CHAPTER I

INTRODUCTION AND RESEARCH DESIGN

1.1 INTRODUCTION

Transportation forms an important part of the supply chain in any industry. Logistics costs primarily include transportation, warehousing, and inventory holding. Transportation costs amount to 10 - 40 per cent of the total cost of the final product. Transport is that part of economic activity which is concerned with increasing human satisfaction by changing the geographic position of goods or people.

Truck transport plays a major role in transportation of goods from one place to another. Trucking sector has played a pivotal role in trade and commerce in India especially in the past few decades. The contribution of road transport, which is one of the constituents of tertiary sector, is significant by itself being doubled. It is important to note that presently 70 per cent of the goods are transported via road. Road transportation has two distinct segments passenger and freight. The size of the commercial fleets is approximately 15 lakh buses and 30 lakh trucks. The road freight transport industry is of the size of Rs.40,000 crores\(^1\).

\(^1\) K.L. Thukral, “Enhancing the Quality of Trucking Services in India”, Asian Institute of Transport Development, Delhi, 2010, Pp.5-12.
In India, the road freight industry stands out unique with the majority of the market share held by the unorganized sector. The truck is a basic unit of freight transport operation by road. It can move either long distance or short distance cargo to different destinations and some operators operate at the local level only. Many more seem to be operating on specific routes on an inter-regional basis. Some others operate on a national basis.

Truck transport helps to move the materials from the place of production to that of consumption. In olden days, various modes of transportation, such as human beings, camels, horses, donkeys, bullock carts and ships were in use. Evidence of these modes is found in the history of Greek, Roman, Persian, Harappa, and Mohenjo-Daro civilizations.

With the advent of industrial revolution, rapid changes occurred in transportation. There was a requirement of transporting workers to and from the factories and for the speedy movement of goods to places of consumption. The result was the development of four forms of transportation, i.e. road, rail, air, and water. A simultaneous upgradation of infrastructure took place to support these transportation modes and to achieve speed of movement. Even with the availability of sophisticated modes of transportation, older modes still continued to serve society, though on a smaller scale.
In India, before independence, the transportation system mainly comprised roads and railways, which were developed for smooth administration by the British Government. Roads and railways were primarily used for communication with major ports and cities, keeping in view the administrative strategy, and trade and imperatives of the government ruling then. However, the focus changed, after independence, to the development of railways and road infrastructure to support the developmental needs of the emerging Indian economy and society. Gradually seaports and airports were developed to support industrialization in the country.

1.2 PERFORMANCE OF TRANSPORTATION INFRASTRUCTURE IN INDIA

In the movement of raw materials or products from their place of production to their place of consumption, transportation is the most important component of the logistical system. Transportation serves two purposes: one is product movement and the other is in-transit product storage. The movement of product can be achieved through various modes such as road, rail, air, and sea subject to the availability of and access to infrastructure. The other function of transportation, i.e. in-transit storage is not cost effective for a long period. The guiding principle for choosing a mode of transportation is the least cost per unit weight/volume of the product moved
over a unit distance. However, selection of a particular mode is dependent on the availability of transportation infrastructure in the region. In India, 39 per cent of the total cargo movement is by road, followed by rail, which contributes to the extent of 35 per cent and the balance is shared by inland water, air, and sea.

Road transport is the most promising means of agricultural and industrial advancement of a country. It is suitable for short and medium distances whereas other means are unable to reach the spots. It provides door-to-door service, which is not possible with other means. Road transportation provides the basic infrastructure to bring trade and commerce from the remote rural areas to urban areas and vice-versa, and brings far-off villages into the mainstream of national life, ensuring connectivity. With the manifold growth in industrial and agricultural activities and output, road transport has assumed greater importance due to the growing demand for making available the right product at the right place of consumption. Today road transportation occupies a predominant position in the transport network in the country. Road transportation offers a number of advantages such as door-to-door service, flexibility, reliability, reaching remote places and speed.
As regards the trucking industry in the country, it is predominantly in the unorganized private sector and the bulk of truck operators are single truck owners. Operators face many irritants like levy of multipoint octroi and traffic police checks, which impede the free flow of goods traffic. Currently, 25 million trucks are plying 250-350 kilometers per day as against 550-600 kilometers by their counterparts in developed countries. The average operating cost of an Indian truck is Rs.15 per kilometer. A major portion of the domestic cargo traffic in the country moves on the national and state highways that are spread over 34,850 kilometers and 1,37,120 kilometers respectively.

