“A STUDY OF FINANCIAL ASPECTS OF CARGO POOLING IN LOGISTICS INDUSTRY FOR MOVERS AND PACKERS IN METRO CITIES IN INDIA”

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submitted by Mr. Nisal Ameya Sateesh was carried out under my guidance. Such Material as has been obtained from various sources is duly acknowledged in this thesis.

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DECLARATION

I hereby declare that the research work entitled ‘‘**STUDY OF FINANCIAL ASPECTS OF CARGO POOLING IN LOGISTICS INDUSTRY FOR MOVERS AND PACKERS IN METRO CITIES IN INDIA’** is an original work carried out by me at Tilak Maharashtra Vidyapeeth, Pune. The interpretation put forth are based on my readings and understanding of the original texts and they are not published anywhere in the form of books or articles.

Pune

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Research Scholar

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Chapter-1

Introduction

The scientific inquiry into the financial aspects of cargo pooling in logistic industry for movers and packers with reference to three metro cities, namely, Mumbai, Delhi and Bengaluru is the primary aim of this present study. The financial aspects of the enquiry regarding economic performance of the industry has been considered with the help of nine parameters, namely; (a) break down of vehicles; (b) delayed deliveries; (c) fragmentation and networking; (d) core financial aspects; (e) manpower resources; (f) efficiency in general; (g) financial aspects related to trucks and routes; and (h) taxation and other variables along with (i) general parameters. It needs to be mentioned that, an exact title of the present study reads as ***'Study of financial aspects of cargo pooling in logistics industry for movers and packers in Metro Cities in India'.*** Broadly, three key words found to be appeared in the title of the present study, such as, (1) financial aspects of cargo pooling, and (2) profile of the three metro cities. The former, financial aspects of the cargo pooling, have been discussed with sufficient details in the chapter-2 on literature review. Though, in the present chapter, effort has been made to focus on another key word called as profile of the three metro cities.

To accommodate all these aspects, present chapter has been divided into three parts, such as ***PART-I*** is mentioned with introductory discussion on the research problem being studied and profile of select metro cities has been portrayed with the help of ***PART-II***. Chapter wise scheme has been given in the ***PART-III*** of this chapter.

PART-I

Introductory Observations

India has witnessed heavy share of the logistic spending proportioned to the total GDP (14 per cent of GDP). This has shown implication of making Indian goods more competitive in the global market. The reduced expenditure of logistic spending will also lead to growth of export of Indian goods and potential for creating job opportunities to some extent. Some of the reports state that, the Indian logistic industry has a significant opportunity to grow at 15-20 per cent of growth rate to reach at 3.5 trillion in coming years. This growth of Indian economy naturally has impact on logistic industry

considering the geographical scope of the India. As assumed in the perfect competition mobility of production resources will only be possible with the help of efficient transportation system or apparently, logistic services.

It has been seen that logistic and relocation is a high-cost, low margin business. The problem of organized players is compounded by unfair competition with unorganized players, who can get away without paying taxes and following operating norms stipulated in the motor vehicles Act such as quality of drivers and vehicles, volume and weight restrictions etc[1]. It also has been witnessed in the logistic industry most of the entrepreneurs are running informal business. This informality has adverse impact on distribution of economic dividend and also minimizes share in nation's GDP because absence of formal record keeping.

There are various lacunas in achieving optimum resource utilization in logistic industries, for instance; poor physical and communications infrastructure, slow movement of cargo due to inadequate networks and fragmentation of the players. These aspects are adding reasons for overlapping of the resources utilized by movers and packers' enterprise which ultimately help in increasing cost of the industry. Increasing cost of logistic industry silently boost the inflation in the economy. Thus, efficient management of logistic industry is essential to extent of financial performance.

There are many variables and parameters which involved in deciding the financial performance of the logistic industry. But in a very brief manner, there are basically two categories of the factors need to be considered before understanding financial appearance of the logistic industry. In the first category revenue generating factors need to be considered such as, daily average running of vehicles, capacity of the trucks to be used for transportation (generally considered in cubic meter capacity) and per cent utilization of the available cubic meter capacity. In this category it also needs to be considered that on the route freight charges are depend up on the distance of transit of luggage. Product of all these factors will give calculated average revenue of the movers and packers industry. Second set of variables are cost factors, such as fuel prices, drivers' remunerations, insurances, maintenance of vehicles etc. The product of all these factors estimates the potential cost of the movers and packers. The efficiency is assumed as maximum unit of revenue generated with minimum unit of cost per kilometer.

This aspect of financial investigation along with considering cost and revenue factors is having significant importance in the present study. Thus, accordingly, total 340 movers and packers industries have been studied from three metro cities, namely, Mumbai, Delhi and Bengaluru. The brief introductory profile of these three cities has been portrayed in the next part of this chapter.

PART-II

Profile of the Select Metro Cities

Mumbai, Delhi and Bengaluru are the three metro cities that have been considered for the present research. The brief detailing of these three cities have been offered in this part with the help of two sections. Logically, brief introduction in terms of transportation has been offered in ***Section-1.1*** and Transportation Perspectives and Infrastructural Profile of Road Transport of these three cities have been presented in ***Section-1.2*** of this part.

Section-1.1:

Profiles of Metro Cities: Mumbai, Delhi, Bengaluru

India consists of 17.5 percent of global population[2]. It is projected that India will be the most populous country in the world by 2025 surpassing China. Indian census 2011 was praiseworthy work of administration because it was a difficult task of headcounts in a populous country like India. According to census 2011 urban population of India is increasing in a rapid way. The urban population of India is facing various problems like shortage of houses, sewage, unemployment, overcrowding, transportation, etc. The data of 2011 census shows that level of urbanization is increasing by every decade.

Metro cities define as cities those populations have 1 million and above[3]. The area which has a large concentration of people considered an urban area. The population of cities like Mumbai, Delhi, and Bengaluru are 18,978,000, 15,926,000 and 6,787,000 respectively[4]. Mumbai city is the economic capital of India. The first Municipal Corporation in India established in Mumbai city. The Suburban districts and Mumbai city is 440-kilometre square, just half of the New York City, but it consists 13 million people. It is the most populous city in India. Despite having all modes of transportation Mumbai has been facing many problems regarding its transportation system. It happens because of inadequate infrastructure. To cater to this, the government of India approved

National Urban Transport Policy 2006. The policy will help in focuses on the mobility of people not the mobility of vehicles. The challenge for improving the government's bus transport facilities at the affordable price in Mumbai. Mumbai city dominates the money market of India and foreign exchange market. The government constituted several planning committees in the 1960s to develop the regional plan for Mumbai city. In 1967, The Mumbai Municipal Regional Board formed two planning committees for studying the development of the Mumbai[5]. They suggested that:

- To create a new town at harbor.
- To develop the suburbs at the sub-land of the city.

Delhi has been the capital city of India since sultanate period. It is one of the fastest growing countries in the world. It has great importance accordance with international affairs. All ministries and its departments situated in the capital city of India. There are many problems which are facing by the people of Delhi. Problems like transportation, sewage, pollution are becoming dangerous. Delhi is exploding in population. Approximately 17 million people live in Delhi and expected to increase 24 million by 2021[6]. There is a number of personal vehicles resulted in air pollution, noise pollution. It congested city roads also. Day by day pollution level of Delhi is increasing speedily. It requires some major solution to solve these problems. The competition for land use is increased due to de-concentration of the upper-class families. The procedures to populate urban development in the metropolitan area of Delhi are the contribution of a weaving of urban area and rural areas, as well as it to blur the gap between the village and urban population categories. It is particularly evident on the shores of megacities like Delhi. First, it lays emphasis on the continuous geographical expansion of Delhi's urban agglomeration, the physical integration of urban and rural places through the inclusion of villages in the urban area. The process of peri-urbanization and urbanization around Delhi is also expressed, without the continuity of built space, by a functional integration of metros and new residential neighborhoods established in rural margins. The daily commutation of the new dwellers in rural-urban margins among their decentralized housing estates and job centers in the capital reflects the link of economic interdependence among different vacant places.

Bengaluru is capital of Karnataka state. It is called 'Silicon Valley' of India because it has many technological innovation hubs. As per the report of Ministry of Micro, Small

and Medium Enterprises, 3500 IT companies of Bengaluru contributes 38 percent of IT exports in the country, therefore, Karnataka became the top state in IT software export in India. Bengaluru is the fastest growing city. It grows ten times since 1949. The city has the healthy climate with a number of trees on the roadside, plenty of parks and gardens hence it is called 'Garden city'. The population of the city is growing in the rapid way hence city is losing its green cover due to increase in land use. Roads and parks are facing the problems of congestion, heavy traffic, unpredicted rainfall etc. With the view of problems, Bengaluru needs strong infrastructure, well-managed drainage system, clean drinking water supply. The first and the foremost task required for planned growth of the city is to keep a complete account and control of the entire area annexed to the city and development of a realistic land use plan at least for the areas that are going to be annexed to the city and imposition of the same by the planning authority. This may require some alterations in the existing land use plan of the city to provide a holistic view of the entire city Indian Space Research Organization which is India's national space agency is headquartered in Bengaluru. Many multinational companies such as Toyota, Kirloskar, Volvo, Mahindra, Honda motors, TVS, and Tata-Marco Polo have established their project in Bengaluru.

Apart from above discussion, Metro cities of India are facing the problem of poor infrastructure, lack of land/space, and heavy traffic of vehicles. Here, to increase the basic facilities of the cities the government of India is taking major initiatives.

Section-1.2:

Transportation Perspectives and Infrastructural Profile of Road Transport

Urbanization in India is increasing day by day. Many new cities have become Metro cities now. These cities play a significant role in context to human development. Many factors such as Health, Education and Transportation needed for a sustainable development of cities. Transportation factor has great importance in all over development of cities. To improve this, the government should introduce new policies which are a help to build up strong transport infrastructure.

