

A STUDY ON PROBLEMS IN ROAD TRANSPORTATION- WITH REFERENCE TO LOM LOGISTICS INDIA PVT LTD

Submitted in partial fulfilment of the requirements for the award of

MASTER OF BUSINESS ADMINISTRATION

by

R. VIGNESH

Register No.40410193



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 AICTE
JEPPIAAR NAGAR, RAJIV GANDHI SALAI, CHENNAI - 600 119**

APRIL 2022



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SCHOOL OF MANAGEMENT STUDIES

BONAFIDE CERTIFICATE

This is to certify that this Project Report is the bonafide work of **R VIGNESH (40410193)** who carried out the project entitled "**A Study on Problems in Road Transportation-Lom Logistics India Pvt Ltd**" under my supervision from January 2022 to March 2022.

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Sub: Confirmation letter of MBA Project

We wish to confirm that **Mr. R. VIGNESH (Reg.Num: 40410193)**, who is pursuing final year MBA in Sathyabama Institute Of Science And Technology, Chennai, has been offered to do the project in Logistics Department in our concern for a period of 3 months.

Our wishes to complete this MBA Project Successfully.

For LOM LOGISTICS INDIA PRIVATE LIMITED

S.HEMAKUMAR
HR-Executive

Leader of Market

DECLARATION

I **R. VIGNESH (40410193)** hereby declare that the Project Report entitled “**A Study on Problems in Road Transportation-Lom Logistics India Pvt Ltd**” done by me under the guidance of **Dr. DHIVYA SATHISH**, and **Mr. S. HEMAKUMAR** at LOM Logistics. is submitted in partial fulfillment of the requirements for the award of Master of Business Administration degree.

DATE:

PLACE:

R. VIGNESH

ACKNOWLEDGMENT

I am pleased to acknowledge my sincere thanks to Board of Management of **SATHYABAMA** for their kind encouragement in doing this project and for completing it successfully. I am grateful to them.

I convey my thanks to **DR. BHUVANESWARI G, Dean - School of Management Studies** and **DR. A. PALANI, Head - School of Management Studies** for providing me necessary support and details at the right time during the progressive reviews.

I would like to express my sincere and deep sense of gratitude to my Project Guide **DR. DHIVYA SATHISH**, Faculty, School of Management Studies for her valuable guidance, suggestions, and constant encouragement paved way for the successful completion of my project work.

I would like to express my sincere and deep sense of gratitude to my External Guide **Mr. S. HEMAKUMAR**, HR Manager- LOM Logistics, Chennai for his valuable guidance for the successful completion of my project work.

I wish to express my thanks to all Teaching and Non-teaching staff members of the **School of Management Studies** who were helpful in many ways for the completion of the project.

R. VIGNESH

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ABSTRACT

In logistics, road is the dominant mode of transport which accounts for 68% of freight movement in India. Trucks are the most widely used mode of transportation in India. At present, around 1.5 million trucks are operated on the Indian roads and the number of trucks increases around 10% per year. With the economic development of infrastructure in India, the country has progressed at a rapid pace and today there is an availability of wide variety of modes of transport by land, water and air. But, overall, Road Transport is the primary and preferred mode of transport for most of the population and India's Road Transport system is among the most heavily utilized system in the world. It plays a pivotal role in the economic development of a nation by increasing the productivity and competitiveness.

The study is being conducted for the road goods transport industry in Chennai, to find out the problems in the road transport industry. It is required to find out the problem based on certain aspects (price, workers, fuel, Income, problem faced by the industry. Primary objective is to study the problems in road transportation with reference to LOM Logistics. Secondary objectives are to assess the finance related problems in road transportation, analyze the manpower-based problems in road transportation, understand the legal problems in road transportation and find out and analyze various other problems in the goods transport industry in Chennai.

Convenience sampling method has been used in the research work. Multiple choice questions have been chosen to collect the responses from 120 respondents. The data collected has been analyzed. Numerous new findings have been derived from this research has helped to provide few suggestions to resolve the problems in road transportation.

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CHAPTER 1

INTRODUCTION

1.1.1 Overview Logistics Industry:

Logistics is about moving materials, information and funds from one business to another business or from a business to the consumer. Logistics is an important part of the business economic system and is a major global economic activity. It encompasses activities like freight transportation, warehousing, material handling, protective packaging, inventory control, order processing, marketing, forecasting and customer service.

Fierce competition in today's global market, the introduction of products with short life cycles, the heightened expectations of customer and the cost cutting measures have forced business enterprise to focus attention on logistics industry. Historically, the logistics sector was clearly separated and restricted mainly to transportation and warehousing. The logistics management in today's world however, covers all the aspects of value chain including an efficient integration of transportation, distribution, warehousing, reverse logistics, value added services such as payment collection, packaging, documentation, customer brokerage facilities, kitting, repair management, reconfiguration etc. The developments of state-of-the-art IT in recent years have further had remarkable implications for the logistics industry.

In logistics road is the dominant mode of transport which accounts for 68% of freight movement in India. Trucks are the most widely used mode of transportation in India. At present, around 1.5 million trucks are operated on the Indian roads and the number of trucks increases around 10% per year.

Railways are considered a relatively cheaper mode of transport and are used mainly for transporting bulk materials over long distances. About 89% of its freight traffic is contributed by major commodities such as coal, fertilizers, cement, petroleum products, food grain, finished steel, iron ore and raw material to steel plants. The balance 11% is other commodities moving in bulk and containers.

However, when compared with developed countries, the Indian logistics industry is still considered to be underdeveloped. The major restrictions hindering the growth of logistics industry in India include the poor conditions of infrastructures and transport vehicles, complex tax laws, complexity of international trade documentation process and lack of IT infrastructure, shortage of professionally competent logisticians and insufficient technological aids and the lack of industry readiness. Due to these restrictions, the logistics costs in India are still higher than in the developed markets. It is estimated to be around 13% of GDP, against 9% of GDP in the US. (This is however lower when compared to countries like China which accounts for 20% of GDP). It is also forecasted that the potential savings for India if logistics cost decreases by 1% is about a significant amount of \$4.8 billion per year. At the other end, the average inventory level of grocery stores is recorded to be 45 days of sales in India compared 11-22 days in developed countries. Such inefficiencies indicate that there is much to be done with the current situation in order to boost the Indian logistics industry.

1.1.2 Overview good transport industry:

With the economic development of infrastructure in India, the country has progressed at a rapid pace and today there is an availability of wide variety of modes of transport by land, water and air. But, overall, Road Transport is the primary and preferred mode of transport for most of the population and India's Road Transport system is among the most heavily utilized system in the world. It plays a pivotal role in the economic development of a nation by increasing the productivity and competitiveness.

Firstly, Road Transportation infrastructure can enter the production process as direct input and in many cases as an unpaid factor of production.

Secondly, it may make other existing, inputs more productive. For instance, a well-designed road allows the transportation of goods to market in less time and hence, reducing the transportation cost in the production process.

Thirdly, Road Transportation increases regional economic growth by attracting resources from other regions. In this vein one would recall that through-out the growth of civilization, most centers of economic activities flourished along riverbanks and coast lines where water ways the convenient prime carrier of raw materials goods and labor.

With the initiation of the economic reforms in 1993 the transport sector of the nation has shown good performance. Transport is basically a derived demand depending upon the size and structure of the economy and the demographic profile of the economy. Over the last ten years (2002-03 to 2011-12) Road Transport sector GDP grew at an annual average rate close to 10% compared to an overall annual GDP growth of 6%. Today Road Transport serving occupies an irresistible dominance within the transport sector with a share of 4.8% in GDP compared to a too little 1.0% share GDP in case of rail-ways. Also, annual average growth in freight transport at 6.5% for road was much higher in comparison to rail-ways which clocked a modest annual average increase of 3.6% during the past reforms phase (1992-93 to 2011-12)

With about 3.3 million kms of roads, India has the third largest road networks in the world which is connected mainly through national highways and state highways. Other types of road network include district roads, rural roads, urban roads and special purpose roads (for military, port and etc). Road is also the dominant mode of transport which accounts for 68% of freight movement in India. Trucks are the most widely used mode of transportation in India. At present, around 1.5 million trucks are operated on the Indian roads and the number of trucks increases around 10% per year.

According to the World Bank Group, the poor condition of roads is exacerbated by an outdated freight vehicle fleet. Very limited modern multi-axle trucks are used, while the extensive overloading by rigid two-axle trucks has resulted in serious damage of road pavement and structure. The overall poor road condition leads to low vehicle speed, and thus less coverage. To illustrate, trucks move on the national highway with an average speed of 30 to 40 km with the distance covered by only about 250 to 300 km, where as in developed countries, the speed and distance covered is twice that of in

India. The poor quality of roads further leads to increase the wear and tear of vehicles and high accident rates.

In addition, the growing freight traffic and vehicle population is not met by the slow level expansion of road length network. Hence the increasing traffic congestion, poor physical road conditions, the use of old vehicle, mixed traffic of fast and slow vehicles, highly crowded and unsafe urban crossings and frequent enforced stops at state or municipal check posts for permit inspection and tax collection in highways have led to very low level of road transportation service in India. As a result, India is rated 56th among the 59 developing countries in terms of the competitiveness on road infrastructure.

The project BTKM (Billion Tone Kilometers) made by the Sub Group for alternative growth scenario may accessibility, flexibility of operations, door-to-door service and reliability have earned road transport an increasingly higher share of both passenger and freight traffic vis-à-vis other transport modes. In addition to these factors, transit time, availability of capacity on alternate modes, quality and reliability of the service, associated costs like warehousing and demurrage, etc., all influences the choice of the mode of transport. The alternate modes of transport viz. Roadways, railways, waterways, airways, mass transit, etc., each contribute to the transportation requirements of the economy. Transport sector accounts for a share of 6.4 per cent in India's Gross Domestic Product (GDP) reflecting its significance. Road transport has emerged as the dominant segment in India's transportation sector with a share of 4.7 per cent in India's GDP in comparison to railways that had a 1 per cent share of GDP in 2009-10 as per the data on National Accounts released by the Central Statistical Organization (CSO). There were 30,149 enterprises in the road freight industry in 2009 (the latest Annual Business Survey data available). This was 7 per cent lower than the figure for 2008 and 20 per cent lower than the figure for 1999. Turnover for the road freight industry was £23.9 billion in 2009, 9 per cent lower than in 2008. Gross value added was also lower in 2009 than in 2008, at £10.7 billion. There were approximately 293,000 people employed in the industry in 2009. This was 5 per cent higher than the figure of 280,000 in 2008. Estimates from the Labor Force Survey show there were 299,000 HGV drivers in 2010, a 5 per cent increase on the 2009 figure of 285,000. At the end of 2010 there were 389,700 goods vehicles over 3.5 tones licensed in Great

Britain. In 2010, there were 7,103 accidents involving at least one HGV, with 9,686 casualties. Of those casualties, 263 were fatalities.

Problems with Existing Freight logistics

An important drawback of the existing literature in freight planning is the missing link between the freight planning practices in the public sector and the supply chain management practices in the private sector. Though these two processes are highly interrelated, the literature that links these two processes is scant. Individual firms take transportation decisions as a part of the larger process of optimizing the total supply chain performance.

In other words, the firms make their transportation decisions with the objective of minimizing the supply chain costs rather than minimizing the transportation costs. Hence the freight demand models used for transportation planning should focus on capturing the interactions between the transportation variables and other supply chain variables that affect the transportation decisions of these firms. The total supply chain costs can be viewed as two components: 1) The tangible logistics costs 2) The intangible service-related costs. The existing freight demand models have failed to take into account all the important variables of these two components; and the following sections describe the costs associated with these.

Logistics Costs:

The important components of total logistics cost are transportation costs, warehousing costs, order entry/customer service costs, administrative costs and inventory carrying costs. An annual study of logistics costs by Herbert Davis Company provides the following breakdown of the total logistics costs. If the total logistics costs comprise of non-transportation related logistics costs. However, the inventory carrying costs and warehousing costs are highly interdependent on the efficiency of the transportation system.

Trends in Logistics Costs

The logistics costs have ranged between 5-10 percent of the sales revenue (or product cost) since the 1960s. The logistics costs were at 10 percent of the sales revenue in early 1960s before firms realized physical distribution was an important operation that required special attention. After the firms have realized the importance of physical distribution and started focusing on eliminating inefficiencies in their

distribution costs the logistics costs came down to about 5 percent of the sales revenue. Fuel crisis and high inflation resulted in an increase in logistics costs during the 1970s. In the early 1980s the logistics costs were close to 10 percent of the sales revenue.

In 1980s deregulation of railways coupled with improvements in logistics practices resulted in a decline in logistics costs. By early 1990s logistics costs were at 7 percent of the sales revenue and they remained steady throughout the 1990s. In 2001 a sharp recession in the economy resulted in an increase in logistics costs to 8.5 percent. Since then, the logistics costs have remained steady between 7 to 8 percent. There have been some major changes in supply chain practices since 2001. During this period many firms have started sourcing from overseas locations. This has made their supply chains global and this had an increasing effect on the logistics costs. On the other hand, the increased use of information technology in logistics management had improved the efficiency of supply chains and this had a balancing effect on the total logistics cost.

Factors Affecting Total Logistics Cost

The study conducted by Herbert Davis Company also shows that smaller companies incur higher logistics costs as compared to larger companies. The averages logistics costs as a percentage of sales are 11 percent for companies with an annual sale of less than 200 million dollars as compared to the average 5.4 percent for companies with annual sales greater than 1.25 billion dollars.

Another factor affecting the logistics cost to sales revenue ratio is the value of the product. The manufacturers of food products whose product value is about 1.5 dollars per pound spend about 10 percent of their revenue on logistics costs. On the other hand, manufacturers of high valued products like electronic equipment with a value greater than 15 dollars per pound spend about 3 to 4 percent of their revenue on logistics costs.

However, the actual logistics costs involved with high valued products are higher as compared to the actual logistics costs involved with low valued products. The product cycle time affects the inventory carrying costs as there is a capital cost associated with commodities that are held up in the inventory. An average cycle time of 8.4 working days was reported in 2004 for in-stock items. However, a disadvantage with the

findings of this study is that all the findings were reported as an average of all the commodities. The commodity category wise findings were made available only to the participants of the study.