The national highways carry nearly 40 per cent of the total road traffic in India. Of the total national highways, 2 per cent of their length has four lanes, 34 per cent has two lanes, and 64 per cent has only a single lane. The national and state highways account for 1.42 and 5.56 per cent respectively, of the roads in the country, which is grossly inadequate. However, India is better placed in per capita road availability (0.58), when compared to Brazil 0.47, Indonesia 0.47, Hungary 0.41 and China 0.29, and Mexico 0.27 as per the road index computed by Cooper and Lybrand.2

Roads carry 70 per cent of freight traffic. The share of road transport in GDP is presently 4.66 per cent. It accounts for a major share of all

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transport modes. Easy availability, individual’s need-friendliness and cost savings are some of the factors that favor road transport. The road freight industry stands out unique with the majority of the market share held by the unorganized sector comprising individual or small operators. In the Rs. 38,000 crore road freight transportation market, the organized sector has only a miniscule of 14 per cent share of the total. It runs almost the entire goods-carrier industry. The rapid growth in the number of goods vehicles is indicative of the increased volume of freight handled by road. In spite of reports of railways eating into the share of roadways in the movement of goods freight, roadways has posted an impressive growth of over 48.32 per cent at a much higher base compared to growth of over 35.51 per cent in goods freight in railways. Total freight movement in railways increased from 492.50 million tonnes (mt) in 2001-02 to 667.39 mt in 2005-06, while roadways freight went up from 1553.60 mt to 2304.32 mt during the same period.

1.2.1 Truck Operation in India

A truck or lorry (British English) is a motor vehicle more specifically a commercial vehicle commonly used for transporting goods and materials. Truck operation involves a number of activities as fulfilling financial requirements for purchase of truck, body building work, registration process, getting permit from Regional Transport Authorities, appointing appropriate
drivers, cleaners, and lorry brokers who arrange loads for the trucks, booking agents who collect and pay tax deduction at source (TDS), procurement of spare parts, insurance procedures both for truck and goods, managing way expenses, managing documents for truck and goods and the like.

Truck operation had its development in the first five year plan of India. In the second five year plan, permits which were granted to private operators were liberalized and there was a proposal for double taxation on vehicles operating on interstate routes. These policies were executed by a special study group which was formed by the Planning Commission of India. During the first two plans, there was a remarkable expansion of motor transport in goods vehicles. Due to shortage of foreign exchange, the import of motor vehicles was curtailed, but during the second five year plan, the number of commercial vehicles doubled. Further, it went quite bullish in the third five year plan. The Planning Commission estimated a still more hike in the fourth five year plan.\textsuperscript{3}

Mostly, 2 and 3 axle rigid trucks with a small cabin and an open top freight box of 32 to 40 cubic meters are regularly used in the Indian goods transport. Manufacturers like Tata and Ashok Leyland are the big bees in truck manufacturing industries. Volvo and Asian Motor Works are the new

truck manufacturers who have stepped into the Indian truck industry. Now-a-days, 3 axle and multi axle rigid trucks substitute the traditional 2 axle, 9 tonne truck which was roughly around 75 per cent of the trucks. With the passage of time, truck industry in India has involved a good number of Indian automobile giants, including Tata Motors, Hindustan Motors, Ashok Leyland, Mahindra and Mahindra, Force Motors, Swaraj Maza, Eicher, etc.