India needs a pervasive transportation system to provide necessary product from one place to another place. To context this, transport system of metro cities like Mumbai, Delhi and Bengaluru need more advanced infrastructure to handle heavy traffic of these cities. Mumbai is the port city which has all modes of transportation whereas Delhi and

Bengaluru cannot access facility of sea transportation because they have land boundaries only. Mumbai city consists of seven small islands on the west coast of India. It has an area of 69 square km[7]. The population of Mumbai city has increased in a rapid way hence it becomes one of the most populated cities in India. According to the data of census 2011, the population of Greater Mumbai is 12.5 million people. The density of the population is higher in this area; therefore, it is facing problems of congestion. Railways and Waterways assist in reducing the burden of cargo traffic in Mumbai city. Jawaharlal Nehru Port of Navi Mumbai carried 4.6 million TEUs which is 61 percent of the overall manufactured product. The road runs north along the roads connecting with mostly small east and west to the south of the network. There are three major highways: Western Express Highway, Eastern Express Highway and Sion-Panvel highway. A road network inventory is the ' good pavement ' condition, according to the analysis done in 47 percent of roads in CTS, Greater Mumbai. However, there are many chronic and narrow streets throughout the city that suffers from lack maintenance and traffic and parking enforcement.

In recent decades, there is enormous growth in population and economy has noticed in National Capital Territory of Delhi. The Metrorail project of Delhi government which has funded near about 60 percent by Japan reduces the tension of road traffic. Delhi city is suffering from bad climate due to heavy air pollution which shows that growth in personal vehicles. Delhi has a high population of private vehicles as compared to the other city, therefore, the government of Delhi has created its Masterplan 2021 aiming to attract 80 percent of private travel to public transport. During recent days, mobility is increasing in the need of people, due to an increase in economic activity worldwide and exclusively across the Developing World. This event is pervading ubiquitous in megacities in Asia. The modern mechanization of transport systems is evident in these cities ahead this phenomena and heavy motoring fuels. Thus, the motor-driven transport is fulfilling these greedy transport needs. In return, transport systems have become environmentally durable and are now one of the major contributors to greenhouse gas emissions worldwide. Thus, a sustainable and equitable transportation system is one that provides mobility-related facilities and services, while reducing both emissions at the local and global level and also serving as the reliable and economical means of mobility for all sections of the safe, elderly, society including women and Disabled Persons. Also, the absence of mass transit systems

Bengaluru city has more opportunities to build up road infrastructure as developing IT hub of India. As per the data of Karnataka government, 400 out of global 500 companies outsource their IT services from Bengaluru. It is the fastest growing city and getting more congested gradually[8]. Road infrastructure will help to overcome the problem of congestion. Bengaluru city has seen 65.2 percent population growth from 2001 to 2011 and it has 69.22 percent of two-wheelers[9]. To fulfil all needs of transportation Bengaluru city required more bridges at the congested area and railway crossing. The national and state highways constitute 11 percent of the State road network and carry the bulk of road traffic[10]. Some districts like Gulbarga, Raichur and Kodagu have no national highway passing by them. The national highways, state highways and major district roads constitute approximately 32 percent of the road length and are maintained by the state Public Works Department. The remaining roads have been laid down by district councils. On an average, the road exists per every 100 square kilometers at a distance of about 69 kilometers in the geographical area and a population of 250 km per million populations in the state.

Above all discussion, Indian metro cities have the great scope in road infrastructure to build up smart cities and ultimately smart country.

PART-III

Chapter wise Scheme

Chapter-1: Introduction

In this chapter discussion regarding key words appeared in the chapter has been offered with the help of three different parts. The chapter consists of introductory observations highlighting research problem and primary discussion on financial aspects of the movers and packers industry. Also the chapter provides brief on three metro cities and at the end chapter-wise scheme has been provided.

Chapter-2: Literature Review

Theoretical base and conceptual clarity have been provided in this chapter. The chapter elaborates extensive literature review made for the present study. Also, it provides brief and concise understanding the nine factors considered in the present study.

Chapter-3: Research methodology

General aspects of scientific enquiry adopted for the present study has been offered in this chapter. The study also discusses primary data sources, secondary data sources and aspects of sampling along with sampling process. This chapter efficiently discusses aims and objectives of the present study, hypothesis proposed and scope and limitations of the study.

Chapter-4: Data Analysis

In this chapter an effort has been made to describe the data in statistical terms. The presentation of analysis has been offered in this chapter along with appropriate diagrams and charts. Most importantly this chapter furnishes testing procedures and test results of the hypotheses considered for the present study.

Chapter-5: Findings, conclusions and suggestions

Summary of findings and conclusions according to objectives has been offered primarily in this chapter. The probable solutions based on the data analysis and results have been offered in this chapter.

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Chapter 2

Review of Literature

Chapter 2

Review of Literature

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Chapter-2

Review of Literature

The study of financial efficiency for Cargo pooling in logistic industry for movers and packers in selected three metro cities in India with focus on identified factors is the main crux of the present research. This chapter of literature review has been undertaken with the view to throw light on the theoretical aspects concerned with the research problem being investigated. It has been expected with an effort to make conceptual understanding on the key aspects of terminologies handled in this study.

To accommodate the dynamics mentioned in above paragraph, present chapter has been attended and elaborated with the help of two parts. Accordingly, in ***PART-I*** of the present chapter attempt has been made to canvass certain aspects of keywords appeared in the present study. Simultaneously, in ***PART-II*** efforts have been made to prepare conceptual framework for the study considering selected factors that have been investigated in this research study.

PART-I

This part of the chapter consists of total seven sections. The details of these sections have been offered as mentioned in the pages that follows. Accordingly, in ***Section-(2.1)***, an effort has been made to bring out discussion on various aspects of transport industry in India. The detailed discussion on Cargo Pooling in India has been offered in the ***Section-(2.2)*** of the present chapter. Another aspect called logistic industry operative in India has been presented in ***Section-(2.3)***. Challenges of Cargo pooling, Logistic Industry and Movers and Packers in India have been elaborated with the help of ***Section-(2.4)***. Details on movers and packers industry in India have been brought out in ***Section-(2.5)***. While in ***Section-(2.6)*** effort has been made to canvass Economy of movers and packers pertaining to India.

Section-(2.1)

Transport Industry in India

India; one of the largest economies in the world consisting of second largest population, which results in highest consumption potential next to the china[1]. Apart from this largest population, India stood at 7th on the ranking based on the geographical

area occupied by it[2]. Thus, to cater this largest population and to cover geographical area requires efficient means of transportation. In economic sense, to perform inner circle represented as 'real economy' of circular flow of the Indian economy, requires various sources of connectivity through transportation[3]. And therefore, all these needs of transportations and connectivity are fulfilled by various means, such as; land transport, sea transport and air transport. Above all, these means of transportation plays a significant role in Indian economy by contributing witnessing performance in GDP. Although, considering the geography of the India, land transport systems stood important in rural as well as in urban area where other transport systems cannot provide easy accessibility. This has naturally expected that efficient land transport system needed to provide essential base for economy to register its growth. In consideration of all these discussion land transport in India has been referred as lifeline of the economy.

Further, land transport has been broadly classified into, road transport and train transport. The later system plays crucial role in transport of heavy material in India. It is world's 3rd longest rail transport system[4]. It provides huge employment near about to 1.376 million people who work in this public sector undertaking[5]. In comparative fashion, former type of transport classified as, Road transport system has a lion's share in India's GDP[6].

Road transport has much density near about 1.66 per square kilometer which is higher than China and many more countries[7]. It helps to make easy provision of health and nutritious facilities. It creates lots of job opportunities in India while constructing roads. Though, India needs huge investment in road transport system which is necessary for empowering rural India. According to NHAI which is the main agency of Indian road transport system, at present India's road transport network is 33 lakh km. It contributes 60 percent of the total freight[8]. India's road network consists of National highways (NHs), State highways (SHs), Major District Roads (MDRs) and Rural Roads (RRs). National highways play important role in road traffic near about 40 percent traffic or road carries by NHs which is 76,818 km in length[9]. State highways contribute in rural area and give boost for industrial sector in progress and growth. It cannot be said that the road transport is the secondary transport system as it contributes in social as well as economic sector of India.

Waterways are also important resource in transport system in the country, India. It is cheaper than all the transport systems and it also helps to transport not only at the domestic level but also international level. Waterways go beyond international boundaries and it is helpful for heavy load transport of non-perishable goods. There are 12 major ports in India which increases trade facility and make it easy to reach India's goods across the world resulting in increase of import of the country[10]. It is fastest growing transport system which is less costly but time consuming as compared to other means of transportation.

Apart from all this discussion, nowadays, air transportation often used as means of transportation as it takes less time to deliver goods across the world. Apart from this group transport is assumed to be most economical under the title of cargo pooling. The initial discussion on cargo pooling to the extent of Indian perspective has been given in the following section.

Section-(2.2)

Cargo Pooling in India

India is the country which has pervasive geographical area and there are many giant companies situated in different parts of the country. These companies require heavy load carrier transport system to transport raw material from one place to another place. Thus, cargo pooling plays a significant role in enhancing production of the various products in the country and empowering country's economy.