Service-Related Costs

These are the costs that are incurred because of the lost sales opportunities or because of the lack of availability of the right product at the right time at the right place. General Motors estimates that about 10 percent of sales are lost because the car is not available. Some of the factors that affect these costs are: reliability of transportation, product characteristics like perish ability, lead time etc. It is difficult to calculate the cost associated with these factors directly.

Comparison of Truck and Rail

Researchers from Logistics Management and the University of Tennessee conducted a study in the year 2008 to evaluate the performance of different trucking modes and rail. This study obtained responses from one hundred and eighty-eight shippers representing all major industrial sectors on five service dimensions namely: On-time delivery ratio, Equipment availability, Billing error rate, Freight loss and damage and Turndown ratio. The graphs showing the performance of different modes on service dimensions relevant to the current research project are shown below. Shipments by truck have shown an on-time delivery of about 95 percent as compared to the on-time delivery of 84 percent for rail. The average freight loss and damage rates were comparable at about 1.2 percent for both truck and rail. The average equipment availability for the trucking modes was about 95 percent as compared to 90 percent for rail.

Freight Transportation Models

In spite of the growing importance of integrating freight movement into the transportation planning process, the research in freight modeling is lagging behind the research in passenger modeling. One of the major reasons cited for this has been the lack of availability of publicly available freight data. Even the few sources of freight data that are publicly available are published aggregately to protect the identity of individual shippers. Another reason for the lack of sufficient advances in freight modeling is due to the fact that freight modeling is inherently more complicated than passenger modeling.

This is because of the following reasons:

- There is a large variation in freight shipment characteristics due to difference in shipment size, value, perishability etc.
- Freight decision making involves a complex interaction between the shipper, receiver and carrier and none of them has complete information or decision - making power.
- Freight transport prices are usually negotiated as a long-term contract and they are not uniform for all the shippers.

Trip Generation and Distribution Modeling

Most of the freight demand models that have been developed have closely parallel the four-step passenger planning process which involves modeling of trip generation, trip distribution, and mode choice and traffic assignment. In trip generation modeling, the trip productions and attractions are usually modeled by regression on socio-economic factors like population, employment, per capita income and area. This approach is justifiable in case of passenger trip generation modeling because the above socioeconomic factors are explanatory variables for passenger trips. But in case of freight trip production modeling, these socio-economic factors are not explanatory as freight trip productions only depend on the presence of the particular industries and their output. Even in case of freight trip attraction these socio-economic variables are not explanatory for Business-to-Business freight attractions and they are only explanatory for Business to Retailer/ Consumer trips.

Gravity models have been commonly used for trip distribution modeling. However, the problem with the application of gravity models for freight trip distribution modeling is that the friction factors are different for different modes and modal split of the trip generation needs to be known beforehand. This leaves the modeler in a paradoxical situation as modal split is usually the step following trip distribution.

Mode Choice Modeling

The use of trip generation and distribution models is reasonably well developed in freight forecasting. However, the modeling of mode choice has been the most difficult step for most practitioners and the research into this step is still too elementary to be included in the freight forecasting models. Several studies have reported a failure or difficulties in developing mode choice models. Some of the difficulties in developing mode choice models are obscurity in the identification of mode choice decision maker(s), lack of proper understanding of the mode choice decision process and lack of availability of reliable disaggregate data. The potential for the development of discrete choice models using aggregate data has not been explored.

Disaggregate demand models have been generally used for mode choice modeling. These models have been classified as behavioral models and inventory models. Behavioral models like logit and probit use the theory of utility maximization in which the mode with the maximum utility is chosen by the shipper. Inventory based models take the perspective of a firm's inventory manager and attempt to link the mode choice and production decisions of a firm. However, the need for detailed firm level data makes the implementation of inventory models impractical for planning purposes.

Abdelwaheb and Sargious have developed a switching simultaneous equation model that estimates the mode choice and shipment size simultaneously. They argue that using a single equation model for estimating the mode choice introduces a potential bias. However, in reality most firms do not simultaneously determine the mode choice and shipment size. The mode choice decision is usually a long-term decision as the contracts between shippers and carriers last between three to five years. The shipment size is a short-term decision process which can be a daily decision for some of the firms.

Since the availability of reliable freight data at a disaggregate level is difficult, the use of some unconventional methods for mode choice modeling has been explored in the recent past. Sen, Pozzi and Bhat have used the Delphi Technique for mode choice analysis. The expert panel that participated in this study consisted of Metropolitan Planning Organization (MPO) planners, state planners and port, truck and rail representatives. However, my opinion is that an expert panel that consists of logistics managers from shipping firms who are the actual decision makers would have been more representative for this kind of study.

Another innovative approach being used in freight mode choice analysis is the use of stated preference data. Daniels, Mariucci and Rotaris have used the stated preference data collected from logistics managers to model the choice of mode. Adaptive Conjoint Analysis (ACA) software was used in this study to collect the preferences among freight service attributes from the logistics managers. Some of the advantages in using stated preference data are: 1) It is relatively easier to obtain stated preference data as it need not be confidential 2) It allows the modeler to control the variability in attributes 3) It provides the ability to model future scenarios. The disadvantage with the use of stated preference data is that the choices are hypothetical.

The existing literature relevant to freight transportation planning lacks an understanding of the logistics behind the movement of freight. This is because the current literature exists as two distinct entities: one part of the literature, present in business literature, deals with the logistics and supply chain management practices of individual firms and the other part, present in transportation literature, deals with the freight models used by Transportation planners. Only a few studies have attempted to include the logistics processes in freight transportation models. The methodology presented in the next chapter integrates private sector supply chain practices into public sector transportation.

1.2 INDUSTRY PROFILE

1.2.1 Introduction

Road freight transport is an essential economic activity. Without it, our economies would not function. The road freight sector has developed very dynamically. It is useful for policy makers, stakeholders and other interested parties have up-to-date information on the structure of the industry and on major trends.

1.2.2 Road transport industry in India

With the economic development of infrastructure in India, the country has progressed at a rapid pace and today there is an availability of a wide variety of modes of transport by land, water and air. But, overall, Road Transport is the primary and preferred mode of transport for most of the population and India's Road Transport system is among the most heavily utilized systems in the world. It plays a pivotal role in the economic development of a nation by increasing the productivity and competitiveness.

With the initiation of the economic reforms in 1993 the transport sector of the nation has shown good performance. The alternative growth scenario may accessibility, flexibility of operations, door-to-door service and reliability have earned road transport an increasingly higher share of both passenger and freight traffic vis-à-vis other transport modes. In addition to these factors, transit time, availability of capacity on alternate modes, quality and reliability of the service, associated costs like warehousing and demurrage, etc., all influences the choice of the mode of transport. The alternate modes of transport viz. Roadways, railways, waterways, airways, mass transit, etc., each contribute to the transportation requirements of the economy. Transport sector accounts for a share of 6.4 per cent in India's Gross Domestic Product (GDP) reflecting its significance. Road transport has emerged as the dominant segment in India's transportation sector with a share of 4.7 per cent.

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1.2.3 Road transport industry in Chennai

Chennai is the center of Tamil Nadu. It's also one of the major cities for the freight transport industry. Chennai is the hub for transporters.

- There are more than 400 enterprises in the road freight industry.
- They receive approximately 100 loads and send 100 loads every day. It will change according to the demand.

Logistics industry has always been an underdog, and has not achieved the much-deserved attention yet. The sector is full of potential, but we are still lacking optimal utilization of resources. However, we can see a rapid hike in demand and awareness of the sector this year. We can see a lot of startups entering the sector offering services like never before. With the advancements in technologies, we can surely say that there's a lot more to come. Logistics plays a vital role in strengthening the economy. It is the lifeline for every other commercial sector. The sector is evolving at a fast pace and infrastructure, and technologies are paving new paths towards growth. India has jumped 19th place in the world banks Logistics performance index, from 54th place to 35th. This was announced by the world Bank Group in the recent launch of its report. With a huge jump of 19 places, India has crossed many countries like New Zealand, Thailand, Saudi Arabia, Iceland, Latvia and Indonesia who were ahead of it in the index.

1.2.4 3PL

First on our list in the lineup of opportunities is 3PL. It has been in the sector from a very long time but with the advancement in e-commerce and vendors racing up to provide the fastest door to door services the scope for 3PL has widen like never before.

3P Logistics is rising as a key driver of development for e-trade players as they try to create center abilities as retailers while outsourcing their logistical necessities.

Huge players, for example, Flipkart have enhanced into logistics with Ekart and organizations with MapmyIndia and Black Buck, Snapdeal has procured GoJavas and Amazon keeps running with backing from BASIX. Getting through the alleged “Hindu rate of development” for E-commerce, as specified by Flipkart executive of ventures and land, Nagesh Rao, will require expanded interest in better warehousing and first-and last-mile network. “The greatest torment point is that base has completely softened the nation up terms of warehousing,” said Rao, talking on the sidelines of the CII-CBRE meeting on industry and logistics. The pace at which E-commerce has developed, foundation has not developed in that design.

1.2.5 Monsoon

India is mainly an agricultural country with over 70% of its people directly related to farming. To sustain agriculture the land requires adequate rainfall is of prime importance. A normal rainfall this year could prompt the government to ease cutbacks on its export policy. We can expect this because we have witnessed this in past. In the year 2010 and 2011, due to a good monsoon the Indian government has eased curb on export of rice and wheat which was good for the economic growth. The production of oil seeds and grains gets a boost when rainfall is normal. A good crop indirectly curbs inflation.

Monsoon is essential for quite a few crops in India. Kharif crop which is sown in March depends on Monsoon rains. States of Gujarat and Rajasthan sow peanuts just before the rains arrive. If rains do not arrive in time or are scanty the crop fails. This is also the season for paddy plantation in Uttar Pradesh. Paddy is dependent on rainfall for good harvesting. Monsoon influences many other crops across the country. Soya bean, Sugarcane, cotton, rice and millet are some of the crops that flourish when rainfall is good. As we can see India is having a good monsoon season this year, with above average rains. We can surely expect a hike in agricultural production and also an increase in their transportation, export etc. Players in this sector can contemplate the future and keep a keen eye on this to monetize the situation.

1.2.6 Technological Innovation will lead growth in India's Logistics Industry

A large part of opportunities in logistics will be powered by technology and associated innovation. A regular courier is handled around 20 times during its journey from its origin to the final destination. With technological enhancements, this number will go down significantly in the future. Automation, in terms of material handling, information exchange, and telecommunications will play a large role to serve this purpose. More and more companies are shifting towards outsourcing operations to third-party logistics(3PLs). This development is creating room for vertical focused 3PLs. Moreover, 4PL will graduate from being a mere coordinator to actual integrator. New Players will emerge in order to integrated multiple 3PL players seamlessly to offer one-stop solution for the end customer. With more frequent replenishments, traditional supply chains will move from case level to piece level replenishment. To match the efficiency and effectiveness of unconventional distribution channels, the traditional supply chain players will have to adopt technological advancements in order to remain competitive and relevant Technology will be the driving force behind the supply chain management of the country and will be well-knit with the overall infrastructure. It will also pave the way to bring more speed and efficiency to the system. With many technological interventions such as electronic toll-collection systems for faster toll crossing and reduced requirement of paperwork, strong disruptions will be observed in this sector with increased adoption of technology. Moreover, with up gradation of road infrastructure, cargo handling will also witness a significant shift from air-based to surface-based transport. Overall, this will result in achieving better infrastructural utilization, boosting overall feasibility of the network, and improving the bottom line.

All these developments will result in creation of new line of products by logistics companies based on differentiated SLAs, flexibility in operations, cost of operations and visibility of operations, which will be a key driver to increase top-lines of logistics companies. Technology will also bring more efficient risk assessment and greater control over the company. The advantages of introducing technology are manifold as it helps to run differentiated and flexible operations leading to competitive advantages and increased consumer satisfaction.

It will also assist companies to attain a higher degree of personalization in their consumer offerings. The field of logistics and supply chain management will become more lucrative as a career option. With new opportunities emerging in the field, women

will play a larger role in this sector, which is currently being dominated by men. Supply chain management and logistics education and certification will gain more focus and acceptability.

1.3 COMPANY PROFILE

1.3.1 Introduction

Started in the year 2004, LOM Logistics India Private Limited has been providing cost-effective logistics handling and warehousing solutions over the past 18 years. Our specialized multimodal transportation route ensures the safe and quick delivery of cargo. At LOM, we take care of the entire documentation process, customs clearance, volumetric cargo and storage. We guarantee to provide quality service and thorough monitoring throughout the process.

1.3.2. Company Vision

To be known as the No.1 company in providing logistics handling and warehousing services.

1.3.3 Company Mission

Our focus is customer satisfaction, and to gain this LOM India will be in the process of constantly innovating and building a better mechanism to serve our valuable customers.

1.3.4 Our Services

At Lom Logistics India we are dedicated to providing high quality services globally. Take a look below to find out what we specialize in, and get in touch with any additional questions or to learn more.

- Road Transport
- Air Freight
- Ocean Freight
- Customs clearance
- Project Cargo
- FTWZ
- Relocation

- cargo insurance

Road Transport:

Local, national and international distances. Lom Logistics India Pvt Ltd integrated transportation and logistics service includes Road Transportation Services that connects all major states in India in to a single network. As most transport chains include trucking at either the beginning or the end.

We accomplish regular and scheduled product delivery to all cities across the nation. Our dedicated team members follow specific methodologies in transporting fragile and dangerous goods. Having our own fleet of multipurpose trucks and trailers, Lom Logistics India Pvt Ltd offers competitive pricing coupled with a reliable and world class quality road transportation and distribution services within the India.

Air Freight

Air Freight That Delivers on Time, Every Time Air freight logistics is the shipment of goods via a chartered or scheduled air carrier. Air freight is a popular choice for many companies as it ensures passage for their goods to anywhere in the world that an aircraft can fly to and land. Goods transported by air have the advantage of being taken to their final destination at high speed which could prove advantageous if the shipment is time sensitive. For smaller and medium sized companies, it allows them to participate in international trade in as an effective manner as larger companies. Furthermore, shipments that are transported via air carrier go through a higher level of security than other methods which makes it one of the most secure ways to transport goods.