According to a World Bank study, the trucking fleet in India crossed on an average of 60,000-1,00,000 kilometers of roads per truck in a year. In India road transportation is preferred for cargo movement, where flexibility of routing assumes importance. It facilitates door-to-door delivery, overcoming unnecessary delays, which normally take place in the other modes of transportation. Around one crore individuals are directly or indirectly employed in the trucking operation business in India. The total number of trucks registered in India is around 44.88 lakhs. According to experts and sources in trucking operation, the trucks plying on roads could be broadly categorized into three categories: trucks with interstate permits, trucks with intra-state permits and trucks plying on rural roads and within city limits.

In the last 20 years, more than 36 lakh trucks have been registered in India. It is estimated that currently a little over 22 lakh trucks provide interstate services; the remaining ply on intra-state roads or within city limits.
and rural roads. The truck operation is highly fragmented with only 17 per cent of the operators having more than 10 trucks. Also, smaller trucks outnumber the big ones; 48 per cent of all trucks are under 15 MT.

The Truck Industry, in fact, is regarded as the lifeline of the Indian logistics sector, but it is deemed as the most neglected sector due to lack of institutional framework which has given birth to the adjective “Unorganized Sector” to this Industry. Transport is one of the most critical infrastructural inputs for the overall economic and social development of the country. The importance of transport infrastructure as a whole is highlighted from the extract of the World Development Report, 1994: “The adequacy of transport infrastructure helps determine one country’s success and another’s failure in diversifying production, expanding trade, coping with population growth, reducing or improving environmental conditions”. Good transport infrastructure raises productivity and lowers production costs, but it has to expand fast enough to expand growth.

The global transport industry was valued at US$3.5 trillion in 2005, whereas US transport industry size was around US$900 billion, 25 per cent of the global transport industry. Transport costs in India are estimated to be around 13 per cent to 14 per cent of the GDP which comes to around US$94 billion in 2005-06. However, India’s spending on transport industry is much higher than the developed economies like the US (9.5 per cent) and Japan
Transport sector’s contribution to India’s GDP is estimated to be around 6.6 per cent in 2005-06, and road transport has a dominant role in this contribution with a share of 4.7 per cent in India’s GDP. India has the second largest road network in the world. The aggregate length of roads in India increased from 0.4 m km in 1950-51 to 3.34 m km by the end of 2006. Indian Railways network is one of the largest in the world with a total of 63,465 route kilometers at the end of 2005-06. Indian Railways handled a total of 666.5 m tonnes of cargo and around 5,832 m passenger traffic in 2005-06. According to the Planning Commission, the Indian economy is expected to grow at an average 9 per cent per annum during the 11th Five Year Plan (from 2007-08 to 2011-12). Considering the GDP growth rate of 9 per cent, it is expected that the road freight industry will be growing at a CAGR of 9.9 per cent from 2007-08 to 2011-12.

1.2.2 Truck Operations in Namakkal District

Namakkal, the name might mean little, if you aren't in the trucking business. But for those who are, this dry hamlet in Tamilnadu is the heartland of body-building of the truck type i.e., the town toyed with several vocations from agriculture to manufacturing for long, but in vain, before finally zeroing on poultry and truck body-building, three decades ago. A strategic location, bang on National Highway 17, acted as a convenient confluence for trucks from all over the country and led it to dabble with truck body-building and the rest is history.
Namakkal is a major lorry and truck hub right from 1957 when A. Muthuswamy Chettiar established AMC Automobiles. Many conglomerates of trailers and tanker Lorries are found in Namakkal. Namakwa district has emerged as one of the transportation hubs of the Tamilnadu State. About 40 per cent of the trucks operated in the State are from Namakkal and the district, noted for truck body building, has over 18,000 trucks, including 3,000 tankers and 2,500 trailers, with an annual addition of approximately 500 trucks. Namakkal Driver Training Institute was the first of its kind and has served as a beacon to lead the way in the training of drivers. The economy of the district was primarily agricultural, but as on today it has changed its occupation to lorries, educational institutions, poultry farms and real estate. So, poultry, lorry transport and related businesses drive the economy of the Namakkal district.