India is largest democratic country and Indian economy is the sixth largest economy in the world, hence, it requires a systematic transport system to fulfill all needs of 1.21 billion people[11]. Road transport system plays an important role in cargo pooling in India. It contributes near about 86 percent of passenger traffic whereas Road transport system has a pervasive network in rural as well as urban area thus it contributes 65 percent in cargo pooling[12]. Therefore, it has the major share in cargo traffic of India. Vehicle productions are increasing day by day, but road infrastructure has low growth rate. Cargo movement needs load carrying vehicles which are of various kinds depending upon its load carrying capacity. We can differentiate it in the following way (i) Low Commercial Vehicle (LCV) (ii) Medium Commercial Vehicle (MCV) (iii) Heavy Commercial Vehicle (HCV) (iv) Multi-Axle Vehicle (MAV) and (v) Articulated

Vehicle. In general language, we call it trucks. Trucks which are capable to carry payload up to 3.5 tons are considered as LCVs. 3.5 tons to 7.5 tons carrier are categorized in MCVs. All Trucks which have the capacity to carry 9 tons are categorized in HCVs. MAVs and AVs have the capacity to carry a payload of up to 25 tons[13].

The roads are classified as per their primary source of financing. The central government finances National highway whereas State governments finance state highway. In past decades, a lot of local roads are financed by the central government in the project of *'Pradhan Mantri Gram Sadak Yojana'*. The customers move their products to third-party players. Thus, it supports to make trucking system more dynamic in cargo pooling in India.

India has near about 7600 km coastal line consisting boundaries of Arabian Sea, Indian Ocean, and the Bay of Bengal from west to east respectively which plays a significant role in cargo movement[14]. Most of the International, as well as domestic cargo traffic, are handled by sea transport system. Sea transport system is very useful to export and import production material to various countries of the world. Mumbai, Chennai, Vishakhapatnam, Kolkata are the important ports for expanding India's business with other countries. There are specialized ships for transferring dry and perishable goods. Containerization is a new technique in sea transportation. In this technique, goods are packed securely and then loaded into shipping containers. These containers can be carried by ships, railroads, trucks, and planes. But there are some problems with inefficiency and lack of technologies. These problems resulted in higher transport cost by sea hence cargo shipped from Indian ports is cost-inefficient and non-competitive in international markets. Apart from these obstacles, the major ports of India have inadequate capacity. There is need to reform in policy issues, organizational issues, capacity issues, and regulatory issues.

As air transport is not most preferred mode of transport in movers and packers industry; though it appears necessary to cast a net details regarding this transport method. So, air transport system of India is growing day by day and government is promoting air transport system with the help of PPP and has raised FDI limit from 49 percent to 74 percent. Air transport system is capable to handle heavy cargo traffic at domestic as well as International level. Air cargo is essential for transferring the

perishable goods. With the help of air transportation, it became possible to move perishable goods from one side of the world to other within a few hours. The pharmaceutical industries are taking advantages of air transportation. Air transport system has some good qualities like it requires less time to transport goods across the world, it has the capacity to transport sensitive goods such as vaccines, medicinal liquid, some sensitive tablets etc. In today's world, most exporters and importers prefer to transport live animals by air transportation. This method considered as the most suitable and humane in the world. Some big e-commerce companies like Amazon, eBay, and Alibaba rely on express delivery services which made possible by aviation.

In the scope of present study, air transport may not be used as it involves comparatively higher expenses for movers and packers industry. Basically, shifting to another city is probably well-planned phenomena thus it may not involve emergency thus air transport is naturally avoided.

All this discussion leads to the details on the goods in transit. Though, efficient management of shipment is assumed to be based on logistic facility available with the industry. The detail on this aspect has been provided in the upcoming section.

Section-(2.3)

Logistic Industry in India

India is the eminent location on the Earth because, it is has access to all types of transport systems such as land transport, Sea Transport and Air Transport. Despite all favorable conditions India is struggling to maintain its position in the global market. It is difficult to progress in a rapid way considering the populous attribute of country like India. Therefore, genuine need called upon to strengthen transport system which can help inaccessibility of trades in two states.

The land transport system is consisting Road transport and Rail Transport. Road transport system has a major role in the logistics industry of India. Road transport is a dominant mode in logistic industry hence it has 60 percent contribution of road transport system in this sector whereas rail and coastal shipping contributes 32 percent and 7 percent respectively[15]. It is helpful to reduce the stress of freight traffic on sea transport and air transport system. According to twelfth five-year plan, government increases its investment in road transport system. As per the scheme of twelfth five-

year plan development of new road corridors between Delhi to Mumbai industrial corridor project is planned. There are many new targets set in the twelfth five-year plan such as connect to remaining habitations by constructing new all-season accessible roads, providing bridges of 75m and above 75m length. All these initiatives help in increasing the share of road transport in GDP. At present, the planning commission reported that transport system of India contributes 2 percent in GDP in which road transport system contributes highest in all other segment of transport. According to World Bank projection report, road transport system will contribute 3.6 percent in GDP at the end of the twelfth five-year plan.

Modern logistics and supply management comprises several activities such as material handling, supply/demand planning, customer service, procurement, packaging, management of functional sector, international and domestic transportation management and warehousing. The Logistics industry has several industry segments. It is found necessary to assess industry wise portfolio of logistic requirement in India.

Automotive Industry- The automotive industry comprises the manufacturing of automobile industry and the allied light engineering industries. Automobile industry also largely depends up on forging industries. The Indian automotive industry contributes very high percentage in the production sector; therefore, India became the fifth largest country in the manufacturing of two-wheeler and tractors, across the world. The Society of Indian Automobile Manufactures performs a significant role in communication between the industries with government and National or International organizations. As the result, manufacturing plants of automotive industries are located across the country.

Retail Industry- the Retail industry is emerging industry in India, hence, it provides significant employment in the country. Some factors such as the growth of population and consumer spending, different spending habits of consumers, contribute to the growth of the retail industry in India. In recent updates, Mumbai, Delhi, Bengaluru and Pune are the top cities which contribute the major part in the growth of retail industry as these cities fulfill the criteria mentioned earlier.

Warehousing is one of the main segments of the logistic industry. It includes Industrial storage and agricultural storage. As per Warehouse Corporation of India total warehousing space is 1800 million square feet and Industrial storage occupies 86

percent whereas agricultural segment occupies only 14 percent[16]. Central Warehouse Corporation, State Warehouse Corporation, and Food Corporation of India are main government organizations which provide a boost to the logistic industry. The warehouse development and regulatory authority had decided the norms for standardizing warehousing across India. The standardized warehousing plays a significant role in reducing the logistics and transportation costs. It culminated in the rapid movement of goods as well as in stabilizing prices. Warehouses in India can be broadly categorized into ownership, management, and type of goods stored. There are two types of ownerships such as private entities and government entities. Some warehouses are managed by professional service providers. The storage process requires sampling, regular inspection, and periodic fumigation of the stock. Such a kind of problem is facing by Indian warehousing sector. There is lack of collaboration while regulating inspectional work. These processes vary as per the kind of commodities and its perishability. The Capital Market Services conducts the survey for inspection of goods stored in various warehouses.

Considering above all discussion government is taking considerable efforts for development of transport system despite this, PPP will help in infrastructure development and sustainable transport system. Though all these efforts, still there are issues and challenges in the cargo pooling, logistic industry and movers and packers in India.

Section-(2.4)

Challenges of Cargo pooling, Logistic Industry and Movers and Packers in India

India's transport sector has wide network across the country however it is highly overstretched. It has burden to meet the requirements of vast economy of India. It is facing many challenges to fulfill the targets of twelfth five-year plan.

(i) India needs to expand its transport capacity as per the demand of economy. Capacity needs are becoming double in every 5 to 10 years hence it is becoming difficult to cater all needs. Despite of many ports, road transport system is facing overstretching. Expressways and National highways are not capable to reduce heavy traffic on it. There is low length of two lane and four lane highways which are unable to handle heavy traffic of trucks and

passenger vehicles. Air transport sector could succeed in notable growth but could not satisfy passengers demand.

(ii) North-East area of India has less road as well as rail network due to hills and mountains. Airlines network has very low frequency in flight. In such region it needs to build strong infrastructure to move goods and passengers. Some parts of states like Orissa, Jharkhand, and Madhya Pradesh have the same situation as northeast regions.

(iii) India needs to increase the transport efficiency. It has very low transport efficiency. There is another challenge which is cost. Road, rail, and shipping have very high cost of fare which effects on economy[17].

(iv) According to Planning Commission of India the average speed of freight trains is 25 km only whereas U.S has double average speed of freight trains. India needs to develop its infrastructure to increase speeds of rail transport system.

(v) Road quality in India is not good hence it reduces the riding quality. India needs to improve road quality.

(vi) In cities which have one million and above population should have plenty of bridges. It is helpful to reduce traffic in cities like Mumbai, Delhi, and Bangalore.

(vii) To construct corridors between industrial parks and important cities of India to enhancing logistic sector.

(viii) According to Planning Commission report on twelfth five-year plan there are approximately 1.3 lakh people die in road accident in every single year. India has only 1 percent vehicle as compared to the world, but it has 10 percent share in road accident alone. Road safety is a big challenge for India.

(ix) The toll taxes for the heavy truck are higher than other vehicles; here is the need to fix the appropriate road taxes for heavy load carriers. Entry taxes for goods while entering the cities increase the hurdles in cargo pooling.

(x) Sometimes there are surprise checks and inter-state check posts create hurdles in cargo movement.

(xi) The heavy load carrier can run only 250-300 km distance in a day in India as compared to 800-1000 km in the developed countries[18].

(xii) The private sector faces a lot of problems while cargo pooling through rails such as lack of rail wagons, they need to pay higher cost for it while hiring

the wagons, huge investment for increasing storage capacity near the railway stations.

(xiii) The Motor Transport Workers Act and The Motor Vehicles Act are regulating norms related to the driver license, working hours, and loading limits.

(xiv) The National highway upgraded regularly but they have low network as compared to total highway network of the country. It causes to heavy traffic and extra burden on the national highway.