Sea Freight

When cost matters and time is not an issue. Ocean freight is one of the key elements in multimodal transportation service. We deliver highly flexible services through partnerships with leading ocean carriers all over the world. These well-established relationships guarantee to deliver goods in volumes, quickly and efficiently through sea freight trade. In addition, our tailor-made rates aid to ensure value in business.

Our global logistics services cover not only shipments from port-to-port, but also the complete door-to-door supply chain solution. In order to offer the best service possible, we have a dedicated ocean freight department specializing in FCL, LCL, Break-Bulk, Project Cargo and different types of cargoes on a global scale.

Customs clearance

Trusted & verified customs service providers & CHAs who can help you clear your shipment at origin and destination. Comply with local rules and customs procedures Each country is unique with its customs clearance procedures. Leave it to our experts to comply with all the rules, so your shipment is never held back.

In India customs clearance can be a huge issue since it is a developing country. At Lom we take care of all those things for you and ensure that your cargo reaches the destination in the fastest time possible. We have a team of seasoned experts who have been working in this field for decades and have faced all the problems one could possibly face, so we can create a quick solution to any problem during the transit of your cargo.

Project Cargo

Project cargo generally describes the handling and transportation of dimensionally challenging, heavy, complex pieces of equipment, which often includes engineering, extensive planning, and specialized transport equipment. Industries with Project Cargo demands are those with major capital projects, large scale construction, and heavy maintenance schedules. Project Cargo is often associated with industrial Wind and Solar projects, the upstream through downstream Oil and Gas sector, Mining, and Minerals, and many other large-scale, infrastructure and capital project-oriented companies.

LOM Logistics India can be a key to your successful project delivery. Cargo that needs to be moved from one site to another, locally or globally, oversized construction equipment, machinery, and other materials are now at your timely reach. You can achieve this by taking advantage of our service and expertise with various delivery options for your large industrial equipment. LOM Logistics India Services has the quality solutions to carry your shipment across the world.

Cargo Insurance

LOM Logistics India believes in a safe and secure delivery of cargo goods. But we also need to acknowledge the risks involved in transportation. LOM has derived a comprehensive cargo insurance cover on onshore and offshore exposed property and it also covers loss or destruction of cargo goods on any mode of transportation used to deliver the shipment.

All damages can be insured except for the listed cases that don't fall under the policy. The client should specifically opt for risk-related insurance such as fire, transport accident or ship drowning.

At LOM Logistics India, we handle the freight forwarding with utmost professional care and believe in delivering the shipment securely anywhere internationally. By choosing cargo insurance, clients experience a faster claim handling and payment

Our Insurance Partner: ICICI Lombard.

FTWZ (Free Trade Warehousing Zone)

The FTWZ is a distinct category of SEZ (Social Economic Zone). This zone is administered by the provisions of the SEZ act and rules. FTWZ is known as the foreign territory. FTWZs are Deemed Foreign Territories / Ports / Warehouse for Storage and Other value-added activities under the Customs Law. FTWZ units are allowed to hold inventory on behalf of Foreign Suppliers/ Domestic Buyers. FTWZ law allows multiple transfers of ownership transactions without removal of the goods out of FTWZ, thus ensuring the trading chain to be as close as possible and as may be required, ensuring that there is no cascade of indirect taxes / compliance and avoids increase in transaction cost.

Relocation

With LOM Logistics India Private Limited relocating to a new place is an easy task. We have the right resource, worldwide coverage and well-designed plans to make our client's shifting smooth process.

PAYMENT COLLECTION ON DELIVERY

LOM also render Credit facility to the customer who are frequent and have good contribution in the share in its turnover. For many small customers, LOM gives facility of payment after receipt of material. Paid booking is not made usually and the customer avails the benefit of credit.

PACKAGING FOR DOMESTIC MARKET

The requirement of packing for domestic market has to undergo various obstacles on the way. On one side the packing has to withstand in transit upheavals, on other side it has to take care of pilferage and theft elimination. Finally, when it reaches the customer, it should be presentable and with appropriate marking. Packing need to take care of the different characteristic of the product being packed. Similarly, a large number of designs would mean carrying extra inventory of packaging consumables. Thus, lesser number of designs and effective use of packing technology would greatly benefit domestic market packing requirement. LOM Logistics Pvt Ltd has supported customer in this concern with providing the extra facility at no cost.

LABELLING

An activity no more looked with disdain. Labeling requirement varies from country to country and market to market. It also needs to take into account requirement as per the local laws. At the corporate level this activity is beyond core-competence of the company profile. LOM has experience to undertake labeling of products and free companies to concentrate on their core functions. With vast experience of Twenty years in business, LOM has labeled products amounting to over 2 million rupees.

WRAPPING

Can a product reach market without protective cover? Will a product be acceptable in market without wrapping? Will it be able to suppress temptation? Well, the answer to this is known to all. No product is above temptation, all products are for ultimate consumption implicit and explicit to withstand vagaries of climate and in transit tremor

need over wrapping. This step helps the product to sustain its identity till the consumption time. Some products and parts are stored for long time due to several factors like seasonal consumption, import restrictions, slower movement, use of vertical storage space. Shrink-wrapping helps in keeping the product dust free. It also holds parts, boxes together in case of vertical storage on an open pallet.

TRANSHIPMENT LOGISTICS

Seaports and inland waterway ports serve as important interfaces both for regional and global flows of commodities in terms of transshipment, storage and onward transportation – whether this involves raw materials or finished goods, containers or bulk commodities. We can handle your products travelling on the water using our own facilities, particularly our port terminals, and include our partners all round the world; we can also organize the necessary pick-up and final delivery runs beyond the quayside. The Port Logistics business area draws on the current opportunities within the whole company group to do this

OUR CUSTOMERS

Our satisfied customers include

- Coffeeshop Operators
- Contractors
- Designer
- Event Management Companies
- Hardware Suppliers
- Medical Clinics
- New Office Setup
- Offset Printers
- Renovation Contractors
- Restaurant & Cafe Owners
- Retail Owners
- Schools
- Wholesaler

CHAPTER 2

REVIEW OF LITERATURE

2.1 REVIEW OF LITERATURE

Davis, Beth R (2006), a study on Logistics service driven loyalty an exploratory study. The Journal shows that supply chain relationships can be a stable source of competitive advantage to firms in the supply chain because of their ability to create barriers to existing competition and conclude that improving logistics customer service is an ongoing focus for firms. Suppliers are trying to become more proactive with their customers and anticipate customer expectations.

Sebastian (2008), A Study on Problems of Logistics Industry The objective of the study about the problem that faced logistics industry. He concluded that India's logistics industry is low in their planning and current professionals in the industry should sharpen their skills on a broad base of key elements of transportation and logistics. Finally, he said that, there should be very balanced between solid knowledge and real world application.

Mohitayalamanchi (2009), a study on Logistics and Customer Value the objective of the study is about the customer value that companies have created through logistics management, in their quest for new ways to establish a competitive edge. A number of new tools and approaches have emerged as proactive elements of the logistics response to the task of creative value for the customer viz. emphasis on logistical customer service, management of the supply chain, the development of strategic alliances. It gives an explanation of various steps taken by different firms for identifying and implementing quality improvement processes in the logistics areas.

Berrada A. Chakir&Ciro Aida (2009), a study on Bottlenecks in the Freight Forwarding sector. The objective of the study about a to identify the bottleneck/s within the freight-forwarding industry in west coast Africa. The Study revealed that the series of interesting findings First, the activity of a Freight Forwarder depends on a series of factors that do not depend on the Freight Forwarder per se. And second, Freight Forwarders in order to accomplish their tasks have access to services that are shared

by all providers, and that are beyond their control. To conclude the study identifies infrastructure as a major bottleneck in the Freight Forwarding sector.

Aicha Aguezzoul (2009), The outsourcing of logistics activities to third-party logistics service providers (3PL) has become a common practice by many companies. The majority of research in this field is of exploratory type and is mainly focused on reasons, benefits, and risks to work with the 3PL as well as the role of those in supply chain management. This paper presents a literature analysis on 3PL selection and evaluation. This selection is a very complex process that depends on several factors. The selection criteria evolved a lot these past years and the 3PL have currently diversified by offering various services and by ensuring various activities. As for the methods of 3PL evaluation, they range from simple analytical techniques to multi-criteria methods. A comparison of these methods in terms of advantages and disadvantages is also presented in this paper.

Ai Xia Diao, Chang Xi Ma (2013), In case of public emergency such as natural disasters, accidents, public health and social security, if people fail to take timely effective response measures, the consequences would be incredibly bad. So, how to optimize emergency transportation and logistics system scientifically, and enhance the emergency support and emergency response capacity of the entire emergency management and emergency system, are the keys to improve stability, reliability and timeliness of public emergency warning defense system. Many scholars have done a lot of researches in dealing with emergencies. On the base of studying a large number of related documents, this paper summarized the optimization method of emergency transportation and logistics, and analyzed the existing shortcomings, and finally came to the conclusion and future research directions.

Francisco Chiclana (2014), A Survey of Transportation Problems. This paper aims at being a guide to understand the different types of transportation problems by presenting a survey of mathematical models and algorithms used to solve different types of transportation modes (ship, plane, train, bus, truck, Motorcycle, Cars, and others) by air, water, space, cables, tubes, and road. Some problems are as follows: bus scheduling problem, delivery problem, combining truck trip problem, open vehicle routing problem, helicopter routing problem, truck loading problem, truck dispatching

problem, truck routing problem, truck transportation problem, vehicle routing problem and variants, convoy routing problem, railroad blocking problem (RBP), inventory routing problem (IRP), air traffic flow management problem (TFMP), cash transportation vehicle routing problem, and so forth.

Browne, M., Piotrowski, M (2019), Urban freight transport, the review illustrates the importance of road movements in goods distribution in urban areas. It highlights the major economic, environmental and social impacts associated with this freight activity and reviews policy options available to those responsible for regulation. A wide range of possible solutions to problems posed by urban freight operations are also covered including approaches related to: consolidation, facilities, vehicle design, information capture and utilization, and non-road modes.

Mohammad Asim Nomani, Irfan Ali & A. Ahmed (2020), A multi-objective transportation problems. A weighted approach based on goal programming to obtain compromise solutions is proposed. In the proposed approach, a new weighted model is presented to obtain varying solutions according to the priorities of the decision-maker. Using this model, consistent results may be generated according to the expectation of the decision-maker that the goal with the higher priority may have a higher level of satisfaction. We have considered a multi-objective transportation problem and solved it using the proposed approach. Comparison has been made with different existing approaches. Different solution approaches for multi-objective transportation problems are also discussed.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 NEED FOR STUDY

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 know the problem faces in road transport industry. This time research methodology is framed for the purpose to know various problem faced by road transport industry in Chennai.

3.2 SCOPE OF THE STUDY

To find out the legal issues faced by the road transport companies and find out solution for the same. To find out the solutions for the manpower problems. To find out the solutions for the financial problems.

3.2 Statement of problem:

The study is being conducted for the road goods transport industry in Chennai, to find out the problems in the road transport industry. It is required to find out the problem based on certain aspects (price, workers, fuel, Income, problem faced by the industry).

3.3 OBJECTIVES OF THE STUDY:

PRIMARY OBJECTIVE:

- To study the problems in road transportation with reference to LOM Logistics Pvt Ltd

SECONDARY OBJECTIVE

- To assess the finance related problems in road transportation
- To analyze the manpower-based problems in road transportation
- To understand the legal problems in road transportation

3.4 SOURCES OF DATA

The data required for the study is collected from both primary data and secondary data.

- Primary Data – Primary data are collected for the first time and this happens to the original in character. In this study, data are collected directly from the transport owners or managers by using the questionnaire method.
- Secondary Data - The background of the present study was collected from various sources which include Books, journals, website, and other related research work.

3.5 RESEARCH DESIGN

The research design of this project is a qualitative case study. The method of research used here is a simple survey created using Google Forms. The research is conducted to analyze the problems in road transportation.

3.6 STRUCTURE OF QUESTIONNAIRE

Questionnaire was divided into two sections. First part was designed to know the general information about respondent the second part contained the respondent 's opinions about problems in road transportation.

3.7 SAMPLING TECHNIQUE

The convenient sampling method is used in our study. When population parts area unit designated for inclusion within the sample supported the convenience of access, it can be called as convenient sampling.

3.8 PERIOD OF STUDY

The period of study for the survey is 60 days. The collection of data for survey took 30 days for 120 responses.

3.9 ANALYTICAL TOOLS

A set of imaginary questions were framed to conduct the statistical tests to find out the difference and association between the variables.

- H0- There is no significant Difference/Association.
- H1- There is significant Difference/Association.

- **CHI-SQUARE:** Chi-square is a statistical test which compares two independent variables to see if they are related. It is applied to categorial data.
- **ONE WAY ANOVA:** One way analysis of variance (ANOVA) is used to determine whether there is any statistically significant difference between the means of three or more independent (unrelated) groups.

3.10 LIMITATIONS OF THE STUDY:

Even though an elaborate study was made on the problems in logistics, special reference to road goods transport industry in Chennai, it was subject to the following limitations:

- The study was limited to Chennai only.
- The study was limited to vehicle service only
- Time was a major constraint.
- The sample was limited to only owners or managers of the road transport industry in Chennai.

CHAPTER 4

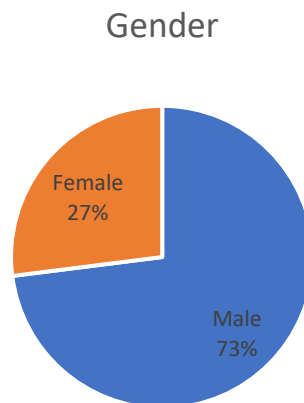
DATA ANALYSIS AND INTERPRETATION

4.1 PERCENTAGE ANALYSIS

TABLE 4.1.1: GENDER

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Male	88	73%
Female	32	27%
Total	120	100%

CHART 4.1.1: Gender of the respondents



INTERPRETATION:

From the above table it can be interpreted that 73% of the respondents are male and 27% of the respondents are female.

