
SCHOOL OF MANAGEMENT STUDIES**

SATHYABAMA

**INSTITUTE OF SCIENCE AND TECHNOLOGY
(DEEMED TO BE UNIVERSITY)**

**Accredited with Grade "A++" by NAAC | 12B Status by UGC | Approved by
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CATEGORY - 1 UNIVERSITY BY UGC

SCHOOL OF MANAGEMENT STUDIES

BONAFIDE CERTIFICATE

This is to certify that this Project Report is the Bonafide work of **GOPI E 42410228** who carried out the Project Training “**A STUDY ON CHALLENGES FACED BY LORRY DRIVERS IN HIGHWAY** ” under my supervision from October 2023 .

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DECLARATION

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ABSTRACT

Limited research has addressed the issue of truckdrivers and their performance regarding highway safety in terms of reduced number of crashes per driver. The primary purpose of this study was to determine how tractor trailer truck drivers' job performance could be improved while at the same time ensuring increased revenue for the transportation companies employing them. The target population for this study comprised of tractor-trailer truck drivers employed by a leading transportation company in the United States. The data used in the study included demographic, human capital, compensation and workplace variables. The results of this study should be useful to several individuals, organizations and the entire U. S. economy. The transportation companies should benefit by knowing the factors that predict good job performance for the drivers. This should assist management in designing work conditions or other activities that promote good performance in terms of reduced crashes and improved productivity of the drivers.

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CHAPTER-1

INTRODUCTION

The lorry transportation system is an important to the Indian logistics movement and country's growth. The transport sector is two main modes of the transport, i.e., Road and Railway. Lorry transportation is one of the logistic fields it's called Roadway system. India mostly depends upon the roadway and railway transportation. In the entire story of drivers, they are the key characters and business success depend on their competence. Lorry's carry the perishable and non-perishable goods. Once drivers start the journey, they are the fully responsible for timely delivery of goods to the destination. Lorry drivers in India faces lot of challenges including healthcare, weather condition, etc., they also suffer from salary deductions due to the various reasons. Indian lorry drivers live a difficult life, lack of facilities and unorganized structure of our work. Indian lorry drivers face a high risk of road accidents and health problems. They do not worry about their job is doing to their health. After Agriculture the Sector which has generated maximum employment in India is the Transport Sector. Truck drivers play major role in our transportation system. The truck drivers drive miles and miles in all the weathers to ensure that the goods consigned reach us in specified time. But these drivers live a very miserable life.

In many cases, vehicles are over used hardly maintained in their prime condition. The bad condition of the Indian roadways only accelerates the depreciation of the vehicles involved. Mainly the drivers drive lorry in night times. Other problems drivers faced by the police. Because the police suspicion on the lorry driver they search the vehicle reason to take money from them.

Mostly drivers are faced by the money problem because they are not working on the monthly salary basis. They are paid money from per trip ride salary. Importantly they don't have the fixed time for their food, sleep, rest. In this reason there are facing the health issue. The lorry drivers spend long days on highway and they remain away from home and family for a long duration. At this time, they take risk to run the trucks with the mechanical faults.

To get caught red handed these overloaded trucks vehicles depend on operating a chain on highways. Whenever the drivers are eat the food on highway side Dhaba (or) park a lorry from safety side and they cook from own preparation. Because they don't have much money. Their mostly spend the money from lorry maintains on a every single trip. High value goods transported in a daily basis. Not every part of the state highway roads on safe routes most of the routes could be due to the local crime syndicates that target lorry vehicles during transit and rob them of the valuable goods. during the inner-state transport the authorities need a lorry drivers license and goods material paperwork. Different states have a different law regarding transport based. The Varsity of weather conditions it's a worst problem while between driver in a night time. India transporting 90% of goods from roadway control. Lorry drivers often under going to harsh working condition and unscheduled working hours that contribute the road crashes. In that case any lorry fall under heavy vehicle categories.

The success of our Make in India initiative rests on our truckers' ability to deliver on their promises – both implicit as well as explicit. But, what about the promises we made to our truckers Implicit as well as explicit! How many research articles have been published on trucker's work-life balance many truck drivers and cleaners are medically covered many truck drivers work no more than 9 hours per day many truck-drivers enjoy work-life balance Close to 92% of the trucks plying in our country are controlled by unorganized players. How many policy guidelines have been pushed to bring them into the organized fold, so that they get better wages and service conditions The market is rife with players who undercut one another to operate trucks. many of us have got down together to address truck-

availability issues at a national level The COVID epidemic has exposed the evils of spot-markets and the damage they cause to businesses. many of us have found time to discuss and debate this issue

Regard to road safety, overlord trucks, lorry or those with unsecured loads are a hazard to other vehicles and road users. The motor vehicle act describes heavy goods vehicles as “any goods carriage the gross vehicle weight of tractor (or) road-roller the unladen weight of either exceeds 12,000 kilograms.” As per the ministry of transport and highway data, the lorry/truck has the lowest share (6.7) of total crashes. It caused 12,000 crashes, 9,000 deaths and high rate of injuries in 2023 middle. Our nation has 70 lakhs (or) more than lorry’s carry the freight worth goods over USD 100 billion annually. The highway department reveals that most of accident and crashes take a place on national highway (27.5) compared to state highway (3.5).

Shoulders are also an integral part of highway design. They are multipurpose; they can provide a margin of side clearance, a refuge for incapacitated vehicles, an emergency lane, and parking space. They also serve a design purpose, and that is to prevent water from percolating into the soil near the main pavement's edge. Shoulder pavement is designed to a lower standard than the pavement in the travelled way and won't hold up as well to traffic, so driving on the shoulder is generally prohibited.

Pavement technology is still evolving, albeit in not easily noticed increments. For instance, chemical additives in the pavement mix make the pavement more weather resistant, grooving and other surface treatments improve resistance to skidding and hydroplaning, and joint seals which were once tar are now made of low maintenance neoprene.

1.2 HISTORY OF ROAD TRANSPORTATION

The first method of road transport were horses and oxen, even humans also carrying the goods. The Persians later built a network of royal road across their empire.

With the advent of ancient times there was a need for armies to be able to travel quickly from one region to another and the roads that existed were greatly delayed the movement of large masses of troops. to resolve this issue, the romans built solid and lasting roads. The roman roads used deep roadbeds of crushed stone as an underlying layer to ensure that kept dry as the water would flow out from the crushed stone, becoming mud in clay soils.

From the 17th century road transport thought out the Ashanti empire was maintained a network of well-kept roads that connected as Ashanti mainland with the Niger river and other trade cities. As states developed and became richer, especially with the Renaissance, new roads and bridges began to be built, often based on Roman designs.

Starting the early 18 century, the British Parliament began to pass a series of acts that gave the local justices powers to erect-toll-gates on the roads in exchange for professional upkeep. The toll-gate erected at Wade's Mill became the first effective toll-gate in England. The first scheme that had trustees who were not justices was established through a Turnpike Act in 1707. This became the pattern for the turnpiking of a growing number of highways, sought by those who wished to improve flow of commerce through their part of a country.

Road construction improved slowly, initially through the efforts of individual surveyors such as John Metcalf in Yorkshire in the 1770s. British turnpike builders began to realize the importance of selection clean stones for surfacing while excluding vegetables materials and clay resulting in more durable Roads.

1.3 THE MODERN AGE OF ROAD TRANSPORTATION

The 20th century witnessed a rapid evolution of road transport. The automobile became a symbol of freedom and convenience for individuals, leading to the construction of vast networks of roads and highways. Modern pavements are designed for heavier vehicle loads and faster speeds, requiring thicker slabs and deeper subbed. Mass production techniques, as pioneered by Henry Ford, made automobiles affordable to the general public. Innovations in materials, design, and safety standards made cars more efficient and safer.

Road transport became an integral part of daily life, enabling the movement of people, goods, and services on a global scale. Shoulders are also an integral part of design. Shoulder pavement design to a lower standard than the pavement in the travelled way and won't hold up as well to traffic s driving on the shoulders is generally prohibited. Today, road transport continues to evolve with the integration of electric and autonomous vehicles, promising a future that is cleaner, safer, and more efficient. While road transport has come a long way from its humble beginnings, it remains a cornerstone of modern society and the global economy. The advent of the steam engine led to the creation of steam-powered road vehicles, such as the steam carriage, paving the way for the emergence of the modern automobile. by inventors like Karl Benz and Gottlieb Daimler, led to the birth of the automobile as we know it today.