(xv) The government is changing its policies and regulations for the logistics industry and service provides the process requires approval from several ministries; therefore, it takes too much time to implement the decision.

Apart from above discussion, India needs changes in process technology to increase the effectiveness and responsiveness of the transport network. These are some key issues which need to solve for booming logistics industry. In very narrow manner, movers and packers industry in India is strengthening its penetration and spreading outreach in the economy.

Section-(2.5)

Movers and Packers industry in India

The production capacity of India is increasing as per the needs of the people. Presently people want home service because of their busy life schedule hence Service sector is strengthening its roots in India and becoming one of the fastest growing sectors in the country. In this context, Movers and Packer's industry has great importance. The packing industry plays a significant role in protecting goods from damage and spoilage. It became easier to transport products safely from one place to another place due to the advance packing system even if a bad situation of roads.

Although the road freight transport sector in India is emerging as a major mode, it is hardly able to emerge out of the traditional unorganized framework over a period of time. It is a broad feeling that the market structure of the industry in terms of supply of services is very highly competitive. Given the dominance of small operators, it is natural to expect competitive governance. However, it is an evolving look at the segmentation of the industry in terms of market players and market-makers, saying it is

a sector that anticipates a few dominations of players and athletes. In the case of special traffic like a movement of petroleum products, regular contractual traffic, it is most likely that there is a lack of competition in a market where a buyer is faced with the number of vendors of services[19]. This argument can probably be extended to manufactured items like chemicals, pharmaceuticals.

One of the characteristics of the Indian industrial landscape is the dissemination of contract labour, which is employed through labour brokers on short-term contracts and often without any social security benefit, such as Provident Fund (PF) or medical insurance (employees ' state insurance-ESI). As recent trends have shown, the proportion of outsourcing and contracting workers has been increasing over the past decade. The share of contract workers within the total workforce in the organized manufacturing industry in India has grown from 34.6 percent in 2011-12 to 20.3 percent at 2000-01[20]. It has around 50 percent in some states such as Maharashtra, Gujarat and Andhra Pradesh. At the same time, companies are also adopting flexible strategies that include training non-regular workers despite the risks and costs associated with high attrition of such workers. This kind of strategy allows firms to trade the cost of human capital specific investments with regular employment costs. It is also a step to shift from the use of labour provided by contractors to various services such as logistics, to contract a firm to provide the service. Is the move to a contracted service likely to improve the working conditions? It depends on the comparison with the contractor supplying the labour for this work or with the regular workers having this work. Currently, most firms are already doing contract labour to undertake these tasks, so the right comparison will be between the contract workers and the workers of a contracted service provider.

The organized sector of India is growing in a rapid way hence it is a symbol of creating more demand for the packing industry and it will help to increase job opportunities in the country. It is estimated that Indian packing market will grow $37.4 billion by 2018[21]. Technology and Innovation are assisting package industry in strengthening its market existence. This industry is witnessing a major shift from traditional to a modern technology-based form of packing. Therefore, it requires high professional and skilled workers. There is the modern form of packing like metal containers, glass box, flexible bottles, pouches, sachets, laminated cartons, and blister packs instead of the traditional form of packing such as bamboo baskets, jute bags,

wooden containers, ceramic jars, and earthen pots. It is a possibility that packing industry will go on the future form of packing which will be flexible, strengthen, and healthy. Movers and Packers' industry has several factors/aspects such as economy of movers and packers, manpower/human resources in movers and packers industry, delayed delivery in movers and packers industry, and fragmentation and networking in movers and packers industry.

Presently, India's movers and packers industry have grown significantly. There is two kind of mindset behind it first is permanent recruitment for large companies and second is temporary recruitment for small companies. Temporary recruitment has 73 percent share which is the largest share of Human Resources at market level across the country whereas permanent recruitment has only 13 percent share[22]. According to Manpower Group Employment Survey of India, service sector employment rate was steady for 2015-16 but it will go down in 2017. As per the need for the industry, the Packing industry requires professional and skilled workers because it is fastest growing sector as compared to the other sectors in the logistics industry. They need special talent in form of engineers to create new ideas for stronger and safer packing. To taking care of some important and sensitive products, Special curators and well-trained packers are needed in some warehouses. Courier service sector requires a large number of employable manpower as compared to other sectors.

As per the above discussion, it would be clear that it is a necessity to have well educated, skilled, and professional workforce in the field of movers and packers industry. An economic aspect of the movers and packers industry has been furnished below.

Section-(2.6)

Economy of movers and packers

Movers and Packers are the fundamental part of the transport system. It contributes a major part in an economy of the country. There are three modes of transportation such as Land, Sea, and Air. Every mode of transportation has its own movers and packers workers. Investors invest a lot of money in Warehousing and transportation hence private companies are taking interest in this sector. Packing and Moving are generally two different works but some companies do it together for

assisting consumers and making a profit. There are some factors which effects on movers' economy such as the capacity of vehicles, number of the trip made by vehicles, fuel prices, and other operating costs[23]. Increase in the tax rates also effects on movers and packers' economy. Most of the services of this field are fragmented in various levels. Therefore, most of the people in this field work on commission basis. Some companies pay a low salary for packers and movers hence it breaks the progress of this sector. Economic regulation is one of the factors which effects on movers' economy. There are several factors included in economic regulations such as control over pricing and entry.

An economy of Movers and Packers has been growing in daily consumed goods or fully used up in a short period of days. Such kind of goods called as Fast Moving Consumer Goods (FMCG), also known as consumer packaged goods. Fast Moving Consumer Goods have a quick turnover. The profit collected by FMCG products is relatively small in quantity, but it consumed in large quantity hence its cumulative profits may be large. Fast-growing consumer goods have a shorter shelf life, either as a result of higher consumer demand or because the product is deteriorating rapidly. Some goods are highly perishable, such goods need extra care. The goods are Pre-Packaged foods, soft drinks, meat, vegetables and fruits, dairy products and baked foods[24]. Fast Moving Consumer Goods is a classification that refers to a wide range of frequently purchased consumer products. Examples of FMCG generally consists frequently purchased products such as soaps, batteries, cosmetics, detergents, shaving products, and teeth cleaning products. FMCG may also include pharmaceuticals, consumer electronics, packaged food products and drinks, although these are often categorized separately.

Packaging plays an indispensable role in modern societies. In fact, many products without packaging cannot reach consumers in sound condition. The packaging is mainly responsible for distribution and consumption of goods. Therefore, due importance is given to systematic and attractive packaging. Packaging can also be said as the backbone of our country's economic development, as economic progress may only be ushered in through proper and ample packaging of products. Hence, best efforts are made to improve the various modes of packaging, so as to increase the distribution and consumption of goods. In addition, the packaging is also an important part of product planning and development and therefore it is important in total marketing

strategy. The packaging product is part of the scheme and development of which is related to the design of a product, container or wrapper, where the objective is to protect both items and increase its value to the customer.

An economy census plays a significant role to know the ground information about the movers and packers. The economic census includes a government count of all entrepreneur units, which are located within the country's geographical boundaries, in any economic activity. The economic census covers the entire Union of India. All economic activities except those involved in crop production and plantation have been covered under the economic census. Information, which establishes complex, comprehensive/ Major activity, the nature of operation-perennial or seasonal or casual, the ownership type of establishment-government or private-ownership or partnership details collected on items included or corporate or non-profit societies or co-operative societies or self-help groups, the owner's social group, Power-Used, year of operation, ownership type, sex, religion and social group of owner, registration under the Act, source of finance, total number of individuals working normally and private, Men or Women and Adult Person in Economic census[25].

Some companies in India have the large network across the country as well as the world. These companies are growing in a rapid way, but there are some difficulties regarding the workers, transport vehicles, and infrastructure. Mainly, Heavy load carriers face a lot of problems. Here the government has a need to remove these hurdles by using good policies.

Apart from all discussion, Movers and Packer's industry has the challenge to maintain its quantitative and qualitative services.

PART-II

This part has been deliberately attended to canvass conceptual framework for the present study. As has been pointed out in the chapter of research methodology, that present study involves investigation of ten parameters considered in studying financial aspects, present part-II also has been divided into nine separate sections. Such as in a general manner, factors affecting road transportation in India has been discussed with the help of ***Section-(2.7)***. An essential factor of break-down of vehicles has been reviewed in ***Section-(2.8).*** Another financial aspect presented as delayed deliveries has been discussed in ***Section-(2.9)*** of the present part. Fragmentation and networking is assumed to be essential for cost sharing attaining financial viability. Thus, this aspect has been portrayed with the help of ***Section-(2.10)***. Apart from this, the role of fuel pricing has been considered in ***Section-(2.11)*** of this part. In ***Section-(2.12)***, aspects of breakeven in logistic industry have been presented. The elaborate discussion on taxation framework for logistic industry has been given in ***Section-(2.13)***. The common management practices in logistic industry has been reviewed and presented in the ***Section-(2.14).*** Finally, the ***Section-(2.15)*** has been prioritized for discussing Human Resources and Manpower aspects of the logistic industry in India.

Section-(2.7)

Factors affecting Road transportation in India

India's wide network of road transport system consists of three main elements – vehicles, roadways, and road users. Coordination is an important factor in every field so here coordination is necessary for good performance in transportation. There are many factors effect on transportation we see it one by one.

Road Factors

Roughness- this is a significant factor which affects road transportation. While constructing a highway it is necessary to keep in mind that it should be smooth. Speed change lines should be rough as compared to remaining of the road[26].

Road surface- Road surface consists many things like smoothness, light reflection, tractive resistance etc. It is necessary to give special attention while

designing, constructing, and maintaining of roads. As per the traffic road its surface structure should be designed.