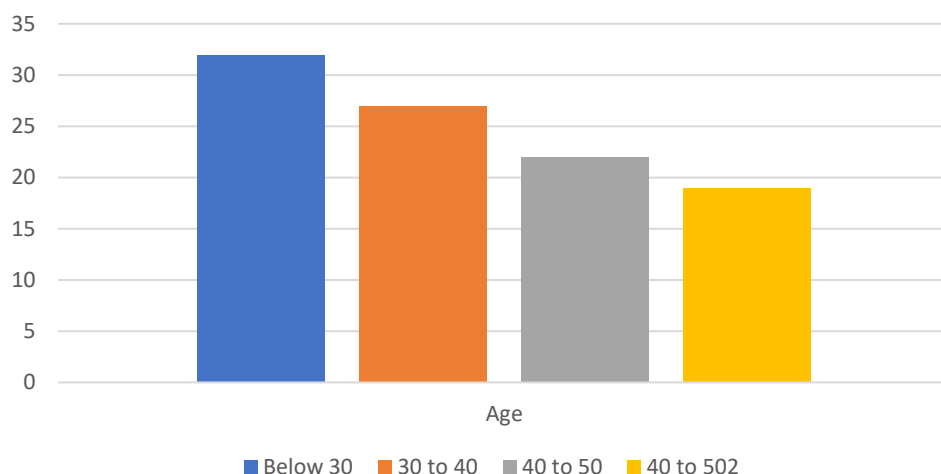
INFERENCE:

Majority (73%) of the respondents are male

TABLE 1: AGE

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Below 30	38	32%
30 to 40	32	27%
40 to 50	27	22%
Above 50	23	19%
Total	120	100%

CHART 4.1.2: Age of the respondents



INTERPRETATION:

From the table it can be interpreted that 32% of the respondents are belonging to the age below 30, between 30-40 age of respondents 27%, between 40 -50 age of respondents are 22%, and above 50 ages of respondents are 19%.

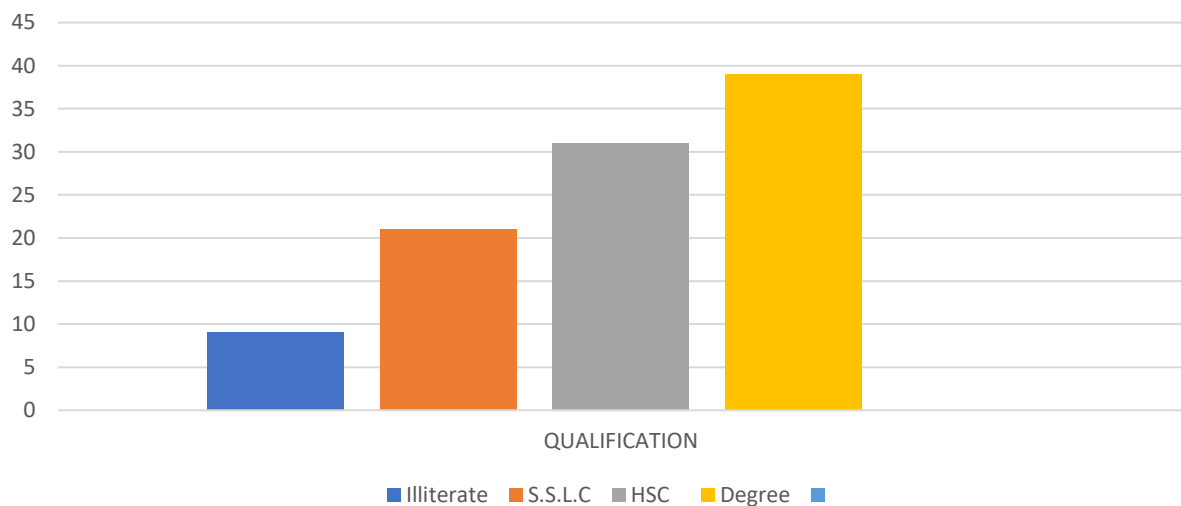
INFERENCE:

Majority (32%) of the respondents are belonging to the age below 30

TABLE 4.1.3: Qualification of the respondents.

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Illiterate	11	9%
S.S.L.C	25	21%
HSC	38	31%
Degree	46	39%
Total	120	100%

CHART 4.1.3: Qualification of the respondents



INTERPRETATION:

From the above table it can be interpreted that 39% of the respondents are completed degree and 31% of the respondents are completed HSC, 21% of the respondents are completed SSLC and 9% of the respondents are illiterate.

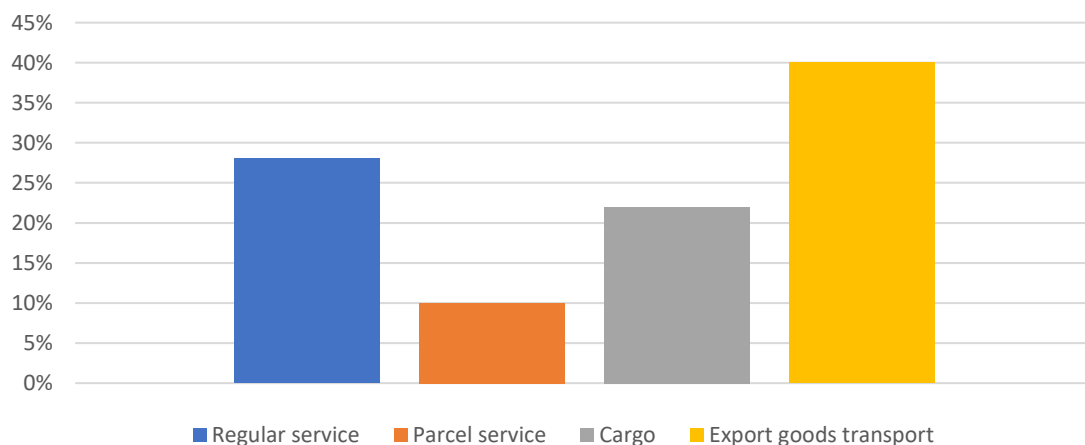
INFERENCE:

Majority (39%) of the respondents are completed degree.

TABLE 4.1.4: Nature of Business

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Regular service	34	28%
Parcel service	12	10%
Cargo	26	22%
Export goods transport	48	40%
Total	120	100%

CHART 4.1.4: Nature of business



INTERPRETATION:

From the above table it can be interpreted that 40% of the respondents are doing export goods transport business and 28% of the respondents are doing regular service business. 22% of respondents are doing cargo service and 10% of the respondents are doing parcel service business.

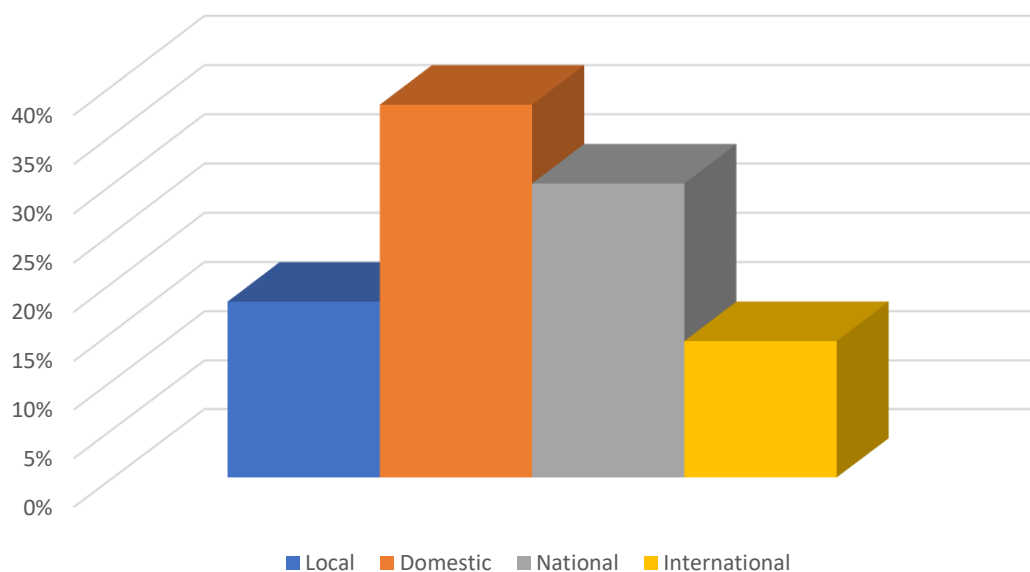
INFERENCE:

Majority (40%) of the respondents are doing export goods transport business.

TABLE 4.1.5: Area of Business Coverage

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Local	22	18%
Domestic	45	38%
National	26	30%
International	17	14%
Total	120	100%

CHART 4.1.5: Area of Business Coverage



INTERPRETATION:

From the above table it can be interpreted that 38% of the respondents are doing business in domestic area, 30% of the respondents are doing business in national area. 18% are local and 14% of the respondents are international.

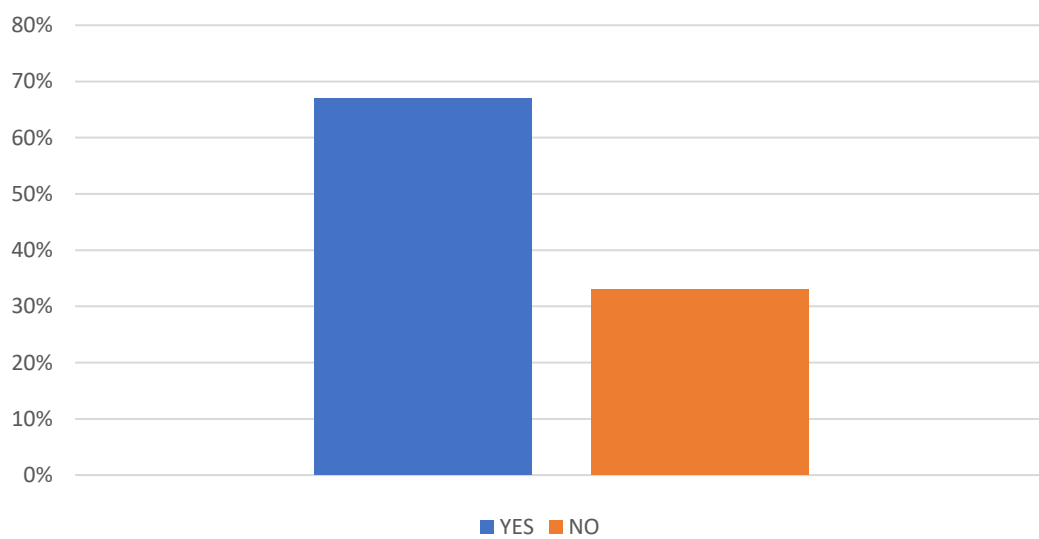
INFERENCE:

Majority (38%) of the respondents are doing business in domestic area.

TABLE 4.1.6: Do you have own vehicle

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Yes	80	67%
No	40	33%
Total	120	100%

CHART 4.1.6: Do you have own vehicle



INTERPRETATION:

From the above table it can be interpreted that 67% of the respondents are having own lorry and 33% of the respondents are didn't have own vehicle.

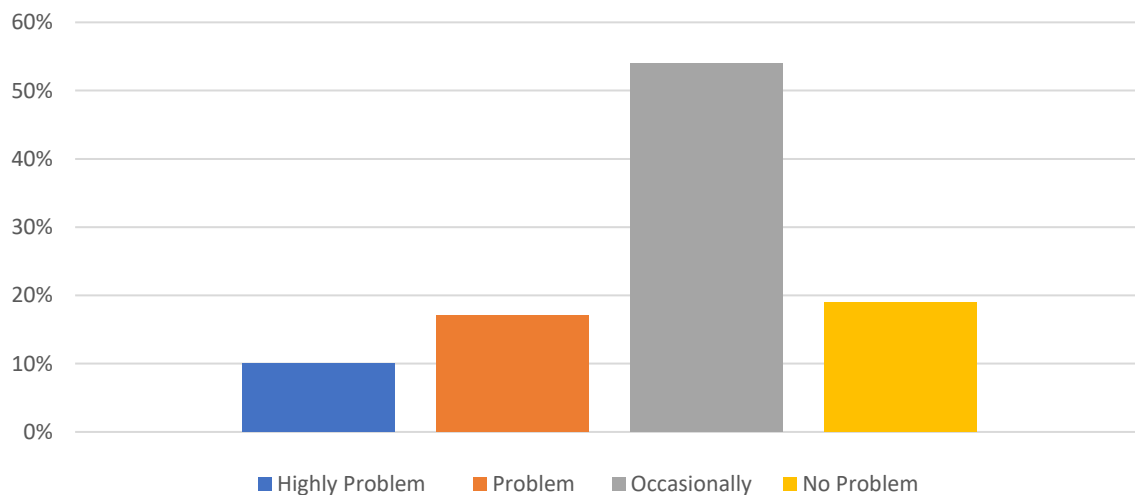
INFERENCE:

Majority (67%) of the respondents are having own vehicle.

TABLE 4.1.7: Do you have problem in hire a vehicle

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	12	10%
Problem (P)	20	17%
Occasionally (O)	65	54%
No Problem (NP)	23	19%
Total	120	100%

CHART 4.1.7: Do you have problem in hire a vehicle



INTERPRETATION:

From the above table it can be interpreted that 54% of the respondents are facing problem occasionally while hiring a vehicle and 19% of the respondents are not facing problem while hiring a vehicle. 17% problem and 10% of the respondents are highly problem.

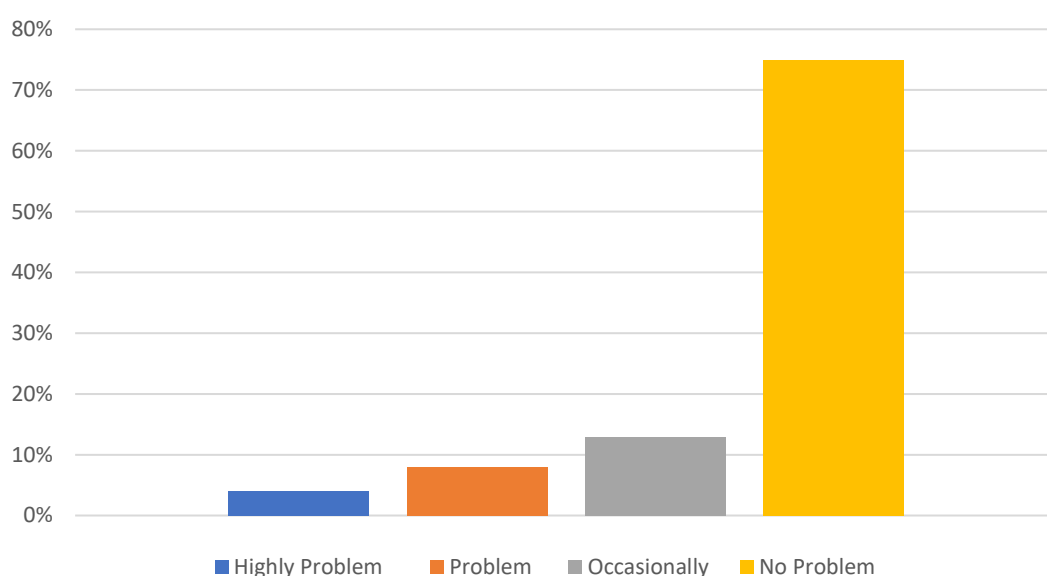
INFERENCE:

Majority (54%) of the respondents are facing problem occasionally while hiring a vehicle.