1.4 ADVANTAGES OF ROAD TRANSPORTATION

1. Less capital Expenses:

The capital required for road transport it is very less than the other means of transport like air, water (or) rail. Even the charge for constructing, maintaining and operating road is very less than that of railways and air ways.

2. Door to Door step:

The benefit of road transport is that gives door to door service for all the freight deliveries. Road transport is the only extensive system that gives transportation to the final destination.

3. Lesser risk and damage in transit:

Transporting delicate goods that have more possibility of being damaged during numerous stages of loading and unloading.

4. Service in Remote Areas:

Road transport is best applicable for transporting goods to and from remote areas that are not connected by other means like rail, air or water transports. The trade-off for goods between cities and small villages happens majorly via road transport.

5. Flexibility:

Road transport possesses has a huge benefit from other modes of transport, that is the flexibility which it provides. The routes and timings can be altered easily and quickly according to individual needs without much problem.

6. Suitable for Short Distance:

Road transport provides a faster and less costly means of transporting goods over short distances. Other modes of transport like water, air or rail may incur delays in transit of goods with loading and reloading required in multiple locations. In road transport than it can be loaded directly into a single vehicle and later transported directly to the final destination.

7. Packing charges saved:

The procedure of packing the goods in road transport is very minimal while compared to other means of transport, where they would need to ensure safety for multiple loading and unloading process.

8. Rapid Speed:

If you need to transport goods with short notice, then road transport is much preferred than rail or water transport. With the other transports, it requires extra time to book the goods and taking their delivery.

9. Less total cost:

With road transport, you will not only need only less investment to start with but the capital for operating and maintenance is relatively less. When you consider all the costs of multiple loading and unloading, packaging, etc. the overall cost of road transport will be less.

10. Initiating own road service:

Another benefit of road transport is that if you have frequent delivery of your products or any other business-related items, then you can start your road services by your private vehicles, according to your capital investments.

This will help to deliver the products without any delay regularly. Road transports also have provisions to use any type of vehicle like private cars, public buses, sharing vehicles, two-wheelers, etc. This will meet the needs of different kinds of services.

11. Connecting other Modes of Transport:

Even if air or rail transports may be used for long-distance transports, the end destinations in both the starting and end phase require the use of road transport. It acts as a connecting link to other modes of transport.

1.4 DISADVANTGES OF ROAD TRANSPORTATION

1. Security and Theft:

High value cargo is transported across the nation on a daily basis. Not every part of the country is safe and there is a certain route which are deemed more dangerous than the others.

2. Accident Rate:

Road transport has the highest accident rate, but the sector is reducing it by investing heavily in safety, renewing fleets and training drivers.

3. Trucks have limited house for passengers:

Another disadvantage of a truck is the number of passengers that it can accommodate. Though, bigger trucks could allow as much as 5 passengers, the legroom and the shoulder room should not able to provide comfort for the car occupants.

4. The poor state of vehicles:

The Indian logistics industry focuses primarily on the returns and not so much on the quality of the method. The goal is to transport the most amount of cargo in the most cost-effective way.

5. Exceeds the limit Prescribed:

Now, there is another most serious disadvantage of the truck transportation service, which is what when goods are transported to another state the wheels of the truck have to be in a certain size which sometimes exceeds the limit prescribed and that will be bad for the goods contained in it.

6. Packing charges saved:

The procedure of packing the goods in road transport is very minimal while compared to other means of transport, where they would need to ensure safety for multiple loading and unloading process.

7. On-Ground Problems with Authority

During inter-state transit, the truck drivers are expected to be well acquainted with all required documentation and paperwork. The state checkpoints are usually where the authorities stop all cargo vehicles and do thorough checks. In such cases, it is not uncommon for the authorities to harass the drivers. Different states have different laws regarding cargo transits. Authorities often use this to their advantage since the drivers are left to their own devices by their employers to deal with such scenarios. Corruption being very prevalent in our country does not help the cargo drivers who are already struggling to make ends meet.

1.5 OBJECTIVES OF THE STUDY

- To the barrier's faced lorry drivers while distribution of goods.
- To know about the other states official behaviour towards them.
- To know what are the health issues they are facing.
- To know the satisfaction and dissatisfaction level of drivers.
- To understand the procedure of while crossing the state entry& exit borders.

1.6 LIMITATIONS OF THE STUDY

- No study is complete, however good it may be, and every study has some limitations.
- Some of the limitations which I may face in this study are as follows:
- The study will be restricted to the lorry drivers in Chennai

- Since the simple random sampling technique will be adopted in the study, hence, it may not be the representative of the universe.
- The respondents (some) may provide biased information/views due to their personal issues in transportation industry.

1.7 NEED OF THE STUDY

The need for this study is to identify the problems in lorry transportation. This study on lorry drivers will get to know the benefits of AITWA all over India. Road transportation is a main pillar for distribution of goods to customer it is necessary to resolve the problems behind it, to have an effective transportation. By this study we can understand the relationship between the drivers and the traffic police & highway police, many thieves have been happened mostly in other states where police are not bothering about other state drivers.

1.7 SCOPE FOR THE STUDY

- ❖ This study will help to bring an awareness on AITWA's welfare which is allotted to lorry driver's
- ❖ It is an opportunity for lorry drivers to overcome their pain and problems faced while driving.
- ❖ The result of the study helps lorry drivers to know about the healthcare benefits provided by the association (AITWA).
- ❖ By this study we can know about the government official's behaviour on field.
- ❖ Expecting changes in Companies priority towards lorry drivers.

CHAPTER 2

REVIEW OF LITERATURE

2.1 REVIEW OF LITEATURE

- **(Goel 2014)**

(Goel 2014) treated the truck scheduling problem to assess the impact of the Hours- of-service regulations changes on operational costs and road safety. A new simulation – based method was proposed to solve this problem. The results indicate that additional costs and monetized road safety benefits are on the same order of magnitude for all regulatory options and, for some sets of instances, the monetized road safety benefits are above the additional operational cost

- **(Wen et al. 2011)**

(Wen et al. 2011) examined the vehicle routing and driver scheduling problem within Danish Crown at Danmark, putting emphasis on the necessity to reduce the total delivery costs. The results of the Multilevel Variable Neighbourhood Search meta- heuristic suggested to solve this problem showed that this program is general and can be applied to solve other routing problems.

- **(L. Kok et al. 2010)**

L. Kok et al. 2010) studied the vehicle routing problem whose prime target is to determine a set of routes and their scheduling to satisfy all demands and associated time windows with minimum total costs for the planning horizon. To solve this problem, a Vehicle Departure time Optimization (VDO) with Dynamic

Programming was proposed. The results showed an important minimization of the duty duration.

- **Lal & Craig, (2001)**

Lal & Craig, (2001) in a review discusses the concepts of fatigue and provide a summary on psychophysiological associations with driver fatigue. The review also identified anxiety and mood states as factors that may Furthermore, personality and temperament may also influence fatigue bly affect driver fatigue.

- **Long driving hours is a risk factor for tracto-trailer crashes (Hertz,1991)**

In USA federal regulation limits interstate truck drivers to 10 hours of driving after an 8-hour off-duty period. The need for enforcing these limits is supported by research showing that long driving hours is a risk factor for tracto-trailer crashes (Hertz,1991).

- **On a more general level, job satisfaction was linked to turnover in a study by Kalmbach and Lantz (1997),**

On a more general level, job satisfaction was linked to turnover in a study by Kalmbach and Lantz (1997), such that new truck drivers who had remained with the company for four months and reported greater job satisfaction were also more committed to the organization and less likely to have contemplated quitting. For most occupations, four months' tenure may be considered a premature point at which to assess job satisfaction; however, in an industry that suffers from annual turnover at the rate that trucking does, this was probably not an unreasonable timeline.

- **Ketabi et al., 2011**

Ketabi et al., 2011. Existing research has identified factors contributing to traffic accidents using quantitative approaches; qualitative research studies are needed to enhance understanding of this complex social phenomenon.

- **ozkan, Lajunen, Chliaoutakis, Parker, & Summala, 2006.**

ozkan, Lajunen, Chliaoutakis, Parker, & Summala, 2006. Therefore, to bridge the present research gap and better understand the study phenomenon, this study used an inductive qualitative approach to explicate Iranian truck drivers' understanding and experiences regarding the factors influencing traffic accidents.