Namakkal is graduated into being one of the three most-favoured destinations (Punjab and Vijayawada being the others) for trucks and truck drivers, primarily because Namakkal youth took a fancy to trucks and dreamt of maneuvering the rumbling monsters through the country's length and breadth. The number of drivers originating out of Namakkal snared truck major Ashok Leyland (ALL) into setting up the country's first truck driver training centre, complete with potholed bumpy roads, six-lane drives to hairpin bends. Namakkal with 3,000 to 4,000 operators is a wonderful centre for product development. Today, Namakkal is the preferred truck-body fitment destination for fleet operators in Tamilnadu, Karnataka, Kerala and some parts of Andhra Pradesh.

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4 All in one,” Fame of Namakkal”, Thursday, May 6, 2010
5 The time of India, The Economic Times, “Trucking Biz on the Roll Here”, 12, December- 2002
1.3 STATEMENT OF THE PROBLEM

Truck transport plays a pivotal role in the economic development of any country by providing effective transportation of goods and commodities to various regions and sectors. Truck transports are considered the backbone in national development. As its service is must, there is abundance in the flow of trucks all over the country. Even though truck operation has its own demand round the clock and serves for national integration, truck operators in the field are facing many problems due to lack of education, managerial training and inadequate financial resources.

In the truck transport operation, there are various categories of people who make it happen. It includes the truck owner, booking agents, broker, truck driver, and service providers. Truck drivers are vulnerable as no protection is given for the loss of goods due to accidents or highway robberies all over the country. Apart from this, financiers and banks which provide loans and advances, transport authorities who regulate road taxes and other authorities who levy other taxes like service tax, entry tax, etc., play a major role in truck operations. Since truck operation completely involves mobilization of goods, there is a heavy risk in this field, which tends to attract safety formalities, especially, for truck driver and for the goods carried in truck.

Generally, there are various factors such as frequent change in automobile technology and introduction of new model of trucks, changes in fuel prices and implementation of new financial strategies of Central Government and bank, periodical change in road tax policies which are all
some of the factors which directly influence the truck operation unfavorable in the country.

Further, the truck transport industry is facing a lot of problems which include high fuel expenses, poor maintenance and frequent halt due to breakdown, drivers’ wrong and unethical practices, inadequate availability of spares and mechanics for repairing of truck, law and order problems, inadequate availability of return load, unexpected theft, drunken drive, quarrel with co-driver and cleaner, frequent absence of drivers and cleaners, misuse of goods and trucks and fleeing with lorries affect the performance of truck operations. Hence, there is a need for management of truck operations which needs careful planning to boost the operational efficiency of trucks. Further, the changing scenario of fleet operators, from single axle vehicle to multi axle vehicle, leads to a major development in truck operations, especially, a major change in the operational cost of truck transport industry which all attracts the need for studying the performance of truck operation in general.

Namakkal is noted for Truck Body Building Activity. Truck Body Building has been carried out in Namakkal since 1956. Nationwide, Namakkal is known for Body Building for Truck, Tailor, Tanker and Rig Unit. Customers from other states also get the truck body building work done in Namakkal. Body built trucks and Rig units are exported to foreign countries from Namakkal. About 25000 persons have got employment
directly and indirectly in truck body building activity in Namakkal District. About 300 units in Namakkal and 100 Units in Tiruchengode are engaged in this activity.

Hence, the researcher has selected truck operations in Namakkal district in Tamilnadu, because it has become the major occupation of the majority of the people in this district. Hence, the researcher has selected the topic entitled “Problems and Prospects of Truck Operations in Namakkal District” for current research.

1.4 SCOPE OF THE STUDY

The present study is intended to cover the exiting practices adopted in truck operations by the truck operators in Namakkal district. It also aims at exploring the growth of the truck transport sector in general and in particular the truck operations in Namakkal district with a view to ascertain the factors that influence truck operators engaged in the truck operation to various destinations of the country. Further, this study analyzes the level of satisfaction perceived among truck operators in Namakkal District. The truck operators’ opinions on the problems and prospects of truck operations in Namakkal district have also been analyzed in this research.
1.5 OBJECTIVES OF THE STUDY

The objectives of the study are problems and prospects of truck operations in Namakkal District. However, the following are the specific objectives of the study:

1. To study the growth and performance of truck transport sector in India, Tamilnadu and particular in Namakkal district.
2. To analyze the level of satisfaction perceived among truck operators on the various factors influencing truck operations in Namakkal District.
3. To identify the important problems faced by the truck operators in Namakkal District.
4. To ascertain the important prospects of truck operators in Namakkal District.
5. To offer suitable suggestions to improve truck operations in Namakkal District
1.6 HYPOTHESES FRAMED

For the purpose of analyzing the responses of the truck operators on the problem faced by them, the following null hypotheses have been formulated:

**Ho1:** There is no association between previous experience in the business and the problems in the truck operations.

**Ho2:** There is no significant difference between type of experience and problems in the trucking operations.

**Ho3:** There is no significant difference between number of years of experience and problems in the trucking operations.

**Ho4:** There is no significant difference between number of trucks and problems in the trucking operations.

**Ho5:** There is no significant difference between sources of finance and problems in the trucking operations.

**Ho6:** There is no significant difference between type of truck and problems in the truck operations.

**Ho7:** There is no significant difference between educational qualification and various problems in the truck operations.
Ho8: There is no significant difference between previous experience and prospects of truck operations.

Ho9: There is no significant difference between number of years of experience and prospects of truck operations.

Ho10: There is no significant difference between number of trucks and prospects of truck operations.

Ho11: There is no significant difference between sources of finance and prospects of truck operations.

Ho12: There is no significant difference between type of trucks and prospects of truck operations.

1.7 METHODOLOGY

This study is analytical in nature, focusing on truck operations in Namakkal district. The study encompasses primary and secondary data. The primary data were collected from the truck operators by administering a pre-structured interview schedule and the same was administered to the sample respondents living in different parts of Namakkal district. The secondary data were collected from the published reports of transport committees, books, journals, and newspapers.
1.8 SAMPLING DESIGN

According to the Report of Regional Transport Office Namakkal, the truck operators in Namakkal district are based on the nature and coverage of truck operations. In Namakkal district, there are 7929 (such as open body, trailer and tankers) truck operators, who have registered with regional transport office Namakkal district. Hence, the researcher has selected 397 truck operators in the ratio of 5 percent in each category of truck operators in the Namakkal district, based on stratified random sampling method adopted in the study. The selection of sampling design is given in Table 1.1.

Table 1.1

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Category</th>
<th>Total Truck Operators</th>
<th>Selection of Sample 5 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Open Body</td>
<td>4070</td>
<td>204</td>
</tr>
<tr>
<td>2</td>
<td>Trailer</td>
<td>2665</td>
<td>133</td>
</tr>
<tr>
<td>3</td>
<td>Tanker</td>
<td>1194</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>7929</strong></td>
<td><strong>397</strong></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Report of Regional Transport Office Namakkal -2014-15*
1.9 OPERATIONAL DEFINITION AND CONCEPT

1.9.1 Truck

A truck (American and Canadian English) or lorry (British English) is a motor vehicle designed to transport cargo. Trucks vary greatly in size, power and configuration, with the smallest being mechanically similar to an automobile. Commercial trucks can be very large and powerful, and may be configured to mount specialized equipment, as in the case of fire trucks and concrete mixers and suction excavators. Modern trucks are powered by either gasoline or diesel engines, with diesel dominant in commercial applications.

A motor vehicle is designed to carry an entire load. It may consist of a chassis and body, a chassis, cab and body, or be of integrated construction so that the body and chassis form a single unit.

1.9.2 Heavy Duty Truck

It refers to a truck with a gross vehicle weight generally in excess of 19,500 pounds (class 6-8) and other minimum weights used by various laws or government agencies.

1.9.3 Trucking

It refers to the business of conveying goods on trucks. Common additional equipment for all Dump Trucks include cab guards, air gates, coal chutes, tarp assemblies, extended sides, pintle hitches, plows and salt spreaders.
1.9.4 Commercial Motor Vehicle

   It refers to any motor truck of two or more axles that is more than 10,000 pounds gross vehicle, weight rating, and any other motor vehicle used to transport property for compensation.