Lighting- Lighting is necessary for cities to avoid road accidents. It should be on the place where there is heavy traffic on road, the crowd of pedestrians and accidental point. Lighting devices should be good in condition to provide sufficient light in the dark night.

Pavement colors- Pavement colors should be clearly visible at dark night. It helps to reduce the frequency of road accidents. Bituminous pavements have good visibility at dark night whereas light-colored pavement gives better visibility in the day time[27].

Human Factors

Variability- Variability is a very common factor. Every person is varying from others by the physical and psychological way. Every person has different reaction time at the particular situation in accordance with the age, fatigue, tension, presence of drugs etc. The consequences of these things make variability more complex. We know that habits vary from person to person.

Visual accuracy- Vision is the most significant factors among human factors which affect road transport system. Drivers must have glare vision and color vision. There are different cone of vision such as acute vision cone is within 3 to 5 degree, 10 to 12 degree considered as the fairly vision cone and peripheral vision cone within 120 to 180 degrees[28].

Walking - Transportation planning and design will not be completed so the discussion is limited to drivers and vehicles passengers. Road users are the most prevalent pedestrians. Pedestrian traffic along the footpaths, pavement, crosswalks, Safety Zone, islands, and more and must be considered at the pass. On an average, pedestrian speeds can be taken between 1.5 m/sec to 2 m/sec. But the effects of physical, mental and emotional factors need to be considered.

Vehicle factors

Design of vehicles- It is necessary to pay attention while designing vehicles in accordance with the road. There are various types of vehicles. As per the needs of human, it is designed by the company. Many things should be considered while designing vehicles like lane width, the height of vehicles, lane widening at corners.

Weight, Axle Configuration of vehicles- Factors like weight plays a significant role in road safety. Weight and power ratio is more important for heavy vehicles. It helps in determining the length and load carrying capacity of vehicles. Axles play a crucial role in design parameters of a vehicle. It depends upon the number of axles vehicles have.

Acceleration of vehicles- Acceleration rates of vehicles are different as per vehicles. Acceleration rates of passenger cars are higher than heavy commercial vehicles[29]. Generally, acceleration capacity depends on mass, weight, size of vehicles. Despite above all discussion, there are numerous factors such as Night visibility, braking performance, geometric aspects which affect road transport system.

All these factors lead to break-down of vehicles and most probably delay the delivery which will imply reduction in reliability index of service provider.

Section-(2.8)

Break-down of Vehicles

A vehicle breakdown is a mechanical failure of such a motor vehicle that the underlying problems prevents the vehicle from operating on all or obstruct the operation of the vehicle, it is very difficult, almost impossible, or dangerous to operate. Due to a large number of reasons, the vehicle may break. Depending on the nature of the problem, the vehicle may have to be placed at the automobile repair shop or not. There is two kind of breakdown, The Total breakdown is the first and second is The Partial breakdown.

A total breakdown occurs when the vehicle becomes completely stable and cannot be allowed to reach the repair shop so that a tow is required. This can happen for a variety of reasons, including full engine failure, or a dead starter or battery, although a dead battery may be able to temporarily resolve it with a jump start. When

the total If the break comes, the motorist will be able to pay for a roadside assistance plan, it can be available through one.

The partial breakdown means vehicles can run or operate, but there is a possibility of further damage to the vehicles. It is more dangerous to operate the vehicles in partial breakdown. In the partial breakdown, the operation of the vehicles became limited.

There are several reasons for break-down of vehicles such as battery faults, brakes fail, bad road quality, and irregular servicing. Vehicle population has been increasing day by day. In this context, road accident has increased by 2.5 percent from 4,89,400 in 2014 to 5,01,423 in 2015 hence ratio of death occurs in road accident also increased[30]. Most of the accidents occur in India due to drink and drive. Safety rules should be followed while driving. It is necessary to take care of some parts of the vehicle such parts are Brakes, Battery, engine, and tyres.

Brakes have great importance while driving a vehicle. As per the types of vehicles, there are several indications and guidelines for regarding the usage of the brakes. Battery fault has considered the common cause of break-down. Factors like personal behavioral factors, road and environmental factors, and vehicles factors mainly responsible for break-down[31]. To overcome this problem new innovations and technologies will help to reduce the chances of break-down and ultimately it will reduce the chances of fatal accidents. The Following point should keep in mind to prevent the breakdown of vehicles.

Check Brakes Regularly- When it comes to vehicle safety, it is probably not much more important than working brakes, an emergency stop may be required on the notice of a moment, and when it is done correctly, it can save the life. In its light, it is extremely important that the brakes are checked regularly by a professional, ideally every ten thousand miles or so.

Fuel care- Although this is a silly mistake, it happens every year, maybe it is late for work, an unfortunate motorist diesel will reach for the pump and without thinking, it will be put in the petrol car. This is a surefire way to grind the car, and it can be easily saved. On the subject of fuel, it is important to keep the needle from zero

as much as possible on the fuel gauge. Running the car in the reserve will reduce car's life very much and then, it is a very easy to break.

Maintenance of Tyres- Tyres is very noticeable because they are the only part of the car, which makes contact with the road. Flat tyres are so common that keeping in mind that they are almost synonymous with breakdown, Make sure to check the tyres pressure often. The right tyres pressure depends on the size and weight of the vehicle and as a result, a lot can be different. It is important to check the exact specialties in the vehicle booklet.

According to above discussion, the breakdown causes are very common. They don't need any special care, but time to time servicing the vehicles is essential to avoid delayed deliveries.

Section-(2.9)

Delayed delivery in movers and packers industries

In order to survive and gain profitability in the market, companies need to meet the needs of customers and run their activities in an efficient manner. Quality and efficiency Indicators are very important for the operational analysis of companies. The companies require following up on services offered to clients. The very important aspect is failure management. Failures are present in each system. Even the most efficient distribution systems have failures. Thus, failure in the entire series of plans is very important for planning, follow-up and evaluation of the recovery process, and not only in the last series stage when it is in contact with the final consumer. If systematical efforts are made to monitor, reduce, and remove failures, then distribution process can keep customers complaining of influence in companies. There are many quality and efficiency indicators in the logistics industry. Each company's ultimate goal is to satisfy customer satisfaction[32].

Nowadays it is necessary for every company to give special attention to the concept of customer-driven manufacturing. In this environment, competition has been increased in products manufacturing, marketing, and selling. Apart from this delivery of the product has great importance. The delivery system is time-bound system hence it is necessary to do it in given time. Delivery lead time is 'the award-winning criterion in movers and packers' industry[33]. Delivery dates are important because it related to the

reliability of the products. It helps to create certainty about the product. Delivery dates are important for the customer to plan their future arrangement and carry out their plans as per the delivery dates. The transport system of the companies can play a major role in delay and needs to be minimized. The point of view of customers, the delivery date is 'the time when the order is placed by customer and order is received by the customer. But the order goes through several processes in that time period. The process consists following points.

Negotiation process- After order entry, this process begins. In the negotiation process, discussion between customers and manufacturers happen about the design of the product, the price of the product and expected delivery time. It takes some time called negotiation time. Consequently, the order is accepted or rejected.

Material Procurement- After accepting the order this process begins. It takes some called material lead time.

Pool order – Here some time require pooling order and its preparing. The purpose of the pool order is to make sure that everything on the shop floor is efficient or not.

Shop floor - This is the final process where the product is ready to deliver.

Reasons for Delayed in Delivery:

Small orders – While packing products some supplier prefer for a big deal which is affordable to them. Therefore small order has to wait for sufficient load for transportation vehicles.

Customs – While trading in international level, there is a high possibility that products get stuck due to customs. There are many reasons for getting product stuck with an incomplete document and incorrect code.

Incorrect, Misspelled address- It is very difficult to find the proper address when the address is mismatched or incorrect. It is necessary to give detail address with pin code while placing the order.

Package redirection – Sometimes the customer wants to change his address after placing the order. At that time package redirection process begins and there is a less possibility to get delivered on time.

Weather conditions – Sometimes it is the possibility to have bad weather and due to this road might be blocked.

Apart from this, land acquisition is the main reason behind the product delay deliveries; approximately 90 percent respondents feel that land acquisition is the main cause of delay services[34]. Delayed deliveries can be avoided by interconnecting transportation facilities and this can be only possible with the help of defragmentation and efficient networking in movers and packers industry.

Section-(2.10)

Fragmentation and networking in movers and packers industry

The international and national businesses are growing in a rapid way. This resulted in increasing the needs of the businesses. To cater this, fragmentation is essential for each and every sector, because it helps to increase the productivity, working capacity, and responsibility for the particular work. To be internationally competitive, businesses are organizing Strategic Worldwide Network, which can provide an efficient and high-quality response to demand from any segment of the world market[35]. The efficient and integrated organization of the activities is often referred to as global logistics or supply chain management (SCM), and due to this global competitive power has become original.

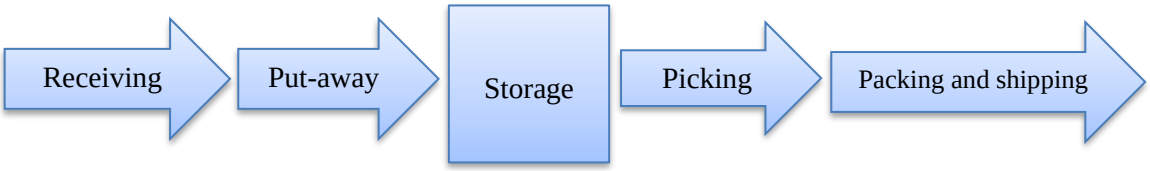
The logistics industry can be fragmented in several functional areas. They are follows[36]

1. Packaging and Re-packaging
2. Warehousing
3. Materials Handling, Loading and unloading
4. Transportation
5. Inventory and Storage
6. Network Design
7. Information Technology.