- **Wen et al. 2011) examined the vehicle routing and driver scheduling problem within Danish Crown at Denmark**

Wen et al. 2011) examined the vehicle routing and driver scheduling problem within Danish Crown at Denmark, putting emphasis on the necessity to reduce the total delivery costs. The results of the Multilevel Variable Neighborhood Search meta-heuristic suggested to solve this problem showed that this program is general and can be applied to solve other routing problems.

- **(Knust & Schumacher 2011) treated the Tank Truck Drivers Scheduling in a small oil company.**

(Knust & Schumacher 2011) treated the Tank Truck Drivers Scheduling in a small oil company. The objective of this problem is to assign a driver to each position while meeting legal restrictions and safety, total working time intervals desired drivers, etc. To solve this problem they proposed a mixed integer linear programming formulation and an improvement procedure. The results showed that the algorithm can generate feasible schedules in a small time.

- **Steven R. Clinton, Roger J. Calantone (1987), "Impact of Transport facility to Provide logistics Industry"**

Steven R. Clinton, Roger J. Calantone (1987), “Impact of Transport facility to Provide logistics Industry”. This Study emerged as a subject of considerable interest – particularly in terms of strategic advantage and that, as a result, logistics strategy has received increased emphasis. One popular conceptualization of logistics strategy is the werox at al.

- **J. Roy (2001), “Transportation and Logistics”.**

J. Roy (2001), “Transportation and Logistics”. For the last ten years or so, the freight transportation industry has been facing new challenges such as time-sensitive industrial and commercial practices as well as the globalization of markets. In response to these changes, new information-related technologies have developed readily.

- **(Knust & Schumacher 2011) treated the Tank Truck Drivers Scheduling in a small oil company**

(Knust & Schumacher 2011) treated the Tank Truck Drivers Scheduling in a small oil company. The objective of this problem is to assign a driver to each position while meeting legal restrictions and safety, total working time intervals desired drivers, etc. To solve this problem they proposed a mixed integer linear programming formulation and an improvement procedure. The results showed that the algorithm can generate feasible schedules in a small time.

- **Organ (2004), “Transport is a key element within the supply chain**

Organ (2004), “Transport is a key element within the supply chain, providing time and place utility for products to deliver customer satisfaction”. These goals must be achieved in a cost-effective manner. Balancing these requirements requires the implementation of an effective performance measurement system.

- **(Archetti & Savelsbergh 2009) behaved towards the personnel driver**

(Archetti & Savelsbergh 2009) behaved towards the personnel driver scheduling problem in the road transportation sector. In this work, the authors

aim to study and discuss the impact of the Hours Of Service (HOS) Regulations on the Trip Scheduling Problem.

- **(Kwan et al. 2001) treated the Evolutionary Driver Scheduling Problem with Relief Chains**

(Kwan et al. 2001) treated the Evolutionary Driver Scheduling Problem with Relief Chains in which they aim to employ the relief chain trait to help the next generation to construct efficient schedules. As an answer to this problem a hybrid genetic algorithm is proposed. The results showed that the proposed method is better than those compiled by experienced schedulers and are comparable to solutions found by integer linear programming (ILP).

- **(Prescott-Gagnon et al. 2010)**

(Prescott-Gagnon et al. 2010) treated the European Driver Rules in vehicle routing problem to create a routing that complied with the European Regulations.

- **(Oughalime et al. 2009)**

(Oughalime et al. 2009) considered the vehicle and driver scheduling problem at the University Kebangsaan Malaysia Transportation Department, intending to minimize the total number of shifts and total shifts costs. The authors offered a goal programming model that presents the first proposed model for such type of problems

- **(Goel & Rousseau 2012)**

(Goel & Rousseau 2012) treated the Canadian Truck Driver Scheduling Problem in which they determined the possibility of locations' sequence is visited in a given time interval so that Canadian regulations on working hours of commercial drivers are respected. To solve this problem, the authors evaluated the performance of an exact scheduling algorithm that compared with two heuristic approaches which significantly require less computing time

- **(Ren et al. 2010)**

(Ren et al. 2010) treated a new variant of the vehicle routing problem with time windows, multi-shift and overtime. The objective of this work is to determine a set of routes and their scheduling to satisfy all demands and associated time windows with minimum total costs for the planning horizon and to solve this problem the authors proposed two heuristics: Shift Dependent (SD) and Shift Independent (ID)
- **(Goel 2012c)**

(Goel 2012c) treated the Truck Drivers Scheduling where drivers can rest in customer premises or in adequate rest areas. The objective of this work is to find an assignment hewed to the laws of hours' services in which all the posts begin within a corresponding time slot and have a minimum duration.
- **(Mesquita & Paias 2008)**

(Mesquita & Paias 2008) looked into the integrated vehicle and crew scheduling problem as they try to minimize the linear combination of vehicle and crew costs. To solve this problem, the authors proposed an Integer Linear Programming and a Branch and Bound Technique. The computational results showed the effectiveness of the proposed approach.
- **(Prescott-Gagnon et al. 2010)**

(Prescott-Gagnon et al. 2010) treated the European Driver Rules in vehicle routing problem to create a routing that complied with the Indian Regulations. To solve this problem a Large Neighborhood Search meta-heuristic was proposed and the computation results disclosed the efficiency of this method compared to the branch and price heuristic and the Tabu Search Column Generator.
- **(Erera et al. 2008)**

(Erera et al. 2008) treated the dynamic driver scheduling for the transportation sector of Less-than-TruckLoad. The objective of this work is to

determine the best load dispatch times and driver to load schedules for some fixed duration planning period.

- **(Zäpfel & Bögl 2008)**

(Zäpfel & Bögl 2008) treated the driver within a combined tour and personnel planning problem with outsourcing options. The main objective of this work is to minimize the total costs for all tours. To solve this problem, a hybrid metaheuristic of Genetic Algorithm and Tabu Search was proposed and computational results showed that the metaheuristic is very competitive for solving such real problems.

- **(Booth et al., 2008)**

The researcher therefore acquired information from the interpretations of the truck drivers regarding the EAPs. Lastly, interpretive researchers 11 believe that the reality is people's personal encounters with the outside world (Booth et al., 2008)

- **(Apostolopoulos et al., 2013; Passey et al., 2014).**

Such barriers include long and irregular working hours, pressurised delivery schedules, lack of healthy food at truck stops, and the compulsorily sedentary nature of driving (Apostolopoulos et al., 2013; Passey et al., 2014).

- **Ozkan, Lajune, Chicoutimi's, Parker, & Sumala, 2006.**

Ozkan, Lajune, Chicoutimi's, Parker, & Sumala, 2006. Therefore, to bridge the present research gap and better understand the study phenomenon, this study used an inductive qualitative approach to explicate Iranian truck drivers' understanding and experiences regarding the factors influencing traffic accidents.

- **(Islam and Ozkul, 2019)**

Especially truck drivers, who often drive for long periods and irregular shifts, are at relatively high risk of being involved in accidents during their workday

(Islam and Ozkul, 2019). As reported by the National Transportation Confederation (CNT, 2019b), considering all accidents recorded on Brazilian federal highways from 2007 to 2018, 570,029 accidents involving at least one truck were recorded.

- **(Cardoso et al., 2019)**

Fatigue is linked to decreased physiological arousal, slow sensorimotor functions, and impairs information processing, making it difficult for drivers to respond to unexpected or emergency situations. This can lead to an increase in the frequency, severity, or variability of mistakes made by drivers while operating a vehicle (Cardoso et al., 2019).

CHAPTER 3

RESEARCH METHODOLOGY

3.1 RESEARCH METHODOLOGY

Research methodology is mainly needed for the purpose of framing the research process and the designs and tools that are to be used for the project purpose. Research methodology helps to find Lorry drivers facing challenges in while driving highway road side. This time research methodology is framed for the purpose of finding the currently lorry driver problems in highway road side. To know the level of lorry drivers satisfaction level.

3.2 RESEARCH DESIGN

The Research design used in this is descriptive research design. Descriptive research design is a scientific method which involves observing and describing the behaviour of a subject without influencing it in any way. The main characteristic of this method is that the researcher has no control of variables; he can report only what has happened or what is happening.