TABLE 4.1.8: Do you face any problem in paying insurance every year

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	5	4%
Problem (P)	10	8%
Occasionally (O)	15	13%
No Problem (NP)	90	75%
Total	120	100%

CHART 4.1.8: Do you face any problem in paying insurance every year



INTERPRETATION:

From the above table it can be interpreted that 75% of the respondents are not facing problem, 13% of the respondents are occasionally facing problem, 8% of the respondents are facing problem and 4% of the respondents are facing highly problem while paying insurance every year.

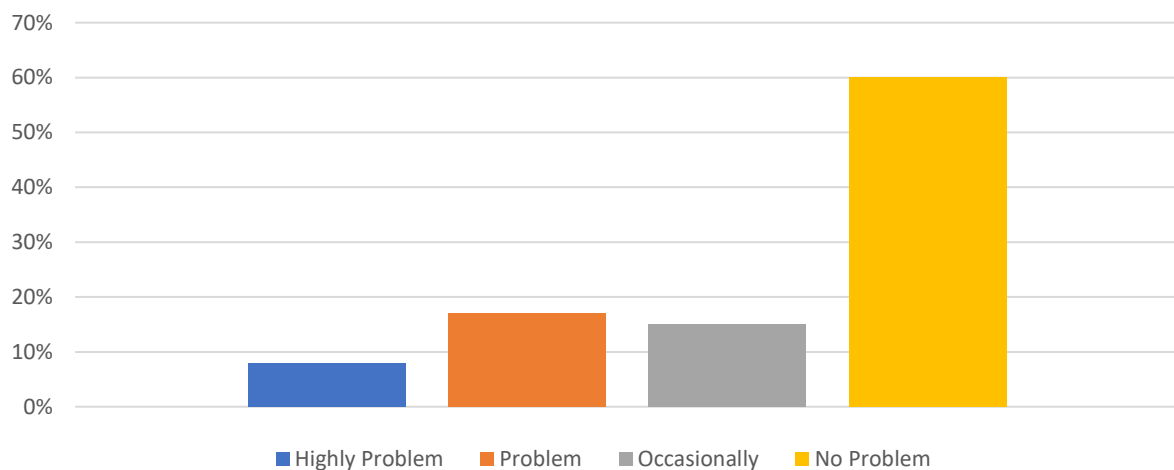
INFERENCE:

Majority (75%) of the respondents are not facing problem while paying insurance every year.

TABLE4.1.9: Do you face any problem in paying road tax every year

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	10	8%
Problem (P)	20	17%
Occasionally (O)	18	15%
No Problem (NP)	72	60%
Total	120	100%

CHART 4.1.9: Do you face any problem in paying road tax every year



INTERPRETATION:

From the above table it can be interpreted that 60% of the respondents are not facing problem while paying road tax every year, 17% of the respondents are facing problem while paying road tax every year, 8% of the respondents have highly problem and 15% of the respondents have occasionally problem in paying road tax every year.

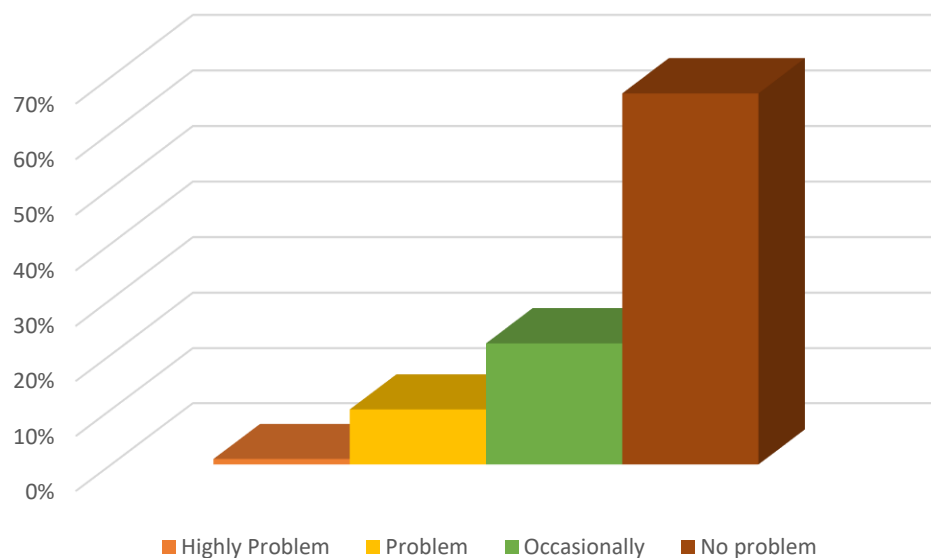
INFERENCE:

Majority (60%) of the respondents are not facing problem while paying road tax every year.

TABLE 4.1.10 Do you face any problem in paying income tax every year

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	2	1%
Problem (P)	12	10%
Occasionally (O)	25	22%
No Problem NP)	81	67%
Total	120	100%

CHART 4.1.10: Do you face any problem in paying income tax every year



INTERPRETATION:

From the above table it can be interpreted that 67% of the respondents are not facing problem, 22% of the respondents are facing problem occasionally while paying income tax every year. 1% of the respondents are facing highly problem and 10% of the respondents are facing problem while paying income tax every year.

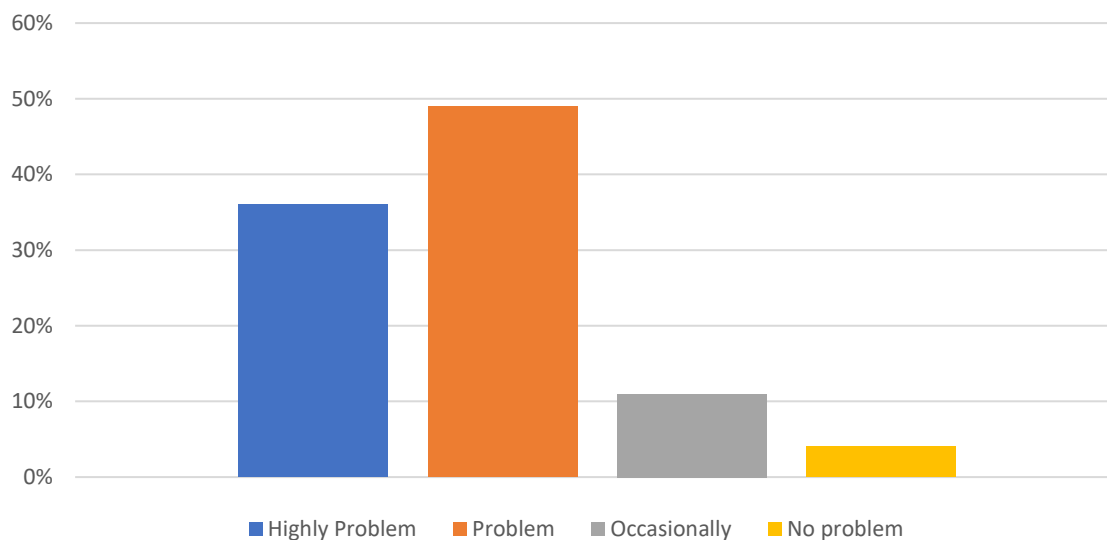
INFERENCE:

Majority (67%) of the respondents are not facing problem while paying income tax every year.

TABLE 4.4.11: Do you face problem if daily workers are not available?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	43	36%
Problem (P)	59	49%
Occasionally (O)	14	11%
No Problem (NP)	4	4%
Total	120	100%

CHART 4.1.11: Do you face problem if daily workers are not available?



INTERPRETATION:

From the above table it can be interpreted that 49% of the respondents are facing problem when daily workers are not available and 36% of the respondents are facing highly problem, 4% of the respondents are not facing problem and 11% of the respondents are facing problem occasionally while paying income tax every year.

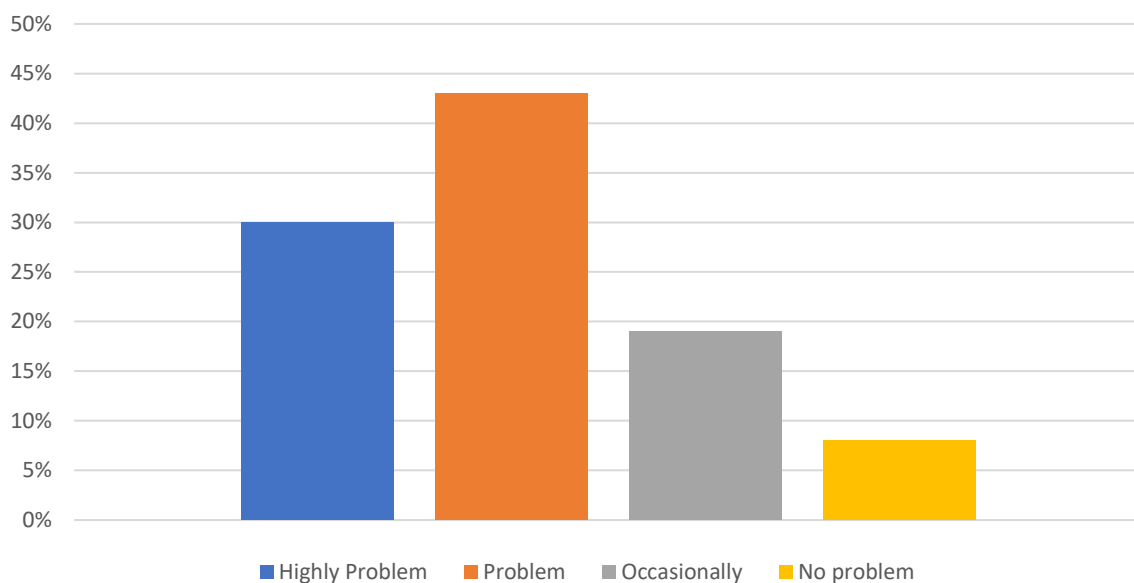
INFERENCE:

Majority (49%) of the respondents are facing problem when daily workers are not available

TABLE 4.1.12: Do you face problem when driver does unethical practice?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	36	30%
Problem (P)	52	43%
Occasionally (O)	23	19%
No Problem (N P)	9	8%
Total	120	100%

CHART 4.1.12: Do you face problem when driver does unethical practice



INTERPRETATION:

From the above table it can be interpreted that 43% of the respondents are facing problem when driver does unethical practice and 30% of the respondents are facing highly problem when driver does unethical practice.

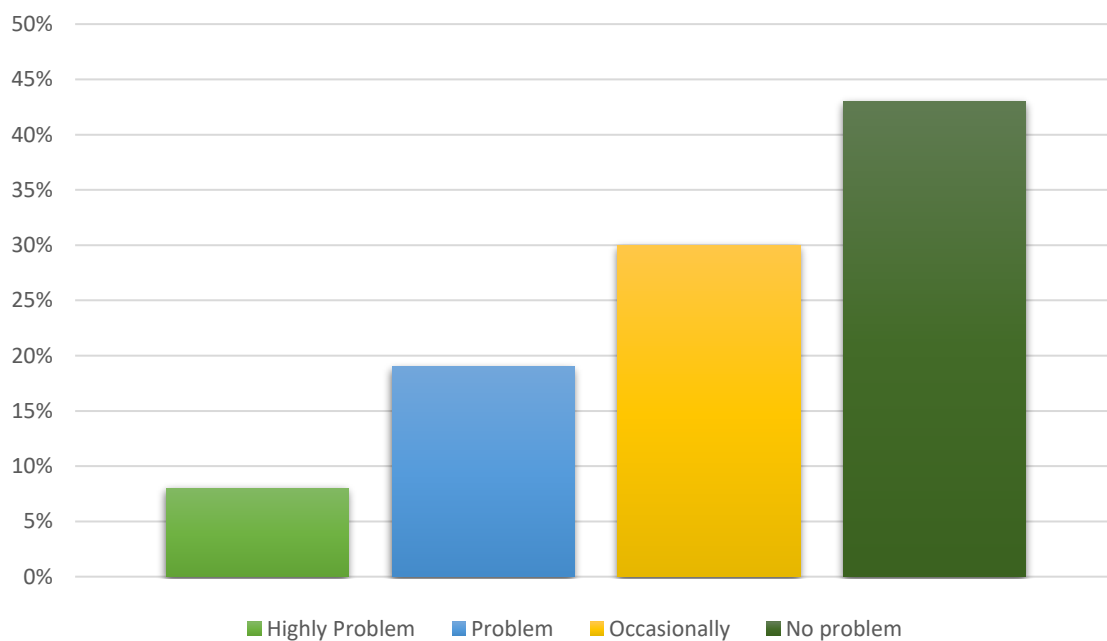
INFERENCE:

Majority (43%) of the respondents are facing problem when driver does unethical practice.

TABLE: 4.1.13: Do you face problem due to the office worker?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	6	8%
Problem (P)	18	19%
Occasionally (O)	37	30%
No Problem (NP)	59	43%
Total	120	100%

CHART 4.1.13: Do you face problem due to the office worker?



INTERPRETATION:

From the above table it can be interpreted that 43% of the respondents are not facing problem due to the office worker and 30% of the respondents are facing problem occasionally due to the office worker.