Suppliers play an important role because they help Indian companies to improve supply chain costs, accountability, reliability and its competitiveness for the Indian

series. Therefore, the management of sourcing is very important in terms of supply risk important. To solve this problem needs to manage the supply delay by managing supply risk. Supply risk is defined, 'Individual supplier related to inbound supply from failures or supply market.' This means the non-availability of the required material will be in required time; Time required for the input, despite the order; Time and date of delivery/quantity/costs of the material already agreed with the supplier consent norms.

In warehouses, there are a lot of work performed such as reorganizing and re-packaging the product. Products are usually packed and extensively packaged on small scale. In other words, a significant function of this warehouse is to break large quantities of the product and redistribute it in small numbers. In warehouses, work can be fragmented by following ways[37].



Here, Receiving and Putting-away consider inbound process whereas Picking, checking, Packing and Shipping as outbound process.

Receiving- Received goods can be obtained from the advance notice. This allows the warehouse to schedule receipt and unloading to coordinate efficiently with other activities within the warehouse.

Put-away- Before the product is removed, a proper storage location should be set. It is very important because the product where you store it determines a large amount of Order-picking, how quickly and at what price do you retrieve it later for the customer, it requires management. It is necessary to know that storage places availability, its capacity.

Order-Picking- On the receipt of the customer order, checks should be done in the warehouse such as to verify that the vessel is available onboard. Then pick up the pickup list to guide to pick up the warehouse, respectively. In the end, it must build a required shipping document and order-picking and shipping time must be set. These activities are usually accomplished by a warehouse management system, a large software system that coordinates the activities of the warehouse[38].

Checking and Packing- Packing can be labor-intensive because every piece of customer order should be handled; But it is a little walk and because each piece will be handled, it is a convenient time to check that the customer's order is complete and accurate Order accuracy is a significant measure of customer service, in return, in which most businesses compete.

Shipping- Shipping normally manages large units as compared to being picked, because packing has consolidated into containers (cases, panels). Consequently, there is still less labor if the product is prepared before loading in freight, then some may start running carrier. If it should be loaded in the reverse order of delivery or if shipping over long distances, completely fill out each trailer. Staging Freight works more because of the forced Fred.

Warehousing network plays a major role in the success of physical distribution of products. The major companies adopt and implement various warehousing strategies such as capacity adoption, hub networking, cobbling and outsourcing[39]. Analytical and simulation models are proposed to improve warehouse design practices. Analytical models are usually analysis oriented which gives many options to find solutions.

Apart from this aspect of fragmentation and networking, most of the operative cost of movers and packers industry is covered by the fuel prices. The stability of fuel pricing will definitely cater in efficient planning of financial aspects of the industry. Thus, brief details on role of the fuel pricing have been offered below.

Section-(2.11)

Role of fuel pricing in logistic industry

Prices of crude oil are decided by its demand and supply in the global market, therefore, fuel prices in India are flexible in nature. If fuel prices increase it will have the direct impact on inflation because fares of goods increased and ultimately prices of goods also increases. The fuel prices are very sensitive in India however it is less researched. Cargo trucks are mainly responsible for the consumption of diesel. Poor roads of India effects on the mileage of trucks hence it helps in higher consumption of fuel. On January 2013, the Cabinet Committee on Political Affairs allows oil-marketing companies to increase the price of diesel by INR0.45 per month to get recovery[40].

Transport operators have the ability to change their tariffs and, in this way, their customers are significantly different due to market segmentation, mode and to high fuel costs and depend on their market power. Indeed, smaller transport companies have less market power compared to large companies and rising fuel costs are then temporarily absorbed by margin reduction. In particular, there is no excerpt in the transport market of road transport in India and often specialty with small profit margin by small enterprises. This specifically holds for owner-drivers who work for goods prices which are very close to the cost price. Any factor can be the result of being in business for the ability of such companies. To reduce profit or to absorb high fuel cost, starting surcharges is not the only possible.

Diesel intensity - input (quantity or value) in the form of input is quite different in the field of production. Thus, increase or modification of the price of diesel will affect various areas for different degrees. In the sub-sections below, we estimate the use of diesel fuel by some recognizable uses, users and consumer areas. Due to Diesel we use a ratio of these input costs and assess the increase in total input costs. Coal, diesel and electricity are the three important fuel used for railway traction in India. In 2000-1, diesel engine-kilometers had 58 percent of total traction. Due to the new track-length and gradual electrification of the current track, the diesel traction is on the decline. This ratio reduces the rate of one percentage point per year to reach 54 percent in 2004-05[41]. By 2008-09, the proportion of the total traction of engine kilometers using diesel also declined.

There are three main component which can make changes in crude oil prices: (i) variation in the US $ and Euro exchange rate, (ii) taxes related to fuel, (iii) profit margin of production and distribution companies[42].

Impact of oil price hike on specific transport methods, as seen before, has a clear and significant impact to the transport sector and its overall competitiveness applied to both private counters of various counter makers by transport operators and the national government. So, this is necessary to tackle such negative references and remove it. The former energy focused on corrections, while the latter kept specific policies to help the two-factor sector.

All this discussion, naturally leads to understand break-even strategy of logistic industry and this has been brought up with the help of next Section-(vi).

Section-(2.12)

Break-even of logistic industry

The current market is characterized by high competition, so if the enterprise wants to succeed in such an environment, then it has to focus its attention on the cost structure. For the basic financial target of the enterprise, it can be considered as the maximum value of enterprise's market value. This goal can be accomplished if cost management is effective, although for the enterprises well-known principle and cost management optimization. There is a misinterpretation in practice. It should also be noted that is required for the cost-effectiveness and services on the quality of the products presented in case of any major decision. But here, efficient does not mean cheap.

Break-even analysis is a useful tool to study the relation between fixed costs, variable costs and returns. A break-even defines the point that when an investment can generate positive returns and can be determined by graphics or simple mathematics[43]. Break-even analysis to cover all costs A necessarily calculates the quantity of production at a given value. The break also calculates the required value at a given level of production for value-cost analysis. There is also break-point where sales revenues produce lower variables and fixed cost zero profit. In which place the total revenue (sales) and total cost are at the certain point which considered no gain or no loss. There is profit at one side and loss at another side. Profitability is the goal of every business owner, but before management profits, they also have to break-even estimates. Spending more money than business, to absorb the production of the product or to provide the service, one can quickly kill a company's capital. Even if the business has a financial pillow which is enough to operate it in red for a period of time, Management should be aware of at least areas where there is a loss.

The break-even is the numbers which generate the positive return before the investment starts. To run the business successfully, it is necessary to have break-even analysis management for identifying the point where revenue will cover the expenditures on every product and services offered. Therefore, Break-even analysis should be performed regularly basis or quarterly basis also. This type of analysis is important for both internal parties and external parties. The internal side or the management should use this type of analysis to produce the time of the plan (sales

target) or the firm in future for the amount of profit required in a certain period[44]. Since the Securities Exchange Commission requires management, there should be some financial analysis and discussions in its annual report about its operation.

The domestic cargo container movement is still in a very early stage in India. Road transport is mainly in hands of highly unorganized players. Moving fuels Prices and reduction in excel loads are making road transport uneconomical on a long run. There is a movement of 30 percent of the Axim container by rail, and the remainder is transported by road[45]. For the transport of containers of containers, the only consolidated service was up to 2005. This is a highly capitalized business and the cost of rolling stock is about 13 million/rail. The cost of for the operation of Inland Container Depot is approximately 100 crores. Complete infrastructure like yards/containers/signals is still provided by a service provider.

Transport from the sea are less expensive than transportation Secondary port development by road or railway less infrastructure is required Terminal development can be easily controlled by private operators. Price of fuel replaces users by road transport in alternative transportation mode. Only a very small and limited number of Logistics Service Providers are providing an end-to-end logistics series in a true sense. A Large number of broken service providers desire to cover all services. However, there is a lack of an integrated approach.

The logistics industry covers its expenditure from alternating its sources such as road transport replaces by sea transport, sometimes by air transport.

Section-(2.13)

Taxation Framework for Logistic Industry

The Logistics sector has great importance in the development of a nation. Indian logistics sector is growing gradually. But, it has high logistics cost in India as compared to the other nations. Transportation has been taxing multiple times since taxes framed in India. There was complex tax structure in India. To overcome all these problems government introduced initiative like ‘One Nation, One Tax’ and approved Goods and Service Tax (GST). Competition for Indian product has increased at domestic and International level due to the introduction of GST[46]. This will help in economic growth.

Transportations and Warehouses are the major segment of Indian logistics industry[47]. Both have great importance in a supply chain, organized retailed and growth in production. There were many taxes such as central level tax in which excise, customs duty, central service tax and state level tax in which VAT, the state level tax impact on warehousing sector. GST will avoid this multi-tax scenario. The government of India planned duel GST model which consisted central GST and state GST[48]. These taxes will replace the separate tax structure of federal and state taxes. After the implementation of GST, there will be only one tax on transportation of goods across the country. GST will give several benefits to companies such as flexibility in manufacturing, negotiation in prices, quality improvement, interstate sourcing of raw materials and enhancing capacity[49].

Impact of GST on Logistics Industry-

Goods and Service Tax (GST) - Taxation on goods and services consumed on the basis of the directive in Indian tax reforms effective from February 1, 2017, on the basis of directorship, without any distinction. It is expected to play a key role in integrating disintegration. A major contributor to the logistics industry, supply chain efficiency and product costs, $ 130 billion Indian logistics industry is growing by 15% compound annual growth rate[50]. The real backbone of the Indian economy, it is currently running below. Classification of logistics service provider in the form of a Freight Transport Agency (GTA) or courier service agency, there is a major debate in the previous GST regime, due to the complex procedures being applied to GTA services, all operators declared them as a courier service agency. Run for After GST, there is a clear understanding in the whole chain, the division of services, classification and application of appropriate taxes, and the smooth flow of credit is expected.