3.3 SOURCE OF DATA

This data is collected from the lorry drivers, websites.

PRIMARY DATA: It is a source of collecting data by first-hand information through observation, direct communication or personal interviews of respondent's customers. In this, questionnaire is used for conducting personal interviews and for collecting the data.

SECONDARY DATA: Secondary data means data that are already available i.e., they refer to data which has already been collected and analysed by someone else. The secondary data for the study was collected from book, company websites, magazines and other sources.

3.4 SAMPLE SIZE

The research was conducted on the basis of lorry drivers and the population of research is 85.

3.5 SAMPLING TECHNIQUE

In this study, Simple Random Sampling was used for selecting the samples from the population of lorry drivers.

3.6 PERIOD OF STUDY

The period of study is one month from October 2023

3.7 AREA OF STUDY

Those who drive the lorry in all over India and District and state level drivers.

3.8 STRUCTURE OF QUESTIONNAIRE

The questionnaire consists of totally 25 questions. The questionnaire is formed using five important variables. It includes three demographic questions. It includes multiple choice questions, Likert scaling questions.

3.9. ANALYSTICAL TOOLS

- Chi-square
- Anova

1. CHI-SQUARE

Chi-square is a statistical test that measures how well a model fits the observed data. It can be used to test whether two categorical variables are related or independent, and how well a sample matches a theoretical distribution.

2. ANOVA

Its statistical technique called ANOVA (Analysis of Variance) compares the means of several groups to determine whether observed differences are statistically significant. It helps distinguish between variations caused by

real differences and chance by dividing total variance into within-group and inter-group components.

One way anova

One-way ANOVA is used to compare the means of three or more groups in order to assess the statistical significance of observed differences.

HYPOTHESIS - 1

H0: There is no significant difference between Age and experience as a lorry driver.

H1: There is significant difference between Age and experience as a lorry driver.

HYPOTHESIS - 2

H0: There is no significant difference between Hours of drive lorry in a day and type of geographical vehicle permit as a lorry driver.

H1: There is significant difference between Hours of drive lorry in a day and type of geographical vehicle permit as a lorry driver.

TOOLS OF ANALYSIS

Analyzing a component's proportionate relationship to the total in terms of percentages is the goal of percentage analysis. In order to evaluate changes, trends, and distributions, it is extensively utilized in statistics, business, and finance. Values expressed as percentages make comparison easier and shed light on the relative importance of various dataset pieces.

CHAPTER-4

DATA ANALYSIS AND INTERPRETATION

4.1 PERCENTAGE ANALYSIS

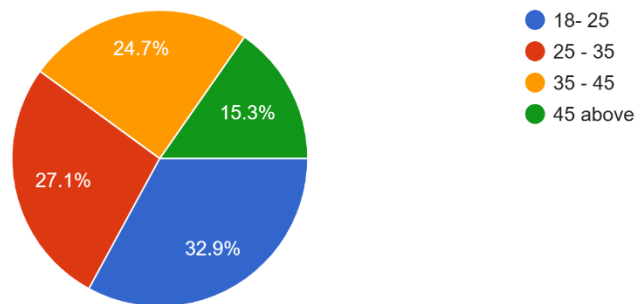
TABLE 4.1.1 Age of the respondents.

Particulars	No. of. Respondent	Percentage of Respondent
18-25	28	32.9%
25-35	23	27.1%
35-45	21	24.7%
45above	13	15.3%
total	85	100%

Source: primary data

1.Age (years)

85 responses



INTERPERTATION

From the above table it is observed, 32.9%of the respondents are 18-25years, 27.1%of them are 25-35years,24.7%of them are 35-45 years,15.3% of them are 45 above.

INTERFACE

Majority of the responds age between the age group 18-25 of 32.9%.

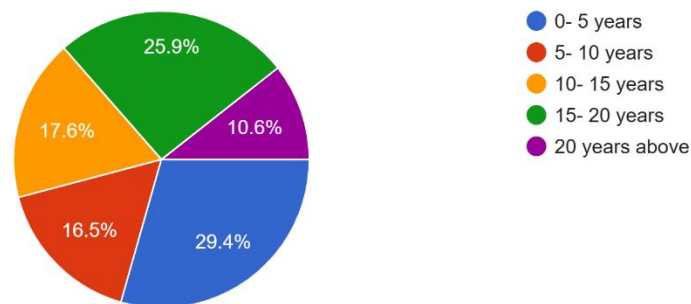
TABLE 4.1.2 Experience as a driver.

Particulars	No. of. Respondent	Percentage of Respondent
0-5 years	25	29.4%
5-10 years	14	16.5%
10-15 years	15	17.6%
15-20 years	22	25.9%
More then 20years	9	10.6%
Total	85	100%

Source: primary data

2.Experience as a driver

85 responses



INTERPRETATION

From the above table shows that the response,29.4%of them has 0-5years of experience,16.5% of them has 5-10 years,17.6% of them has 10-15years,25.9% of them has 15- 20years,10.6% of them has more than 20 years of experience.

INTERFACE

Majority 29.4% of the respondents are experience as a driver.

TABLE 4.1.3 hours of driving in a lorry

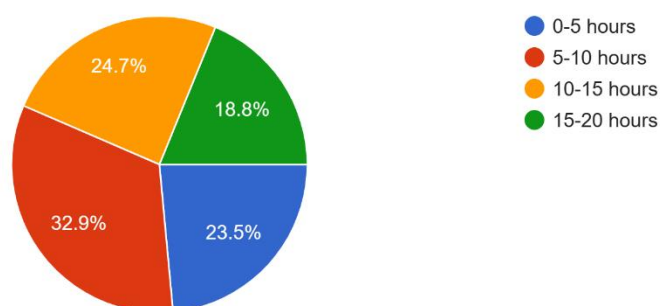
Particulars	No. of. Respondent	Percentage of Respondent
0-5	20	23.5%

5-10	28	32.9%
10-15	21	24.7%
15-20	16	18.8%
total	85	100%

Source: primary data

3. How many hours will you drive in a day

85 responses



INTERPRITATION

From the above table shows that the response,23.5%of them has 0-5 hours of driving,32.9% of them has 5-10 hours,24.7% of them has 10-15hours,18.8% of them has 15- 20hours.

INTRFACE

Majority of the respondents' hours of drive in a lorry 5-10 hours from 32.9%.

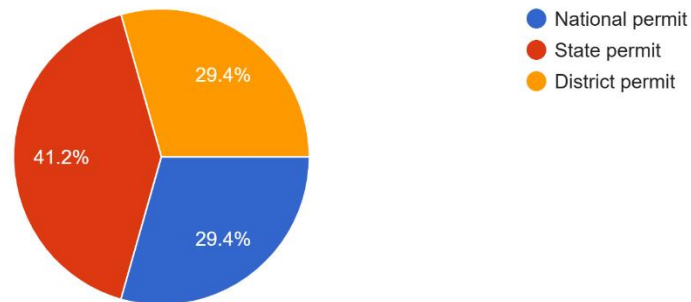
TABLE 4.1.4 What type of geographical vehicle permit you have as a lorry driver.

Particulars	No. of. Respondent	Percentage of Respondent
National permit	25	29.4%
State permit	32	41.2%
District permit	25	29.4%
Total	85	100%

Source: Primary data

4. What type of geographical vehicle permit you have as a lorry driver?

85 responses



INTERPRITATION

From the above table shows that the response of 29.4% of them National permit, 41.2% of them State permit, 29.4% of them District permit vehicle.

INTRFACE

Majority of the responses from the 41.2% of State permit.

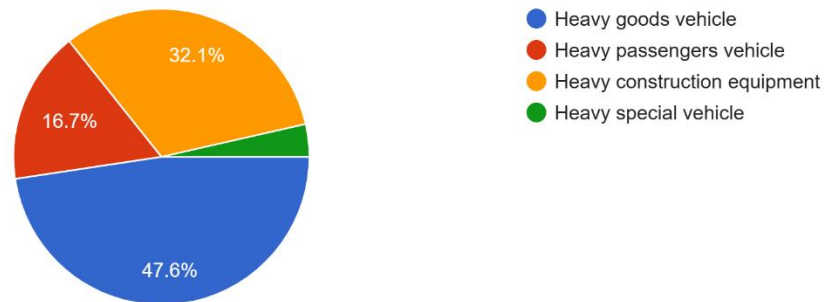
TABLE 4.1.5 What type of vehicle license do you have

Particulars	No. of. Respondent	Percentage of Respondent
Heavy goods vehicle	40	47.6%
Heavy passengers' vehicle	14	16.7%
Heavy construction vehicle	27	32.1%
Heavy special vehicle	4	3.6%
Total	85	100%

Source: Primary data

5. What type of vehicle license do you have?

84 responses



INTRPRTIATION

From the above table shows from 47.6% of them heavy goods vehicle, 16.7% of them heavy passengers' vehicle, 32.1% of them heavy constructions vehicle, 3.6% of them heavy special vehicle.