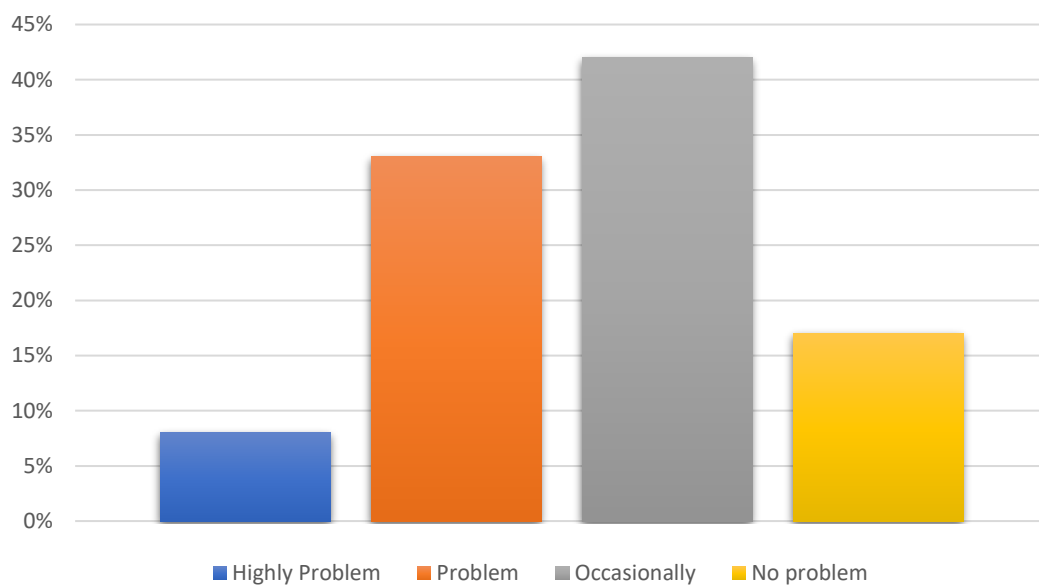
INFERENCE:

Majority (43%) of the respondents are not facing problem due to the office worker.

TABLE 4.1.14: Do you face any problem in toll gate

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	10	8%
Problem (P)	40	33%
Occasionally (O)	50	42%
No Problem (NP)	20	17%
Total	120	100%

CHART 4.1.14: Do you face problem in toll gate



INTERPRETATION:

From the above table it can be interpreted that 42% of the respondents are having problem occasionally when they face toll gate and 33% of the respondents are having problem when they face toll gate.

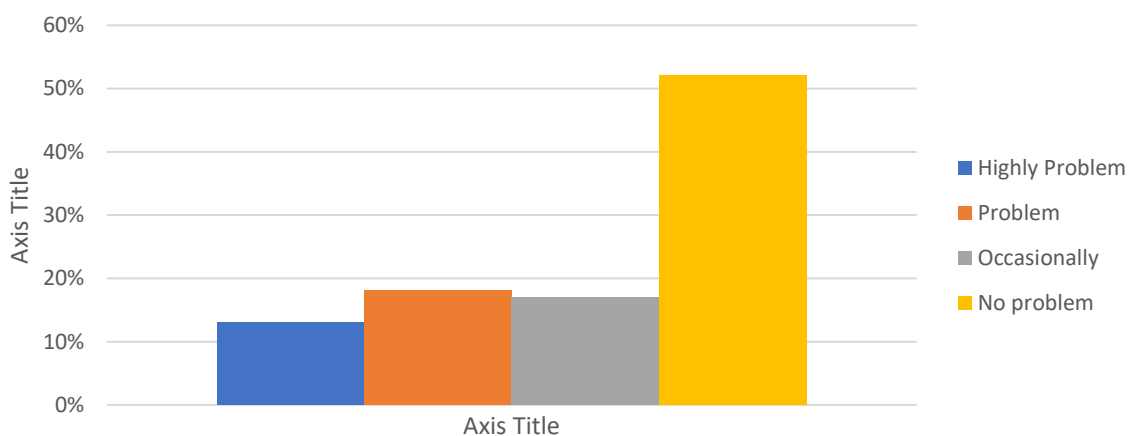
INFERENCE:

Majority (42%) of the respondents are having problem occasionally when they face toll gate.

TABLE 4.1.15: Do you face any problem in sales tax?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	15	13%
Problem (P)	22	18%
Occasionally (O)	21	17%
No Problem (NP)	62	52%
Total	120	100%

CHART 4.1.15: Do you face any problem in sales tax?



INTERPRETATION:

From the above table it can be interpreted that 52% of the respondents are not having problem when they face sales tax and 18% of the respondents are having problem when they face sales tax.

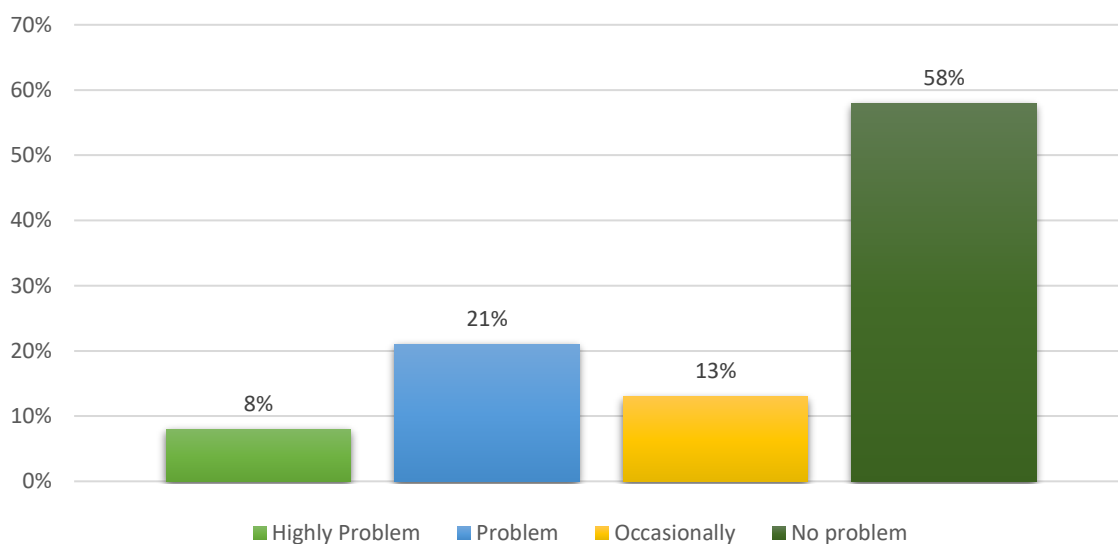
INFERENCE:

Majority (52%) of the respondents are not having problem when they face sales tax.

TABLE 4.1.16: Do you face any problem in RTO?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	10	8%
Problem (P)	25	21%
Occasionally (O)	15	13%
No Problem (NP)	70	58%
Total	120	100%

CHART 4.1.16: Do you face any problem in RTO?



INTERPRETATION:

From the above table it can be interpreted that 58% of the respondents are not having problem when they facing the RTO and 21% of the respondents are having problem when they facing the RTO.

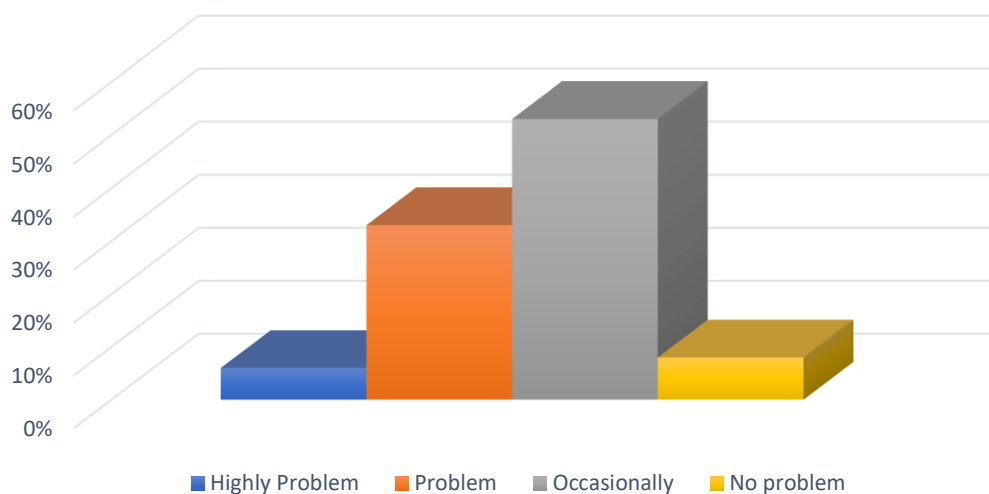
INFERENCE:

Majority (58%) of the respondents are not having problem when they facing the RTO.

TABLE 4.1.17: Do you face any problems in infrastructure of road?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	7	6%
Problem (P)	40	33%
Occasionally (O)	63	53%
No Problem (NP)	10	8%
Total	120	100%

CHART 4.1.17: Do you face any problems in infrastructure of road?



INTERPRETATION:

From the above table it can be interpreted that 53% of the respondents are having problem occasionally with road infrastructure and 33% of the respondents are having problem with road infrastructure.

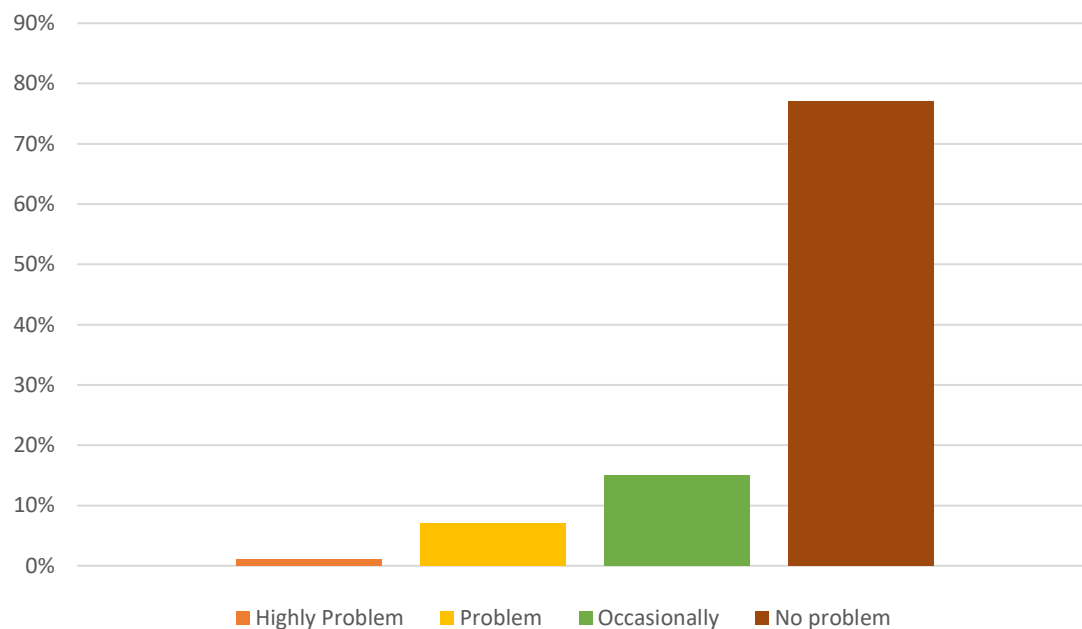
INFERENCE:

Majority (53%) of the respondents are having problem occasionally with road infrastructure

TABLE 4.1.18: Do you face any problem in unload of goods?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	2	1%
Problem (P)	8	7%
Occasionally (O)	18	15%
No Problem (NP)	92	77%
Total	120	100%

CHART 4.1.18: Do you face any problem in unload of goods?



INTERPRETATION:

From the above table it can be interpreted that 77% of the respondents say that they are not having problem to unload the goods and 15% of the respondents say that they are having problem occasionally to unload the goods.

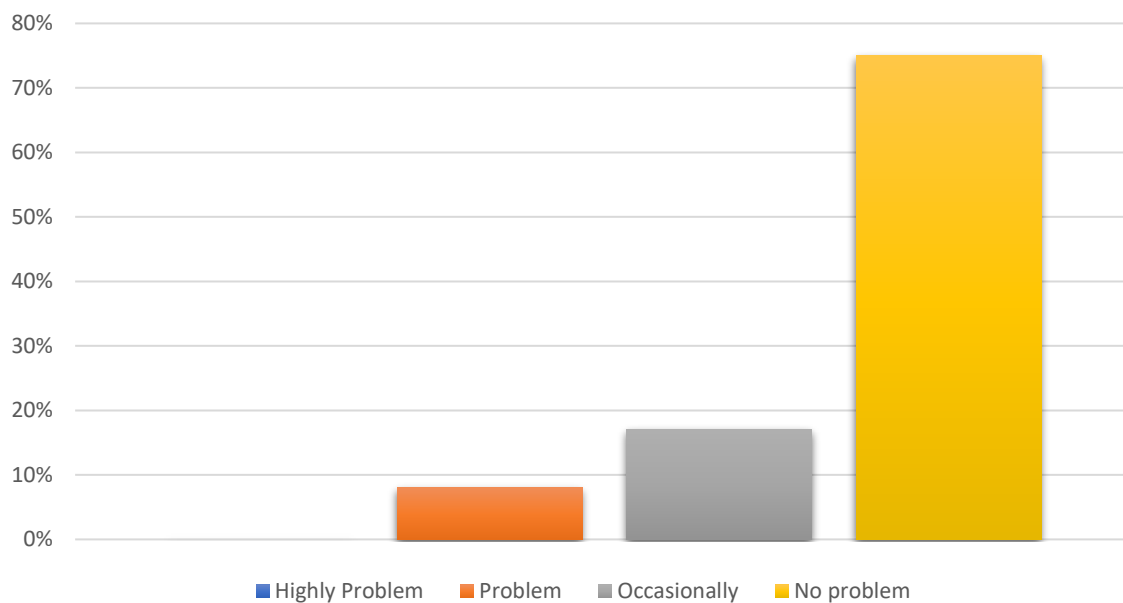
INFERENCE:

Majority (77%) of the respondents say that they are not having problem to unload the goods.

TABLE 4.1.19: Do you face any problem in lorries enters in the city time?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	0	0%
Problem (P)	10	8%
Occasionally (O)	20	17%
No Problem (UP)	90	75%
Total	120	100%

CHART 4.1.19: Do you face any problem in lorries enters in the city time?



INTERPRETATION:

From the above table it can be interpreted that 75% of the respondents say they are not having problem when the Lorries enter the city time and 17% of the respondents say they are having problem occasionally when the Lorries enter the city time.