It will further bring warehouse consolidation across the country and we can see higher investment in mega logistics centers and infrastructure, where 100% FDI has been allowed. As a result of GST, godown operators and e-commerce players, there is an interest in establishing their warehouses at strategic locations like Nagpur, which is a zero-mile city in India and is well connected. As we move forward, we are certain to see more changes.

Advantages of GST-

Regional hubs come in focus- Under the previous tax structure, manufacturers in India required warehouses in every state. Implementation of GST will allow the emergence of major centers in large states allow to organize processes. This will allow makers flexibility only for warehouses in selected states.

Turnaround time reduced- For the purpose of compliance with state laws and taxes, the trucking industry spends a large amount of time at interstate checkpoints and tracking of interstate sales-tax. It is estimated that the logistics industry spends 50-60 percent of its time on all of the above functions. Thus, lower interstate compliances and reduced paperwork are expected to result in faster turnaround time for trucks.

The Cost will reduce- According to the World Bank report; up to 40 percent of its logistics carried out in the investigation posts can be saved. At present, taxation rate estimates 26.5 percent, but with the implementation of GST, this rate is expected to grow between 18 percent-21 percent, resulting in cost savings[51].

Uniform Taxation system- Prior to the implementation of GST, all the states had their own tax system, and each used to be used for goods who took different steps in their borders, resulting in goods which sometimes it takes tax.

Above all discussion, it is clear that GST will bring some changes which will boost the logistics industry of the country. Taxation is although an external factor and thus not in the capacity and control of the industry. This reflects to only comply with it and this role of compliance along with other responsibilities is considered as management practice, discussed in length with the help of below section.

Section-(2.14)

Management Practices of Logistic Industry in India

Transport is the movement of people, animals and objects from one place to another, in the second place. There are many means of transport and include air, rail, road, water, cable, pipeline and location. The area can be divided into infrastructure, vehicles and operations. Transport management can be defined as the process of controlling, implementing and controlling processes and activities for the effective process. Transport plays a composite role in many phases, resulting in the conversion

of resources into useful items in the name of the final consumer. It is to prepare all these functions and sub-tasks in one system, which in order to reduce the cost of goods in the movement and maximize service to customers.

The best practices for the management sector are a set of useful solutions for managers of all levels on for the execution of their work. Transportation Management practice refers to methods or techniques that are most effective in achieving transport objectives and practical means such as low cost, timely information related to transportation, distribution to other enterprises and customers[52]. The increase in transport velocity while using the optimum of resources.

A warehouse management system or WMS primarily aims to control movement and storage of materials within a warehouse, and whose purpose is to include shipping, receiving, far-off, and picking. Warehouse Management System (WMS) is a database-based computer Application, by keeping the warehouse's efficiency cutouts and maintaining the correct list of recording warehouse transactions. The system also optimizes the stock on the basis of real-time information about direct and bin usage status. It often uses auto-id data capture (AIDC) technology, such as barcode scanner, Mobile Computers, Wireless LAN (Local Area Network) and potentially monitor Radio Frequency Identification (RFID) with the flow of products efficiently. After collecting data, there is a real-time wireless transmission for batch synchronization or a central database. The primary function of warehouse control system is to have information about upper-level host system and often being warehouse management system. There are three types of warehouse management system[53].

1. Basic Warehouse Management System- This system is suitable for sharing stock and location control. It is mainly used to register information. Storage and selection instructions can be generated by the system and may possibly be displayed on Radio Frequency terminals. Warehouse management information is simple and is mainly centered on input.
2. Advanced Warehouse Management System- Advance Warehouse Management System is able to plan resources and activities. It helps to synchronize the flow of goods in the warehouse.
3. Complex Warehouse Management System- Warehouse with a complex Warehouse Management System or a group of warehouses can be customized.

The information is available in every context, where it is located, what is its destination. In addition, a complex system provides additional functionality like transport, dock door, and value-added logistics. The plan that helps to optimize the warehouse Operation as a whole management.

Apart from the above discussion, the logistics sector needs efficient management system, because logistics sector has a vast network all over the world. There are different management work and practices performed by the management system.

Section-(2.15)

Human resources/ manpower and Movers and Packers Industry

Human Resource management is a challenging for every business across the world. In the era of privatization and globalization, human resources are emerging with the new technology. Factors of men's management are not the only important task of the human resource management; This function has gone into four main general areas, in which 1) roles 2) relationships 3) strategic focus and 4) the focus of learning these areas are different from traditional people like conventional, transitional and knowledge[54].

Logistics involves a complex practice in general and road transport-based parcel services, involving operations, supervisory and tactical levels are spread in various activities. An organization needs to perform various task such as logistics communications, handling of refunds goods, material handling, packaging, order processing, planning and demand forecast. Organizations should be able to adjust in order and make changes in the direction in response to sudden change in complex environment. A responsive organizational culture is highly dependent on its foundation and the number of trained workers. People are the heads of any organization, and top artists have established commitment towards talent management. The performance of the sector is well and it is growing at the rate of 10 percent per annum[55].

Issues of Human Resources in Movers and Packers Industry

Training Initiatives- The companies often have to train the new employee to perform specific tasks within the organization. This is also true with skilled employees

because every business is running under a different set of beliefs, policies and procedures. In global human resources, training and commercial development consider a new meaning because companies work to reduce the gap between cultures. As the view of global status, globalization allows engaging with customers in markets around the world.

Compensation and Benefits- Providing compensation and benefits are another hallmark of HR that globalization is revolutionary. While federal law mandates things like minimum wages and discrimination policies, many global-minded companies are adopting new strategies to attract and retain top employees around the world. Provide anticipated benefits such as paternity leave, childcare, extended holidays time and work-to-home programs on the site benefits for general compensation of employees.

Employee Retention- In today's world, globalization has been increased in a rapid way, it is a possibility employee become dissatisfied due to workload, long hours of work, and lack of direction, therefore, employees can easily find another job whenever they want. Here, the company needs to satisfy its employee by offering rewards and compensation.

Aging Workforce- Due to demographic changes, many employees retire, leave the organization in terms of expertise and experience. To make sure that these valuable members have knowledge transfer to retire your employees. Lost knowledge means loss of lost productivity and revenue. In addition, many employees work for long periods.

Life/work balance- As a result of the increasing use of technology in the workplace, employees can work from home, airport and hotel. This mobile work environment makes it difficult for many people. In addition, many people work for global companies. All callings and meetings are held in all hours of the day and night, hence stress results. The employees report the need for a healthy work and tips for maintaining life balance in the light of all these obstacles. Reaction on this issue should be organized by HR professionals. Employees prefer to healthy environment jobs.

Apart from above discussion, it is clear that this area has to face years of severe manpower shortage. The major companies which can afford the cost of their own Training Center, recruit candidates and train them according to their needs. Small employers and unorganized sector owners usually train on the job, resulting in a decrease in efficiency and productive time.

In the present research work, all these aspects of logistic industry has been considered and investigated to understand financial overview of the movers and packers industry.

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Chapter 3

Research Methodology

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Chapter-3

Research Methodology

Keeping in mind the title of the present research, namely, *'A study of financial aspects of cargo pooling in logistics industry for movers and packers in Metro Cities in India'*; the present chapter has been designed. The financial aspects of movers and packers of India is the main crux considered in this present research study. To accommodate investigation of this aspect of movers and packers, present chapter has been divided into seven sections as mentioned below.

Accordingly, ***Section-(3.1)*** brings out introductory observations regarding present study. In ***Section-(3.2)***, statement of research problem has been made. The aims and objectives set for current analysis is given in ***Section-(3.3)***. The probable solutions well defined in the set of construct which need to be tested has been presented in the ***Section-(3.4)*** of hypotheses. ***Section-(3.5)*** deals with the sampling methodology, data bases-both primary and secondary, while, significance of the of analysis is pointed out in the ***Section-(3.6)***. Finally, the chapter has been completed, stating time-span, scope and limitations of the study presented with the help of ***Section-(3.7)***.

Section-(3.1)

Introductory Observations

It needs to be admitted that, logistic industry is like a blood veins of any economy. From the point of view of industries, logistic has been seen as one of the cost centers for their businesses. Though, it is well understood that, logistic industry is a backbone of an economy, but the fact of cost associated which curbs the share of profit, would not be over sighted. Ultimately, efficiency of logistic industry is important to the extent of overall macro aspect of an economy. In the present study, micro aspect of the logistic industry has been represented by the movers and packers. Moreover, efficiency of the logistic industry is largely depending on how it uses available resources optimistically. This resource optimization has been coined as a financial assessment or cost-benefit propositions in different appropriate settings. Although, in concern with the present study, financial aspects of the cargo pooling has been assumed in terms of the cost-benefit analysis of the cargo pooling business processes. It can be highlighted in detail that, cost benefit analysis is certainly the output of demand and supply of the

service of cargo pooling. To be more specific, metro Cities have rising demand for this kind of cargo pooling services to cater the rising demand of an economy. This implies competition in the cargo pooling industry. At this very stage, policy makers of the cargo pooling industries are more curious in providing services within very economic and reasonable price.

Now, with reference to this discussion, present investigation has been conducted to offer probable solutions to the cargo pooling with a specific focus on 'Movers and Packers' in logistics industry using scientific investigation of economic variables of this industry.

In a summary, it needs to be pointed out here that, the analysis has a foundation of the scientific analysis of financial aspects represented by cost-benefit analysis of the cargo pooling industry. To anticipate all these introductory observations, below sections have been designed and presented.