INTERFACE

Majority of the respondents from 47.6% are the heavy goods vehicle.

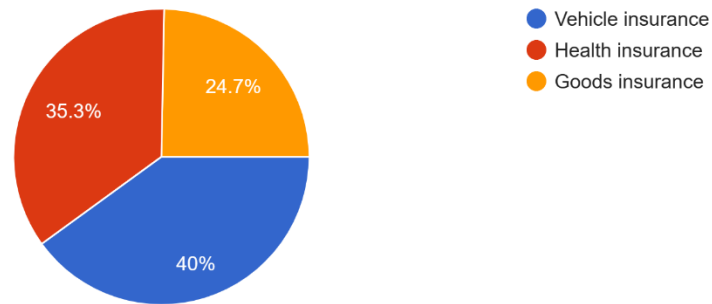
TABLE 4.1.6 Which of the following insurance you cover why taking goods from one state to other state

Particulars	No. of. Respondent	Percentage of Respondent
Vehicle insurance	34	40%
Health insurance	30	35.3%
Goods insurance	21	24.7%
Total	85	100%

Source: Primary data

6. Which of the following insurance you cover why taking goods from one state to other state?

85 responses



INTERPRITATION

From the above table shows from the 40% of them vehicle insurance, 35.3% of them health insurance, 24.7% of them goods insurance.

INTERFACE

Majority of the respondents from 40% of vehicle insurance.

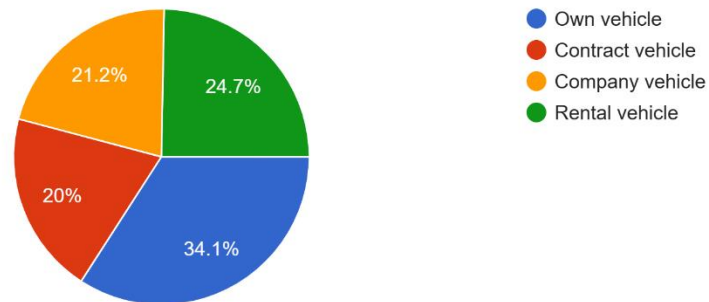
TABLE 4.1.7 Vehicle ownership

Particulars	No. of. Respondent	Percentage of Respondent
Own vehicle	29	34.1 %
Contract vehicle	17	20%
Company vehicle	18	21.2%
Rental vehicle	21	24.7%
Total	85	100%

Source: Primary data

7. Vehicle ownership

85 responses



INTERPRITATION

From the above table shows 34.1% of them Own vehicle, 20% of them contract vehicle, 21.2% of them company vehicle, 24.7% of them rental vehicle.

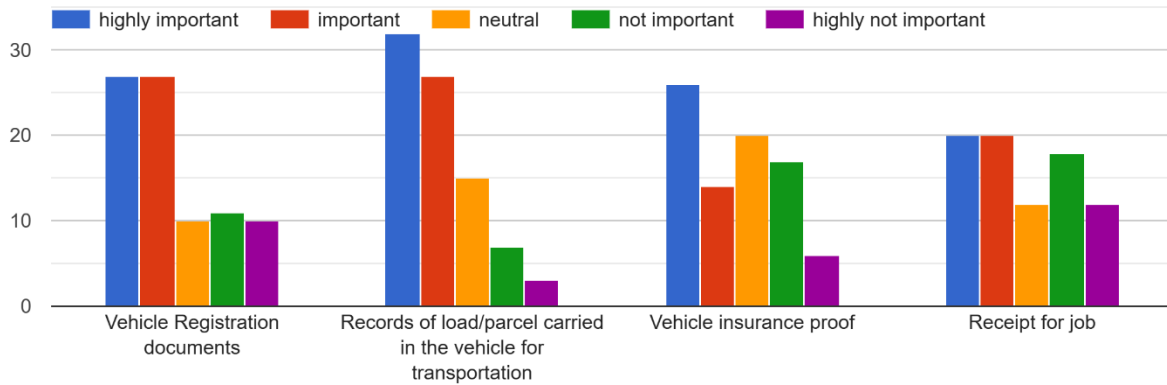
INTERFACE

Majority of the respondents from 34.1% of them Own vehicle.

TABLE 4.1.8 According to you how far the following documents are important to lorry drivers during transportation

Particulars	No. of. Respondent	Percentage of Respondent
Vehicle registration documents	27	34.1 %
Records of loads/parcel carried in the vehicle for transportation	27	20%
vehicle insurance proof	20	21.2%
receipt for job	11	25%
Total	85	100%

8. According to you how far the following documents are important to lorry drivers during transportation?



INTERPRITATION

Form the above chart shows 34.1% of them Vehicle registration documents in Highly important and important, 20% of them Records of loads/parcel carried in the vehicle for transportation, 21.2% of them highly important to the vehicle insurance proof, 25% of them receipt for job in the highly important and important.

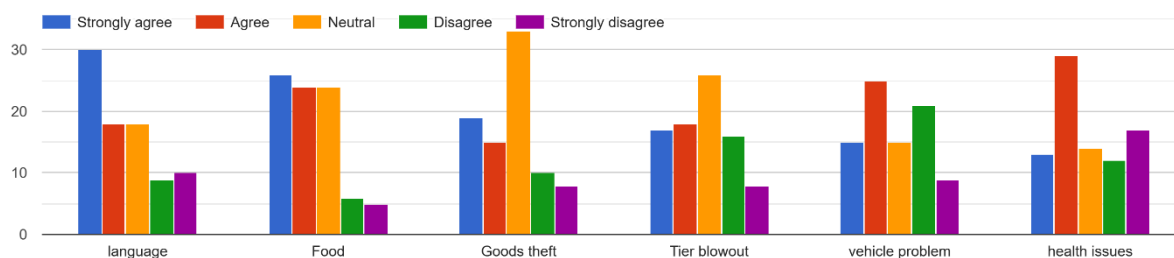
INTERFACE

Majority of the responses from 32% of them Vehicle registration documents.

TABLE 4.1.9 How far will you agree that you face the following challenges while driving through different state borders to transit good

Particulars	No. of. Respondent	Percentage of Respondent
Language	15	15%
Food	18	10%
Goods theft	18	30%
Tier blowout	10	20%
Vehicle problem	10	15%
Health issues	15	10%
total	85	100

9. How far will you agree that you face the following challenges while driving through different state borders to transit goods.



INTERPRITATION

From the above table shows the 15% of them language in strongly agree, 10% of them food in strongly agree, 30% of them goods theft in neutral, 20% of them tier blowout in neutral, 15% of them vehicle problem in agree, 10% of them agree with health issue.

INTERFACE

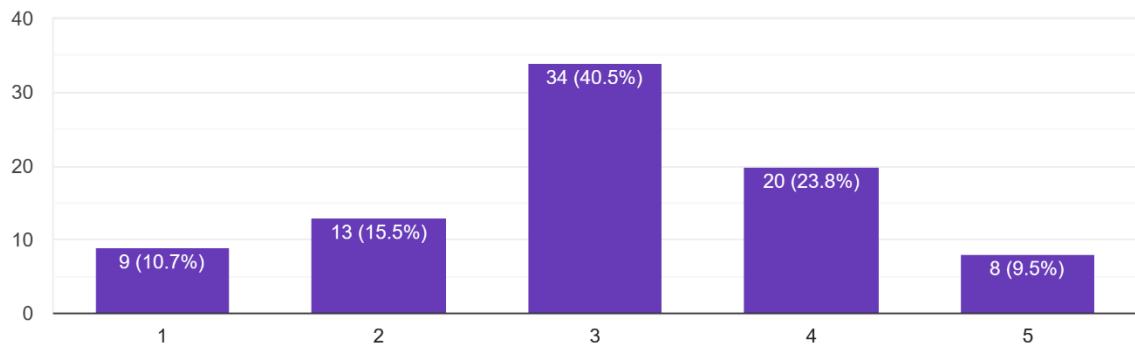
Majority of the respondents 33% of them goods theft.