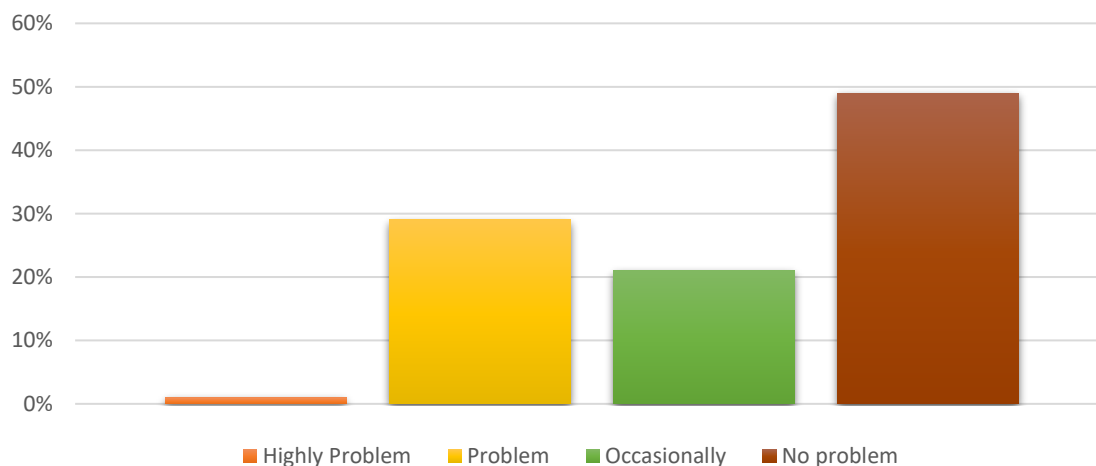
INFERENCE:

Majority (75%) of the respondents say they are not having problem when the Lorries enter the city time.

TABLE 4.1.20: Do you face any problem in price of spare parts and accessory?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	2	1%
Problem (P)	34	29%
Occasionally (O)	25	21%
No Problem (NP)	59	49%
Total	120	100%

CHART 4.1.20: Do you face any problem in price of spare parts and accessory?



INTERPRETATION:

From the above table it can be interpreted that 49% of the respondents say that they are not having problem with price of the spare parts & accessory and 29% of the respondents say that they are having problem with price of the spare parts & accessory.

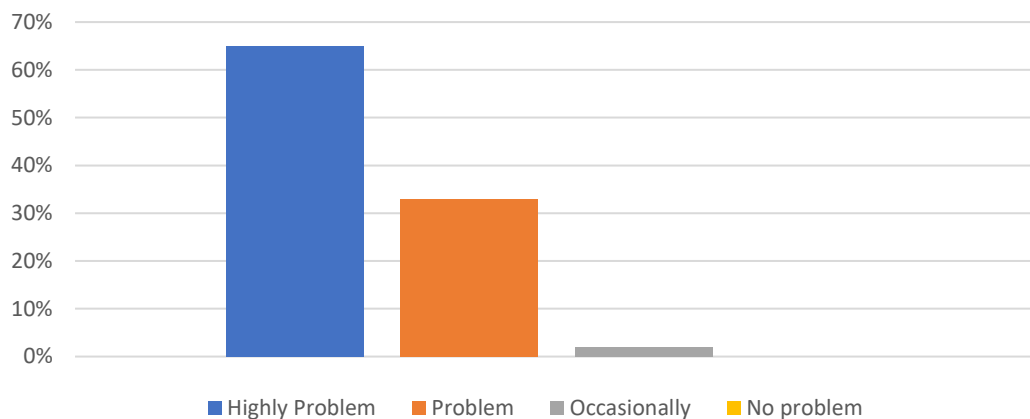
INFERENCE:

Majority (49%) of the respondents say that they are not having problem with price of the spare parts & accessory.

TABLE 4.1.21: Do you face any problem in price hike in petrol and diesel?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	78	65%
Problem (P)	40	33%
Occasionally (O)	2	2%
No Problem (UP)	0	0%
Total	120	100%

CHART 4.1.21: Do you face any problem in price hike in petrol and diesel?



INTERPRETATION:

From the above table it can be interpreted that 65% of the respondents say that they are having highly problem with the price of diesel and 33% of the respondents say that they are having problem with the price of diesel.

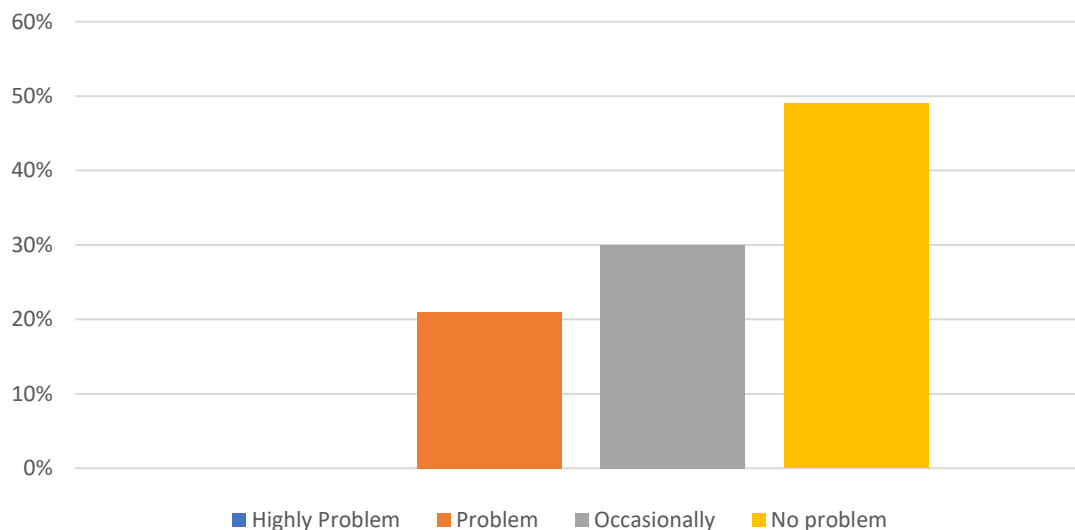
INFERENCE:

Majority (65%) of the respondents say that they are having highly problem with the price of diesel.

TABLE 4.1.22: Do you have any problem in delivery schedule?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	0	0%
Problem (P)	25	21%
Occasionally (O)	36	30%
No Problem (UP)	59	49%
Total	120	100%

CHART 4.1.22: Do you have any problem in delivery schedule?



INTERPRETATION:

From the above table it can be interpreted that 49% of the respondents are not having problem with delivery schedule and 30% of the respondents are having problem with delivery schedule occasionally.

INFERENCE:

Majority (49%) of the respondents are not having problem with delivery.

4.2 TESTING

4.2.1 CHI SQUARE TEST:

Null hypothesis (H0): There is no significant difference between age of the respondents and daily worker not available

Alternative hypothesis (H1): There is a significant difference between the age of the respondents and daily workers not available

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Age * Daily workers not available	120	100.0 %	0	0.0%	120	100.0 %

Age * Dailyworkersnotavailabe Crosstabulation						
Count						
		Dailyworkersnotavailabe				Total
		Highly problem	Problem	occationally problem	No problem	
Age	Below 30	38	0	0	0	38
	30 - 40	5	27	0	0	32
	40 - 50	0	27	0	0	27
	Above 50	0	5	14	4	23
Total		43	59	14	4	120

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	185.601 ^a	9	.000
Likelihood Ratio	188.510	9	.000
Linear-by-Linear Association	90.814	1	.000
N of Valid Cases	120		

a. 8 cells (50.0%) have expected count less than 5. The minimum expected count is .77.

INTERPRETATION

Since p value 0.000 is less than 0.05 null hypothesis is rejected, alternate is accepted. Hence, there is significant association between the age of the respondents and do you have any problems if daily workers not available

4.2.2. ANOVA TEST:

ONE WAY ANOVA

Null hypothesis (H0): There is no significant difference between qualification of the respondents and any problem in price hike in petrol and diesel.

Alternative hypothesis (H1): There is a significant difference between qualification of the respondents and any problem in price hike in petrol and diesel.

ANOVA

qualification

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	65.697	2	32.848	77.965	.000
Within Groups	49.295	117	.421		
Total	114.992	119			

qualification

Duncan^{a,b}

<u>Doyoufaceanyproblem in price hike in petrol or diesel</u>	N	Subset for alpha = 0.05	
		1	2
highly problem	78	2.45	
problem	40		4.00
Occasionally	2		4.00
Sig.		1.000	1.000

INTERPRETATION

The P value of the above analysis is less than 0.5, we reject the null hypothesis and accept the alternate hypothesis. Hence, there is significant difference between qualification of the respondents and face any problem in price hike in petrol and diesel.

CHAPTER 5

5.1 FINDINGS:

- Majority (73%) of the respondents are male.
- Majority (32%) of the respondents are belonging to the age below 30.
- Majority (39%) of the respondents are completed degree.
- Majority (40%) of the respondents are doing export goods transport business.
- Majority (38%) of the respondents are doing business in domestic area.
- Majority (67%) of the respondents are having own vehicle.
- Majority (54%) of the respondents are facing problem occasionally while hiring a vehicle.
- Majority (75%) of the respondents are not facing problem while paying insurance every year.
- Majority (60%) of the respondents are not facing problem while paying road tax every year.
- Majority (67%) of the respondents are not facing problem while paying income tax every year.
- Majority (49%) of the respondents are facing problem when daily workers are not available
- Majority (43%) of the respondents are facing problem when driver does unethical practice.
- Majority (43%) of the respondents are not facing problem due to the office worker.
- Majority (42%) of the respondents are having problem occasionally when they face toll gate
- Majority (52%) of the respondents are not having problem when they face sales tax.

- Majority (58%) of the respondents are not having problem when they facing the RTO.
- Majority (53%) of the respondents are having problem occasionally with road infrastructure
- Majority (77%) of the respondents say that they are not having problem to unload the goods.
- Majority (75%) of the respondents say they are not having problem when the Lorries enter the city time.
- Majority (49%) of the respondents say that they are not having problem with price of the spare parts & accessory.
- Majority (65%) of the respondents say that they are having highly problem with the price of diesel.
- Majority (49%) of the respondents are not having problem with delivery.

5.2 SUGGESTION

- The government should improve in the aspect of Infrastructure.
- Bank must provide more loans and reduce delay in sanctioning of loans.
- Organizations give more compensation to driver.
- Government must reduce the rate of insurance, road tax, quarterly tax and income tax.
- Hamali paid to load man may be framed fixed.
- In this field competition is high, so the organizations go for innovative idea and adopt new technology like e-booking.
- Single window checking and certifying may reduce the time in every checking stations.

5.3 CONCLUSION

The purpose of the project was to find the problem in road goods transport industry in Chennai. In the recent years, the road transport sector is witnessing a strong and vigorous growth despite it facing momentous barriers to inter-state freight movement. This is particular to this segment when compared to inland waterways, air and railways that does not have much checks and barriers enroute. Also, the global competition is putting in the pressure to have an efficient transport that is free from all impediments that affects the efficiency of freight road transport.

Finally, I find in Chennai Road goods transport industry are face huge problem in various way like Infrastructure, driver, insurance, road tax, income tax, police. So, this industry must improve in research study area.

5.4 REFERENCES

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- Road freight transport statistics.

ANNEXURE –I QUESTIONNAIRE

Part A: Demographic profile/ Basic information

1. COMPANY NAME: _____

2. CONTACT NAME: _____

3. AGE: () Below 30 () 30 to 40 () 40 to 50 () Above 50

4. GENDER: () Male () Female

5. Education: () ILLITERATE () S.S.L.C () HSC () DEGREE

Part B: opinion

6. Nature of business

() Regular service () Parcel service

() Cargo () Export goods transport

7. Area of business coverage

() Local () Domestic () National () International

8. Do you have own vehicle () Yes () No

What is your opinion on problems Companies regarding the given variables?

Kindly Rate the given variables (HP – Highly Problem, P– Problem, O- Occasionally, UP- UN Problem,)

VARIABLES	Highly Problem (HP)	Problem (P)	Occasiona lly (O)	No Problem (NP)
-----------	---------------------------	----------------	----------------------	-----------------------

Finance problem

9. Are you facing a problem

in hire a vehicle? () () () ()

10. Pay Insurance every year () () () ()

11. Pay road tax every year () () () ()

12. Pay income tax every year () () () ()

Manpower problem

13. If daily workers are not available

You will suffer () () () ()

14. If driver do unethical practice

You will suffer () () () ()

15. Due to the office worker () () () ()

Variables	Highly Problem (HP)	Problem (P)	Occasionally (O)	No Problem (NP)
-----------	---------------------	-------------	------------------	-----------------

Legal problem

16. Do you face problem in

toll gate () () () ()

17. Do you face problem sales in tax () () () ()

18. Do you face problem in RTO () () () ()

Other problem

19. Do you face problem in

Lorry enters the city time () () () ()

20. Do you face problem in

Unload the good () () () ()

21. Do you face problem in

Spare parts & accessory price of vehicle () () () ()

22. Do you face problem in

Diesel price () () () ()

23. Do you face problem in

Delivery schedule () () () ()

24. Do you face problem in

Road Infrastructure () () () ()

A STUDY ON PROBLEMS FACED IN ROAD TRANSPORTATION

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I ABSTRACT

The study is being conducted for the road goods transport industry in Chennai, to find out the problems in the road transport industry. It is required to find out the problem based on certain aspects (price, workers, fuel, Income, problem faced by the industry. Primary objective is to study the problems in road transportation. Secondary objectives are to assess the finance related problems in road transportation, analyze the manpower-based problems in road transportation, understand the legal problems in road transportation and find out and analyze various other problems in the goods transport industry in Chennai. Convenience sampling method has been used in the research work. Multiple choice questions have been chosen to collect the responses from 120 respondents. The data collected has been analyzed. Numerous new findings have been derived from this research has helped to provide few suggestions to resolve the problems in road transportation.