1.9.5 Open Body Truck

   Open body truck is an open vehicle used for carrying goods or services.

1.9.6 Trailer

   A vehicle designed without motive power to be drawn by another vehicle. A trailer is generally an unpowered vehicle towed by a powered vehicle. It is commonly used for the transport of goods and materials (e.g. Bicycle trailer, Construction trailer, Travel trailer, Semi-trailer, Full-trailer, Close-coupled trailer, Motorcycle trailer, Trailer winches, Livestock trailer, Boat trailer and Trailer Jack.

1.9.7 Tankers

   Road tankers have a permanent tank fitted to the chassis for the transportation of liquids, gases or powders. Tankers are not commonly fitted to small trucks, but are sometimes used for specialised operations (e.g. grease trap cleaners and waste disposal).
1.9.5 Permit

Permit means a permit issued by a State or Regional Transport Authority or an authority prescribed on this behalf under this act, authorizing the use of motor vehicle as a transport vehicle.

1.9.6 Freight

It refers to goods carried by a vessel or vehicle, especially, by a commercial carrier and cargo. It is the charge for transporting goods. It is also called freightage and the price charged for such transport.

1.9.7 Truck Operators

The owner of the truck who provides an essential service to industrialized society or individual by transporting finished goods and raw material over land.

1.9.8 Single Axle Truck

Axle means one or more shaft positions in a line across a vehicle on which one or more wheels intended to support the vehicle turn. Single axle means it has only one set of wheels on the back and they can be either one tyre on each side of the rear or two tyres on either side.
1.9.9 Light Duty Truck

Light Duty Truck has a Gross Vehicle Weight of 10,000 lb. or less (Class 1 & 2).

1.9.10 Multi Axle Truck

A ten wheeler such as a larger dump truck would have 3 axles, one for the front wheels and two for the rear wheels. Each rear axle has four wheels attached to it.

1.9.11 Heavy Duty Truck

Heavy Duty Truck or tractor has a gross vehicle weight in excess of 19,500 lb., (Class 6 - 8).

1.10 STATISTICAL TOOLS AND FRAMEWORK ANALYSIS

The study has formulated some null hypotheses to know the relationship of socio-economic indicators of the truck operators toward successful truck operation in Namakkal district which has been analyzed with the help of percentage analysis, descriptive analysis (mean, standard and kurtosis), chi-square test, ‘t’ test, ANOVA, regression, correlation, factor analysis and reliability test. This study has also employed ranking analysis to rank factors considered for charging freight, reasons for accidents, and sources of getting order for truck operation, and reasons for selecting particular brand of truck. The mean and standard deviation were
also used to know the average amount of investment towards truck operation, amount of borrowings, average kilometers of truck operation done and average kilometers for replacing of oil and tyre for truck.

The Likert’s five point scaling techniques were used to analyze the level of satisfaction of the truck operators on the various factors influencing truck operations. Further, the study has formulated some null hypotheses to know the relationship of the response of truck operators towards problems in truck operations in Namakkal district which has been analyzed with the help of correlation analysis. The reliability and validity analysis of the data in this study was analysed using Statistical Package for Social Sciences (SPSS v 20.0).

1.11 INTERVIEW SCHEDULE AND INSTRUMENTS

The interview schedule for truck operators divided into four parts was developed and finalized. The first part of the schedule comprised demographic profile with optional questions. The second part contained statements about business information (such as selecting this business, experience in this business, invest in these truck operations, sources of finance, brand of truck, types of trucks, type of tyres used, reasons for accidents). The third part contained statements about truck operators on the level of satisfaction. The fourth part contained statements about problems of truck operations (namely problems of starting the truck operations,
operational problems, traffic problems, financial problems, marketing problems, problems of workers, economic problems, social problems, psychological problems and general problems. The final and fifth part contained statements about prospects of truck operations (namely managerial prospects, financial prospects, market prospects, technical prospects and government support).