TABLE 4.1.10 How would you rate the road safety measure which is taken by government

Particulars	No. of. Respondent	Percentage of Respondent
1	9	10.7%
2	13	15.5%
3	34	40.5%
4	20	23.8%
5	8	9.5%
Total	85	100%

10. How would you rate the road safety measure which is taken by government?

84 responses



INTERPRITATION

From the above tables show the 10.7% of them rating 1, 15.5% of them rating 2, 40.5% of them rating 3, 23.8% of them rating 4, 9.5% of them rating 5.

INTERFACE

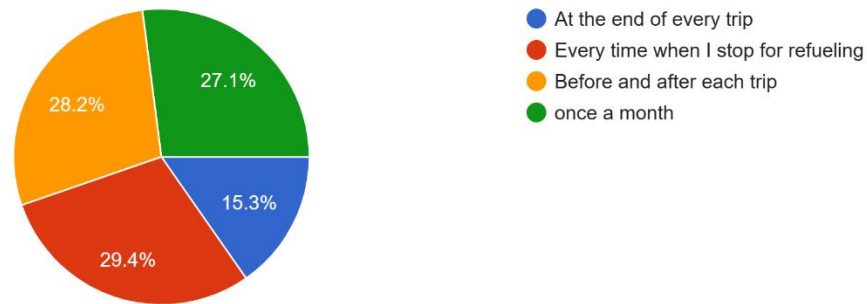
Majority of the respondents from the rating 3 from 40.5%.

TABLE 4.1.11 When do you inspect your cargo for security

Particulars	No. of. Respondent	Percentage of Respondent
At the end of every trip	13	15.3%
Every time I stop for refilling	25	29.4%
Before and After every trip	24	28.3%
Once a month	23	27.1%
Total	85	100%

11. When do you inspect your cargo for security?

85 responses



INTERPRITATION

From the above table show the 15.3% of them at the end of every trip, 29.4% of them every time I stop for refilling, 28.3% of them before and after each trip, 27.1% of them once a month.

INTERFACE

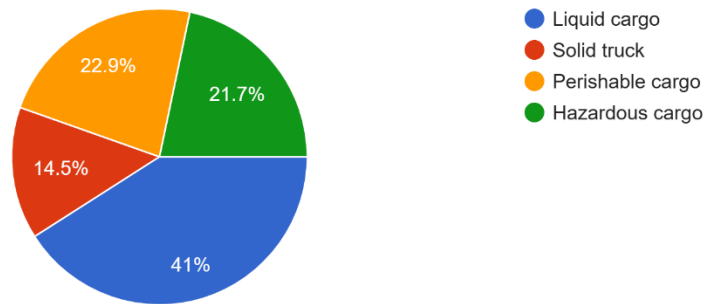
Majority of the respondents from the 29.4% from the every time when I stop for refilling.

TABLE 4.1.12 According to you which type of cargo is at high risk during transit

Particulars	No. of. Respondent	Percentage of Respondent
Liquid cargo	34	41%
Solid truck	12	14.5%
Perishable cargo	19	22.9%
Hazardous cargo	18	21.7%
Total	85	100%

12. According to you which type of cargo is at high risk during transit ?

83 responses



INTERPRITATION

From the above tables show the 41% of them liquid cargo, 14.5% of them solid truck, 22.9% of them perishable cargo, 21.7% of them hazardous cargo.

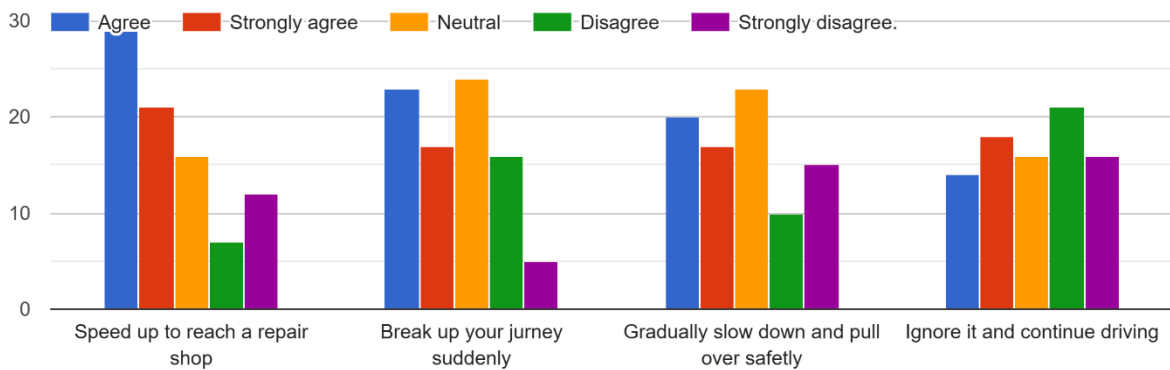
INTERFACE

Majority of the respondents from the 41% of them liquid cargo.

TABLE 4.1.13 As a lorry driver what measures do you feel can be taken for a tire blow out

Particulars	No. of. Respondent	Percentage of Respondent
speed up to reach a repair shop	29	41%
break up your journey suddenly	17	20%
gradually slow down and pull over safely	23	11%
ignore it and continue driving	16	28%
Total	85	100%

13. As a lorry driver what measures do you feel can be taken for a tire blow out?



INTERPRITATION

From the above tables shows 41% of them agree with speed up to reach a repair shop, 20% of them neutral with break up your journey suddenly, 11% of them neutral with gradually slow down and pull over safely, 28% of them disagree with ignore it and continue driving.

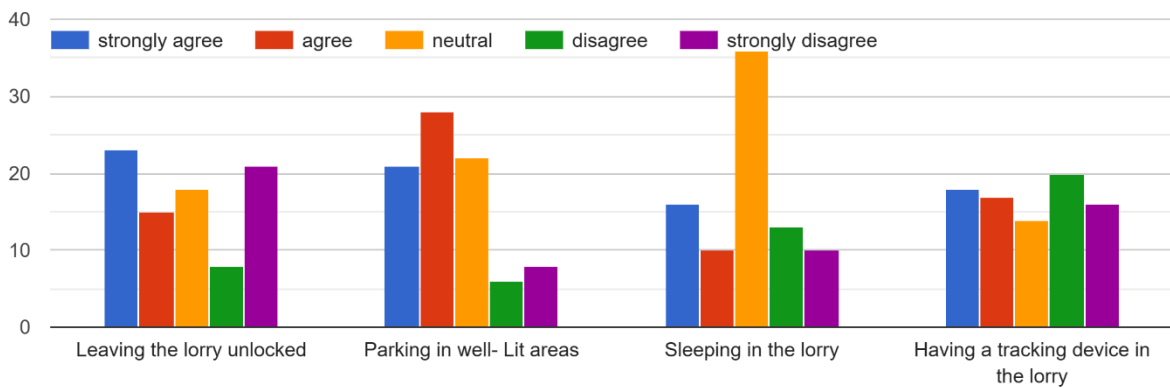
INTERFACE

Majority of the respondents 24% of them neutral with break up your journey suddenly.

TABLE 4.1.14 When parking overnight, what should lorry driver be cautions of to prevent theft

Particulars	No. of. Respondent	Percentage of Respondent
leaving the lorry unlocked	23	41%
parking in well lit areas	28	25%
sleeping in the lorry	13	22%
tracking device in the lorry	12	12%
Total	85	100%

14. When parking overnight, what should lorry driver be cautions of to prevent theft?



INTERPRITATION

From the above table shows 41 % of them strongly agree with leaving the lorry unlocked, 25% of them agree with parking in well lit areas,22% of them neutral with sleeping in the lorry,22% of them disagree with having a tracking device in the lorry.