II INTRODUCTION

The economic development of infrastructure in India, the country has progressed at a rapid pace and today there is an availability of wide variety of modes of transport by land, water and air. But, overall, Road Transport is the primary and preferred mode of transport for most of the population and India's Road Transport system is among the most heavily utilized system in the world. It plays a pivotal role in the economic development of a nation by increasing the productivity and competitiveness. Firstly, Road Transportation infrastructure can enter the production process as direct input and in many cases as an unpaid factor of production. Secondly, it may make other existing, inputs more productive. For instance, a well-designed road allows the transportation of goods to market in less time and hence, reducing the transportation cost in the production process. Thirdly, Road Transportation increases regional economic growth by attracting resources from other regions. In this vein one would recall that through-out the growth of civilization, most centers of economic activities flourished along riverbanks and coast lines where water ways the convenient prime carrier of raw

materials goods and labor.

1.2 INDUSTRY PROFILE

Road freight transport is an essential economic activity. Without it, our economies would not function. The road freight sector has developed very dynamically. It is useful for policy makers, stakeholders and other interested parties have up-to-date information on the structure of the industry and on major trends.

1.2.3 Road transport industry in Chennai: -

Chennai is the center of Tamil Nadu. It's also one of the major cities for the freight transport industry. Chennai is the hub for transporters.

- There are more than 400 enterprises in the road freight industry.
- They receive approximately 100 loads and send 100 loads every day.

It will change according to the demand.

Logistics industry has always been an underdog, and has not achieved the much-deserved attention yet. The sector is full of potential, but we are still lacking optimal utilization of resources. However, we can see a rapid hike in demand and awareness of the sector this year. We can see a lot of startups entering the sector offering services like never before. With the advancements in technologies, we can surely say that there's a lot more to come. Logistics plays a vital role in strengthening the economy. It is the lifeline for every other commercial sector. The sector is evolving at a fast pace and infrastructure, and technologies are paving new paths towards growth. India has jumped 19th place in the world banks Logistics performance index, from 54th place to 35th. This was announced by the world Bank Group in the recent launch of its report. With a huge jump of 19 places, India has crossed many countries like New Zealand, Thailand, Saudi Arabia, Iceland, Latvia and Indonesia who were ahead of it in the index

III REVIEW OF LITERATURE: -

Sebastian (2008), A Study on Problems of Logistics Industry The objective of the study about the problem that faced logistics industry. He concluded that India's logistics industry is low in their planning and current professionals in the industry should sharpen their skills on a broad base of key elements of transportation and logistics.

Francisco Chiclana (2014), A Survey of Transportation Problems. This paper aims at being a guide to understand the different types of transportation problems by presenting a survey of mathematical models and algorithms used to solve different types of transportation modes.

Browne, M., Piotrowski, M (2019), Urban freight transport, the review

illustrates the importance of road movements in goods distribution in urban areas. It highlights the major economic, environmental and social impacts associated with this freight activity and reviews policy options available to those responsible for regulation.

Mohammad Asim Nomani, Irfan Ali & A. Ahmed (2020), A multi-objective transportation problems. A weighted approach based on goal programming to obtain compromise solutions is proposed. In the proposed approach, a new weighted model is presented to obtain varying solutions according to the priorities of the decision-maker.

IV OBJECTIVES OF THE STUDY: -

A PRIMARY OBJECTIVE:

- To study the problems in road transportation with reference to LOM Logistics Pvt Ltd

B SECONDARY OBJECTIVE:

- To assess the finance related problems in road transportation
- To analyze the manpower-based problems in road transportation
- To understand the legal problems in road transportation

V RESEARCH METHODOLOGY: -

A. SOURCES OF DATA

The data required for the study is collected from both primary data and secondary data.

- **Primary Data** – Primary data are collected for the first time and this happens to the original in character. In this study, data are collected directly from the transport owners or managers by using the questionnaire method.
- **Secondary Data** - The background of the present study was collected from various sources which include Books, journals, website, and other related research work

B. CONVENIENCE SAMPLING METHOD

A convenience sample is one of the main types of non- probability sampling methods. A convenience sample is made up of people who are easy to reach.

C. ANALYTICAL TOOLS

A set of imaginary questions were framed to conduct the statistical tests to find out the difference and association between the variables.

H0- There is no significant Difference/Association.

H1- There is significant Difference/Association.

D. LIMITATIONS OF THE STUDY:

Even though an elaborate study was made on the problems in logistics, special reference to road goods transport industry in Chennai, it was subject to the following limitations:

- The study was limited to Chennai only.
- The study was limited to vehicle service only

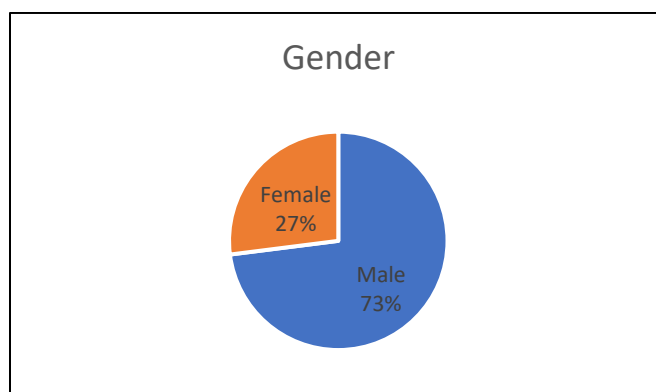
•Time was a major constraint.

•The sample was limited to only owners or managers of the road transport industry in Chennai.

V DATA ANALYSIS: -

1 Table shows: Gender of the respondents

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Male	88	73%
Female	32	27%
Total	120	100%



INFERENCE:

Majority (73%) of the respondents are male.

Table 2 show: Nature of Business

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Regular service	34	28%
Parcel service	12	10%
Cargo	26	22%
Export goods transport	48	40%
Total	120	100%

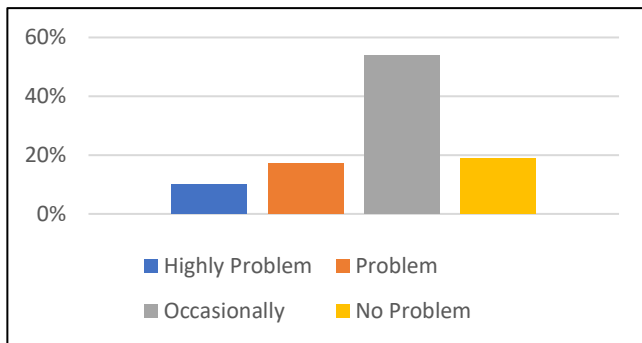


INFERENCE:

Majority (40%) of the respondents are doing export goods transport business.

Table 3 show: Do you have problem in hire a vehicle.

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	12	10%
Problem (P)	20	17%
Occasionally (O)	65	54%
No Problem (NP)	23	19%
Total	120	100%

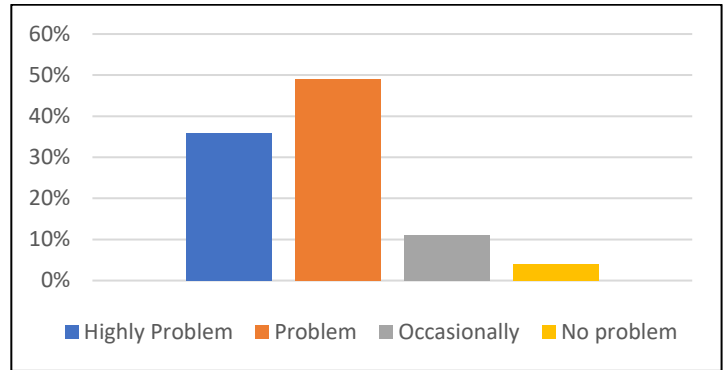


INFERENCE:

Majority (54%) of the respondents are facing problem occasionally while hiring a vehicle.

Table 4 show: Do you face problem if daily workers are not available?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	43	36%
Problem (P)	59	49%
Occasionally (O)	14	11%
No Problem (NP)	4	4%
Total	120	100%

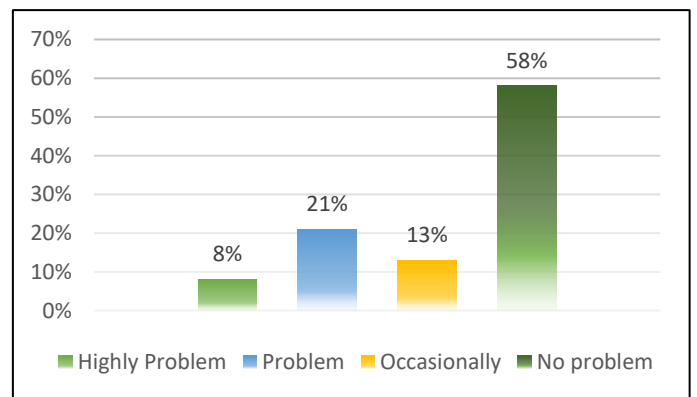


INFERENCE:

Majority (49%) of the respondents are facing problem when daily workers are not available

Table 5 show: Do you face any problem in RTO?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	10	8%
Problem (P)	25	21%
Occasionally (O)	15	13%
No Problem (NP)	70	58%
Total	120	100%

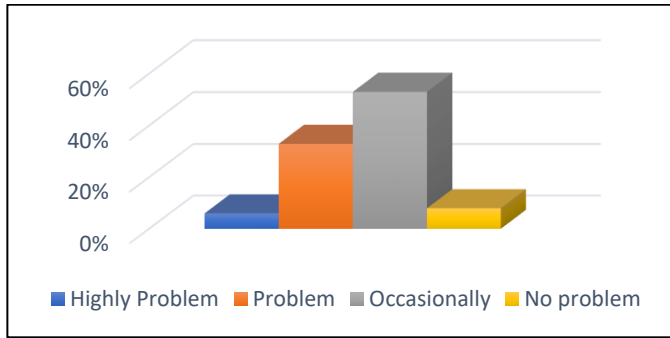


INFERENCE:

Majority (58%) of the respondents are not having problem when they facing the RTO.

Table 6 show: Do you face any problems in infrastructure of road?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	7	6%
Problem (P)	40	33%
Occasionally (O)	63	53%
No Problem (NP)	10	8%
Total	120	100%

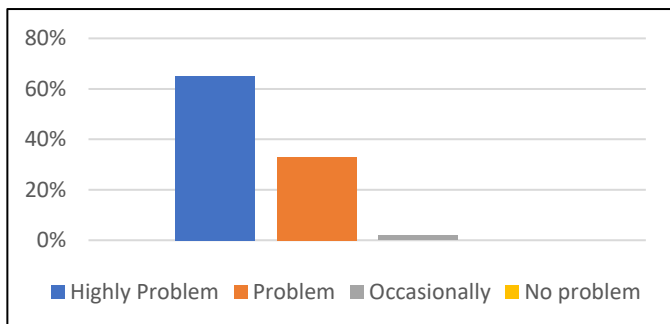


INFERENCE:

Majority (53%) of the respondents are having problem occasionally with road infrastructure.

Table 7 show: Do you face any problem in price hike in petrol and diesel?

PARTICULARS	NO. OF RESPONDENTS	PERCENTAGE
Highly Problem (HP)	78	65%
Problem (P)	40	33%
Occasionally (O)	2	2%
No Problem (UP)	0	0%
Total	120	100%



INFERENCE:

Majority (65%) of the respondents say that they are having highly problem with the price of diesel.

VI TESTING: -

1. CHI SQUARE TEST

A chi-square statistic is one way to show a relationship between two categorical variables

Case Processing Summary						
	Cases					
	Valid		Missing		Total	
	N	Perc ent	N	Perc ent	N	Perc ent
Age * Daily workers not available	120	100.0%	0	0.0%	120	100.0%

Age * Daily workers not available Crosstabulation					
Count					
		Daily workers not available			
		Highly problem	Proble m	occasionall y problem	No problem
Age	Below 30	38	0	0	0
	30 - 40	5	27	0	0
	40 - 50	0	27	0	0
	Above 50	0	5	14	4
	Total	43	59	14	4
Total		43	59	14	4

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	185.601 ^a	9	.000
Likelihood Ratio	188.510	9	.000
Linear-by-Linear Association	90.814	1	.000
N of Valid Cases	120		

8 cells (50.0%) have expected count less than 5.

The minimum expected count is .77.

INTERPRETATION

Since p value 0.000 is less than 0.05 null hypothesis is rejected, alternate is accepted. Hence, there is significant association between the age of the respondents and do you have any problems if daily workers not available.

ANOVA TEST: - One-way ANOVA is a statistical technique

that is used to compare that means of more than two groups.

ANOVA

qualification

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	65.697	2	32.848	77.965	.000
Within Groups	49.295	117	.421		
Total	114.992	119			

qualification

Duncan^{a,b}

<u>Doyoufaceanyproblem</u> <u>inpricehikeinpetrolord</u> <u>iesel</u>	N	Subset for alpha = 0.05	
		1	2
highly problem	78	2.45	
problem	40		4.00
Occasionally	2		4.00
Sig.		1.000	1.000

INTERPRETATION

The P value of the above analysis is less than 0.5, we reject the null hypothesis and accept the alternate hypothesis. Hence, there is significant difference between qualification of the respondents and face any problem in price hike in petrol and diesel.

VII FINDING: -

- Majority (73%) of the respondents are male.
- Majority (32%) of the respondents are belonging to the age below 30.
- Majority (39%) of the respondents are completed degree.
- Majority (40%) of the respondents are doing export goods transport business.
- Majority (38%) of the respondents are doing business in domestic area.
- Majority (67%) of the respondents are having own vehicle.

VIII SUGGESTION: -

- The government should improve in the aspect of Infrastructure.
- Bank must provide more loans and reduce delay in sanctioning of loans.
- Organizations give more compensation to driver.
- Government must reduce the rate of insurance, road tax, quarterly tax and income tax.
- Hamali paid to load man may be framed fixed.
- In this field competition is high, so the organizations go for innovative idea and adopt new technology like e-booking.

IX SUGGESTION: -

The purpose of the project was to find the problem in road goods transport industry in Chennai. In the recent years, the road transport sector is witnessing a strong and vigorous growth despite it facing momentous barriers to inter-state freight movement. This is particular to this segment when compared to inland waterways, air and railways that does not have much checks and barriers enroute. Also, the global competition is putting in the pressure to have an efficient transport that is free from all impediments that affects the efficiency of freight road transport. Finally, the researcher finds in Chennai Road goods transport industry are face huge problem in various way like Infrastructure, driver, insurance, road tax, income tax, police. So, this industry must improve in research study area.

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