1.12 PRE-TEST

The pre-test was conducted among 25 truck operators. The reliability of variables in each construct was confirmed through the pilot study. On the basis of the result of pilot study, a certain modification in the statements or variables was made. The final schedule was prepared for data collection. Accordingly, the interview schedule was restructured and the final schedule was prepared and approved by the research guide for conducting the field work.

1.13 RELIABILITY ANALYSIS

Cranach’s alpha is the most common measure of internal consistency ("reliability"). It is most commonly used when the research has multiple Likerts’ questions in a survey/interview schedule that forms a scale and is useful to determine if the scale is reliable. In order to run a Cronbach's alpha test, the important table is the Reliability Statistics table that provides the actual value for Cronbach's alpha.
The reliability tests were conducted on the information collected from the sample employees, using Cronbach's Alpha model whose results are detailed in table 1.2.

### Table 1.2
Reliability Analysis

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cronbach's Alpha</th>
<th>Standardized Items</th>
<th>No. of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem of starting the truck operations</td>
<td>0.529</td>
<td>0.548</td>
<td>5</td>
</tr>
<tr>
<td>Operational problems</td>
<td>0.016</td>
<td>-0.059</td>
<td>7</td>
</tr>
<tr>
<td>Traffic problems</td>
<td>0.835</td>
<td>0.845</td>
<td>5</td>
</tr>
<tr>
<td>Financial problems</td>
<td>0.423</td>
<td>0.331</td>
<td>7</td>
</tr>
<tr>
<td>Marketing problems</td>
<td>0.099</td>
<td>0.180</td>
<td>10</td>
</tr>
<tr>
<td>Problem of workers</td>
<td>0.477</td>
<td>0.672</td>
<td>9</td>
</tr>
<tr>
<td>Economic problems</td>
<td>0.789</td>
<td>0.770</td>
<td>8</td>
</tr>
<tr>
<td>Social problems</td>
<td>0.365</td>
<td>0.415</td>
<td>8</td>
</tr>
<tr>
<td>Psychological problems</td>
<td>0.348</td>
<td>0.373</td>
<td>8</td>
</tr>
<tr>
<td>General problems</td>
<td>0.497</td>
<td>0.498</td>
<td>12</td>
</tr>
</tbody>
</table>

*Source: Computed from Primary data*

### 1.14 PERIOD OF THE STUDY

In order to collect the primary data regarding problems and prospects of truck operations in Namakkal district, the survey was conducted from October 2014 to June 2015 with the help of pre-designed interview schedule.
1.15 LIMITATIONS OF THE STUDY

This study suffers from the following limitations:

1. The study is based on the opinion of the Truck Operators in Namakkal District; it has its own limitations. The information given by the truck operators may be biased as the researcher could collect information by interview schedule.

2. The sample was restricted to 397 in Namakkal district due to time and money constraints of the researcher.

3. Truck operations selected are only Open Body, Trailer and Tanker not taken others and manufacturing units and so on.

4. Further, the findings of the study relating to truck operations are applicable to Namakkal district only, but not to the whole of Tamilnadu and India.
1.16 CHAPTER SCHEME

The research carried out has been reported in the following Chapters:

The first chapter is “Introduction and Research Design” The chapter deals with importance, statement of the problem, objectives of the study, hypothesis, sources of data and methodology of the study, operational definitions, scope and sampling, framework of analysis, pre-test, interview schedule, period, and limitations of the study.

The second chapter presents a brief account of the “Review of Literature” on the truck operations.

The third chapter deals with “Profile and Overview of Truck Operations,” which includes the trends and growth of truck operation in India, Tamilnadu. Further, the profiles of Namakkal district and truck operation in the study area are also presented in this chapter.

The fourth chapter “Problem of Truck Operations: An Analysis” deals with the problems faced by truck operators towards truck operations in Namakkal district: types of trucks, prefer this brand, load order, freight rate, brand of tyre, level of satisfaction and problems of truck operations.

The fifth chapter Prospects of Truck Operations -An Analysis” analyzes managerial prospects, financial, market, technical and level of satisfaction of truck operators.

Chapter six is the “Summary of Findings, Suggestions and Conclusion” and scope for further research.