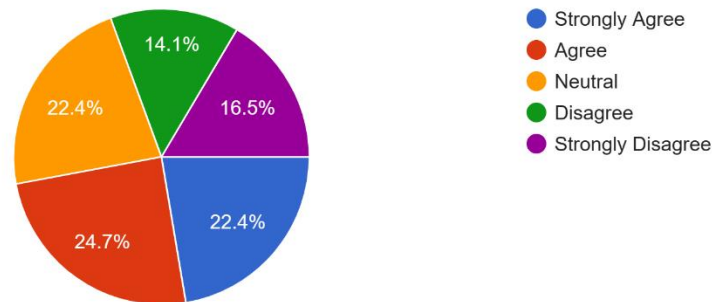
INTERFACE

Majority of the respondents 28% of them agree2 with parking in well lit areas.

TABLE 4.1.15 Will you be happy if the paid basic repair and puncture facilities in the tollgates for vehicles

Particulars	No. of. Respondent	Percentage of Respondent
Strongly agree	19	22.4%
Agree	21	24.7%
Neutral	19	22.4%
Disagree	12	14.1%
Strongly disagree	14	16.5%
Total	85	100%

15. Will you be happy if the paid basic repair and puncture facilities in the tollgates for vehicles ?
85 responses



INTERPRITATION

From the above the table shows the 22.4% of them strongly agree, 24.7% of them agree, 22.4% of them neutral, 14.1% of them disagree, 16.5% of them strongly agree.

INTERFACE

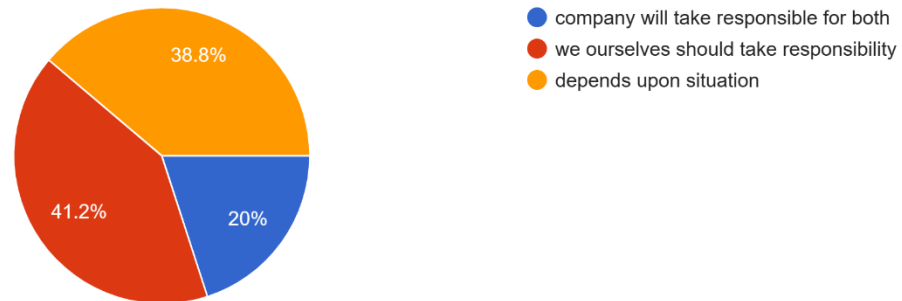
Majority of the respondents from the 24.7% of them agree.

TABLE 4.1.16 If an accident occurs who will be responsible for the incident. which is loss of life or damage of goods

Particulars	No. of. Respondent	Percentage of Respondent
Company will take responsible for both	17	20 %
We ourselves should take responsibilities	35	41.2%
Desponds upon the situation	33	38.8%
Total	85	100%

16. If an accident occurs who will be responsible for the incident. which is loss of life or damage of goods?

85 responses



INTERPRITATION

From the above table shows the 20% of them company will take responsibilities for both, 41.2% of them we ourselves should take responsibilities, 38.8% of them depends upon the situation.

INTERFACE

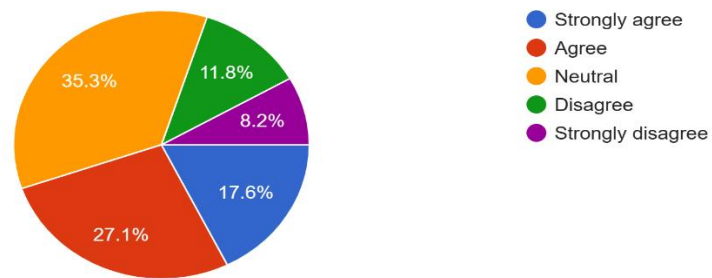
Majority of the respondents from the 41.2% of them we ourselves should take responsibly.

TABLE 4.1.17 Do you think getting a state/national permit cost is too high

Particulars	No. of. Respondent	Percentage of Respondent
Strongly agree	15	17.6%
Agree	23	27.1%
Neutral	30	35.3%
Disagree	10	11.8%
Strongly disagree	7	8.2%
Total	85	100

17. Do you think getting a state/national permit cost is too high

85 responses



INTERPRITATION

From the above the table shows the 17.6% of them strongly agree, 27.1% of them agree, 35.3% of them neutral, 11.8% of them disagree, 8.2% of them strongly disagree.

INTERFACE

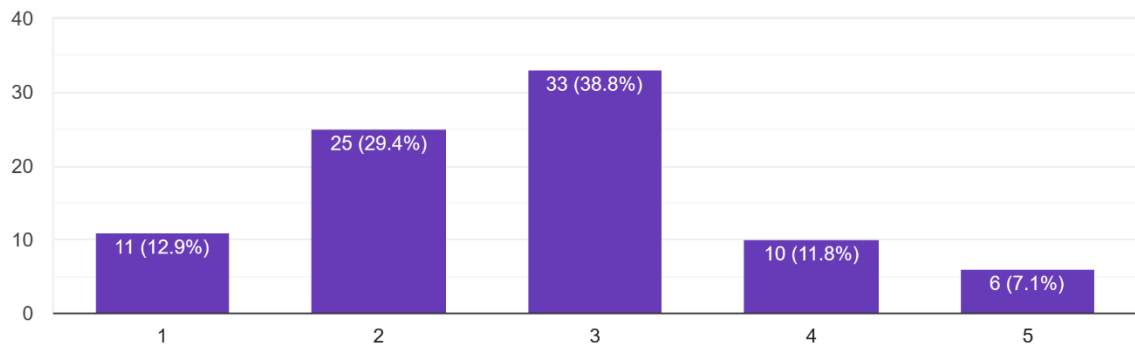
Majority of the respondents from the 35.3% of them neutral.

TABLE 4.1.18 Rate your personal experience with traffic police officers

Particulars	No. of. Respondent	Percentage of Respondent
1	11	12.9%
2	25	29.4%
3	33	38.8%
4	10	11.8%
5	6	7.1 %
Total	85	100%

18. Rate your personal experience with traffic police officers?

85 responses



INTERPRITATION

From the above tables shows the 12.9% of them rating one, 29.4% of them rating two, 38.8% of them rating three, 11.8% of them rating four, 7.1% of them rating 5.

INTERFACE

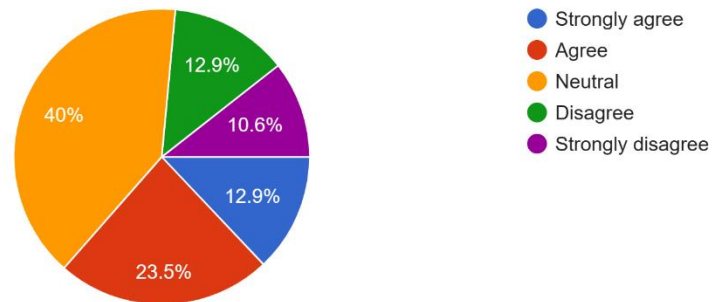
Majority of the respondents from 33.8% of the rating three.

TABLE 4.1.19 How far are you satisfied with your profession

Particulars	No. of. Respondent	Percentage of Respondent
Strongly agree	11	12.9%
Agree	20	23.5%
Neutral	34	40%
Disagree	11	12.9%
Strongly disagree	9	10.6%
Total	85	100

19. How far are you satisfied with your profession?

85 responses



INTERPRITATION

From the above the table shows 23.5% of them strongly agree, 23.5% of them agree, 40% of them neutral, 12.9% of them disagree, 10.6% of them strongly disagree.

INTERFACE

Majority of the respondents from the 40% from the neutral.

TABLE 4.1. 20 Give your suggestions to reduce the problems and challenges faced by lorry drivers

DO NOT DRINK AND DRIVE

Gov. Law and company policy must be favourable to drives

buy more tickets. T

Good

Driver

Traffic

Vehicle with more airbags and AC should be in the compartment

Give respect and treat nicely

Government interventions

Nothing

NA

Very Good Survey

Drive in the evening for reducing some of the type of problem

No

Lorry

Have to give gud sleep before traveling long

Think your family

4.1.21. HYPOTHESIS- 1

H0: There is no significant difference between Age and experience as a lorry driver.

H1: There is significant difference between Age and experience as a lorry driver.

Chi-Square

Case Processing Summary

	Valid		Cases Missing		Total	
	N	Percent	N	Percent	N	Percent
2.Experience as a driver *	86	100.0%	0	0.0%	86	100.0%
1.Age (years)						

2.Experience as a driver * 1.Age (years) Crosstabulation

Count

		1.Age (years)				Total
		18-25	25-35	35-45	45 above	
2.Experience as a driver	0-5 years	1	0	1	4	6
	5-10 years	1	9	4	0	14
	10-15 years	2	8	4	7	21
	15-20 years	1	4	10	11	26
	20 years above	2	2	8	7	19
Total		7	23	27	29	86

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	24.296 ^a	12	.019
Likelihood Ratio	28.882	12	.004
Linear-by-Linear Association	2.676	1	.102
N of Valid Cases	86		

a. 11 cells (55.0%) have expected count less than 5. The minimum expected count is .49.

INFERENCE

Since p value is 0.019 is greater than 0.05. We reject alternative hypothesis and accept null hypothesis so There is no significant difference between Age and experience as a lorry driver.

4.1.22. HYPOTHESIS- 2

H0: There is no significant difference between Hours of drive lorry in a day and type of geographical vehicle permit as a lorry driver.

H1: There is significant difference between Hours of drive lorry in a day and type of geographical vehicle permit as a lorry driver.

ANOVA

Descriptives

How many hours will you drive in a day

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
0-5 hours	7	3.29	1.496	.565	1.97	4.69	1	5
5-10 hours	23	2.96	.976	.204	2.59	3.38	2	5
10-15 hours	27	3.74	1.165	.124	3.25	4.26	1	5
15-20 hours	29	3.59	1.238	.259	3.16	4.07	1	5
Total	86	3.44	1.288	.138	3.18	3.70	1	5

ANOVA

How many hours will you drive in a day

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	8.655	3	2.965	2.69	.119
Within Groups	114.536	83	1.322		
Total	123.423	86			

INFERENCE

Since p value is 0.119 is greater than 0.05. We reject alternative hypothesis and accept null hypothesis There is no significant difference between Hours of drive lorry in a day and type of geographical vehicle permit as a lorry driver.

FINDINGS, SUGGESTIONS AND CONCLUSION

5.1. FINDINGS

- Majority 32.9% of the respondents belongs to the age of 18 to 25 category drivers.
- Majority 29.4% of the respondents have the 0-5 years of experience as a driver.
- Majority 32.9% of the respondent drivers will drive 5-10 a day by the help of the co drivers in a routine basis.
- Majority 41.2% of the respondent's lorry drivers have a state permit vehicle.
- Majority 47.6% of the respondents they are drive the heavy goods carrying vehicle.
- Majority 40% of the respondents' drivers cover the vehicle insurance for taking goods from state to state.
- Majority 34.1% of the respondent drivers they have a own vehicle truck.
- Majority of the responses from 32% of them Vehicle registration documents
- Majority of the respondents 33% of them goods theft.
- Majority 40.5% of the respondents they are given 3 rating from the government taking the road safety measures.
- Majority 29.4% of the respondent drivers inspect the cargo security for the at every time stop to refuelling the vehicle.
- Majority of the respondents 24% of them neutral with break up your journey suddenly.
- Majority of the respondents 28% of them agree2 with parking in well lit areas.
- Majority 24.7% of the respondents are agreed to they are happy to paid puncture and repair shop tollgate nearby.
- Majority 41.2% of the respondents' drivers should take responsible for the occur the incident for loss of life and damage the goods.
- Majority 35.3% of the respondent lorry drivers neutral to the state and national permit cost.

- Majority 38.8% of the respondents have rate 3 give the personal experience with the traffic police officers.
- Majority 40% of the respondent lorry drivers are the mostly standard satisfaction drivers.

5.2. SUGGESTION

All the lorry drivers are commonly having similar issues like police officers' aggression towards them, climate changes, theft, accident etc... are the issues faced by them in their day-to-day life as a suggestion they should follow government rules and regulation. Getting a better knowledge about what is happening in society and keeping well maintained vehicle to reduce accident the driver has to check the owner's manual before entering into a job. And the most important thing is to the company is to educate the drivers with the road safety laws so that there won't be any violation of rules and risk of accident and they should have a regular job card by the company so they will get orders regularly to get a active income.

5.3. CONCLUSION

The truck driver is more important than the goods being transported. Continuing study of the health hazards associated with the truck driving profession is important to reduce down time, but more importantly, to prevent permanent injuries, debilitating illnesses, workers' compensation claims, and road accidents. NIOSH in its report of 2003-2006 has presented relevant statistics to show the rising cases of truck driver injuries and illnesses. Truck drivers consistently sustain more nonfatal occupational injuries and illnesses than the majority of the occupations. Recent evidence suggests that driver health, including sleepiness, fatigue, and inattention affects performance, as measured by the risk of being in a fatal crash (Bunn, 2005). From the literatures reviewed, there is a general conclusion that truck drivers are still exposed to risks caused by prolong driving, such as fatigue and whole-body vibration. These risk factors have been implicated in most of the studies as the cause of the following common health problems of truck drivers: (a) Hypertension, cardiovascular

disease and stroke, (b) Musculoskeletal disorders, (c) Higher risk of lung cancer, (d) Obesity, and (f) sleep disorders and psychological distress. It is expected that elimination of the risk factors will greatly safeguard truck drivers and improve the quality of the services they render. Based on the articles reviewed in this thesis, and the physiological mechanisms behind the various health related issues associated with truck drivers, the following set of suggestions have been developed to improve the general occupational condition of long-haul truck drivers. The suggestion set should help policy makers, schedulers and truck drivers to reduce the stress levels of the occupation and improve the health status of truck. Constant motivation, vocational training, continuous education and social vaccine are key to upgrade long distance truck drivers.

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ANNEXURE – QUESTIONNAIRE
A STUDY ON CHALLENGES FACED BY LORRY
DRIVERS IN HIGHWAY

NAME:

1.Age (years)

- 18-25
- 25-35
- 35-45
- 45 above

2.Experience as a driver

- 0-5 years
- 5-10 years
- 15-20 years
- 20 years above

3.How many hours will you drive in a day

- 0-5 hours
- 5-10 hours
- 10-15 hours
- 15-20 hours

4.What type of geographical vehicle permit you have as a lorry driver

- National permit
- State permit
- District permit

5.What type of vehicle license do you have

- Heavy goods vehicle
- Heavy passenger vehicle
- Heavy construction vehicle
- Heavy special vehicle

6.Which of the following insurance you cover why taking goods from one state to other state

- Health insurance
- Goods insurance
- Vehicle insurance

7.Vehicle ownership

- Own vehicle
- Contract vehicle
- Rental vehicle
- Company vehicle

8.According to you how far the following documents are important to lorry drivers during transportation

	Highly important	Important	Neutral	Not important	Highly not important
Vehicle registration documents					
Records of load/ parcel carried in the vehicle transportation					
Vehicle insurance proof					
Receipt for job					

9. How far will you agree that you face the following challenges while driving through different state borders to transit goods

	Strongly agree	Agree	Neutral	Disagree	Strongly Disagree
Language					
Food					
Goods theft					
Tier blowout					
Vehicle problem					

Health issue					
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10.How would you rate the road safety measure which is taken by government

1 2 3 4 5

Very Bad ● ● ● ● ● Excellent

11.When do you inspect your cargo for security

- At the end of every trip
- Every time I stop for Refuelling
- Before and after each trip
- Once a month

12.According to you which type of cargo is at high risk during transit

- Liquid cargo
- Solid cargo
- Perishable cargo
- Hazardous cargo

13.As a lorry driver what measures do you feel can be taken for a tier blow out?

	Agree	Strongly agree	Neutral	Disagree	Strongly disagree
Speed up to reach repair shop					
Break up your journey suddenly					
Gradually slow down and pull over safety					
Ignore it and continue driving					

14.When parking overnight what should lorry driver be caution of to prevent theft?

	Agree	Strongly agree	Neutral	Disagree	Strongly disagree
Leaving the lorry unlock					
Parking in well-lit areas					

Sleeping in the lorry					
Having a tracking device in the lorry					

15. Will you be happy if the paid basic repair and puncture facilities in the tollgates for vehicles?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

16. If an accident occurs who will be responsible for the incident. Which is loss of life (or) Damage of goods?

- Company will responsible for both
- We ourselves should take responsibility
- Depend upon situation

17. Rate your personal experience with traffic police officers?

1 2 3 4 5

Very Rude ☒ ☒ ☒ ☒ ☒ Very Kind

18. Do you think getting a state/national permit cost is too high?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

19. How far are you satisfied with your profession?

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

20. Give your suggestion to reduce the problems challenges faced by lorry drivers?