Section-(3.2)

Statement of Research Problem

Against the background of the introductory observations stated in the section-(i) of the present study, it is necessary to state the research problem being handled in this research. The title of the present study, itself is self-explanatory to highlight research problem. Thus, statement of research problem of the present study may be stated as mentioned at the start of the chapter.

Technically speaking, research problem can be stated mathematically as below-

$$\boldsymbol{P\ (O_j \mid I, C_j, N)}^{1}$$

Whereas, *'P'* represents probability that, an outcome O_j will occur, if *I* select *Cj* in *N*.

In the context of present research study, it must be pointed out that, *'I'* representing the selected cargo pooling units operating in an environment of say *'N'* (in which considered three metro cities, namely, Mumbai, Delhi and Bengaluru). Now, '*O'* has been assumed as an outcome. In the present study, 'O' has been considered as the cost of cargo pooling, with respect to the *'I'* make rational decision of selecting appropriate method for optimum utilization of available resources. There are many

possible courses of action represented as methods of optimum utilization of resources (represented by *'C_j'* in above mathematical expression) to get desired outcome (that is represented as *'O_j'*), most preferably, low level of financial implications say for cost.

Thus, by reviewing all the above discussion, statement of research problem may be stated as, offering 'effective method for or identifying variables which impact on financial cost (C_j)' by studying 'factors and reasons of high cost, operative in select metros, namely, Mumbai, Delhi and Bangalore (N)' in respect to the 'select cargo pooling units (I)' with the aim of 'lowering down cost (O_j)' incurred in cargo pooling activity. In short, scientific investigation of the utilization of cargo during transit of cargo between these metro cities, may be the primary research question under this study.

To solve above research problem, study of critical parameters affecting cost of cargo pooling activity has been conducted.

Section-(3.3)

Aims and Objectives of the Study[2]

In consideration with the discussion made in Section-(i) and Section-(ii); broader aim of the present research may be stated as, to offer probable solution to the cargo pulling industry for lowering down the cost of cargo pooling in select three metro cities. In this view of the mentioned aim, below mentioned objectives has been decided and presented.

Objectives of the Study-

i. To study logistics in India with specific focus on roadways and movers and packers on roadways.
ii. To study the optimization of resources on metros routes in India for the transport of movers and packers.
iii. To study the financial aspects in the logistics (represented by movers and packers) between metro cities.
iv. To find out the lacuna (challenges) in utilization of resources and offer a solution which will increase the financial effectiveness and resource optimization in movers and packers industry.

Based on the above aims and objectives, hypotheses have been developed and presented with the help of further section.

Section-(3.4)

Hypotheses of the Study

Considering the introductory observations mentioned in the Section-(i), and research statement mentioned in the section-(ii) along with aims and objectives pointed out in section-(iii); working hypotheses[3] have been developed and have been presented in Chapter 4.

Further analysis, testing and interpretation of these hypotheses have been accommodated in the **Chapter-4**, namely, data analysis.

Section-(3.5)

Sampling and Database of the study

The baseline of the current study is based on the two well-known data sources, namely, primary data and secondary data. The details on these two data sources have been offered with the help of three sub-sections. Thus, in ***Sub-Section-(a)*** discussion has been offered for primary data. Secondary data used for the data analysis has been narrated in ***Sub-Section-(b)*** and finally, ***Sub-Section-(c)*** discusses tools used for analysis of both the data sources.

Sub-Section-(a): Primary Data[4]

The primary data essential for analysis of the research methodology has been populated through a structured questionnaire ***(same has been attached in Annex-1 of the present study)***. The questionnaire prepared for collecting primary data has been based on several literatures reviewed. The questionnaire accommodates all the aspects considered under investigation of the present study.

Population of the study

An effort has been made in the primary canvassing of the population considered under study. It has been observed challenging to compile details of all the movers and packers the cities under consideration. Essentially defining term 'all' for movers and packers in the cities lays a greater challenge due to fragmentation of players in this sector. To accommodate these aspects, efforts have been made to review and compile from all valid sources such as directories published by [5]www.justdial.com, directories of other networks, yellow pages etc. In an ultimate stage the research arrived at tentative number of players from the cities, namely, Delhi, Mumbai and Bengaluru representing movers and packers. These details of the players have been presented in the ***Table No. 3.1*** below.

Table No. 3.1

Number of players in Movers and Packers of Cargo Pooling Industry

Sr. No.	Cities	Delhi	Mumbai	Bengaluru	Total
I	II	III	IV	V	VI
1	Mover and Packers	1000	1500	1000	3500

(Source: compiled from *www.justdial.com*)

It has been seen from the table that approximately 1000 movers and packers are visible in the cities of Delhi and Bengaluru. In Mumbai city, approximately 1500 players in cargo movers and packers are having presence which is considerably more than rest of the two cities. These variations in number of players in the select cities have been considered while selection of samples for the present study.

The details on sampling have been provided in below sections according to cities considered in the present study.

Sample of the study

With reference to the Table No. 3.1, it has been noted that in Delhi, approximately 1000 players have been identified and included in population. Though, naturally 10 per cent of the sample has been considered as good representative for homogeneous population. This is represented in the below ***Table No. 3.2.***

Table No. 3.2

Samples of the Study

Sr. No.	Parameters	No. of Movers and Packers			
		Delhi	Mumbai	Bengaluru	Total
1	Population	1000	1500	1000	3500
2	Sample	100	140	100	340
3	Percent of Population	10.00%	09.33%	10.00%	09.71%

(Source: compiled from *www.justdial.com* and field investigation)

It can be inferred from the table that near about 10 per cent of the enterprises belonging to mover and packers industries have been selected and considered as sample for the present study. Only in case of Mumbai based movers and packers, 09.33 per cent of the enterprises have been selected as sample. The method of sampling adopted was ***simple random sampling***. The method of approaching to the prospective respondents has been presented in below section.

Data collection

As mentioned earlier, pre-structured questionnaire has been prepared and administered to get required data for the purpose of further tabulations and analysis. The questionnaire has been transformed into Google forms and administered through internet with request to fill up the questionnaire in due course. The queries regarding filling of questionnaires have been addressed through phone calls and whenever possible by direct discussions. In Google forms data once recorded and submitted was automatically saved into tabular view. In this way total 440 questionnaires have been sent to movers and packers for filling up the required data. Out of these 440, total 412 enterprises of movers and packers across three cities have been responded to the email and filled up the questionnaire. These filled questionnaires then investigated for the consistency and out of these 412 filled questionnaires only 340 have been considered to be reasonably accurate having considerable degree of reliability[67] and authenticity to

include into further tabulation and analysis. All these details about the canvassing of the questionnaires have been presented in ***Table No. 3.3***.

Table No. 3.3

Data collection of the Study

Sr. No.	Parameters	No. of Movers and Packers			
		Delhi	**Mumbai**	**Bengaluru**	**Total**
1	Population	1000	1500	1000	3500
2	Questionnaires sent to respondents	130	170	140	440
3	Filled Questionnaires Received	122	155	135	412
4	Questionnaires included in Sample	100	140	100	340
5	Filled Questionnaires rejected	22	15	35	72

(Source: Field Investigation)

It has been observed from the table that total 72 filled questionnaires have been rejected from further analysis. There several reasons for rejecting the questionnaires such as, incomplete information, unreliable responses, inconsistent opinions etc. The details of these rejections are tabulated in Table ***No. 3.4***.

Table No. 3.4

Summary of reasons for rejecting filled questionnaires

Sr. No.	Questionnaires	Total	Reasons for rejecting questionnaires			
			Incomplete	**Unreliable**	**Inconsistent**	**Other**
1	Rejected	72	32	13	18	9

(Source: Field Investigation)

From the table above gives the details regarding reasons for rejecting total 72 questionnaires. It needs to be mentioned that the 32 questionnaires have been rejected because incomplete information, such these respondents did not mentioned their opinions regarding fragmentations and details on routes, trucks etc. which were crucial for the study of financial aspects of movers and packers. Moreover, the responses obtained from 13 movers and packers were not to the extent of reliability as these respondents have given multiple answers to the questions which needed same or at least logically reliable answers. Inconstancy in filling up the information refers to the filling of questionnaire without due care and thought process. In short, these 18 respondents given answers those are not realistic. The category of other reasons for 9 questionnaires

were included the reasons such as for the purpose of attaining representation of the sample, etc.

In summary, all these discussions regarding sampling and method of data collection leads to conclude that the method of data collection and sampling adopted was scientific and a good representative of the population.

Sub-Section-(b): Secondary Data

The secondary source of data related to logistic industry is available in plenty in the context of Indian Logistic sector for several decades in past. All these data are accessible on internet, which can also be referred in the chapter on literature review. Many books and journals are used to analyze the logic and many literature sources related to the same have been referred to., namely reports of the Government which gave us the actual data baseline, Association of Industry and Chambers of Commerce reports which helped in deriving to some specifics of data inferences. The relevancy of the secondary source of data have been predominantly relevant for the period mentioned in the section. There is a limitation, scope and time span for the mentioned activity in the region. Some of this material has also been utilized during the course of the present study. The source of the secondary data was from several renowned libraries in Pune, some of them are: Library of Gokhale Institute of Politics and Economics, British Council's Library, Pune, Jaykar Library of Savitribai Phule Pune University, Pune, Pune and the library of Vaikunthlal Mehta Institute of Cooperative Management and studies, Pune, the library of Tilak Maharashtra University, Pune and library of Maratha Chambers of Commerce, Industries and Agriculture, Pune.

Sub-Section-(c): Analysis of the data

It needs to be pointed here in this section that, quantification aspect of the database has been presented with the help of tables and appropriately illustrated by the pie charts and bar diagrams wherever thought necessary. Further analysis in the context of establishing relationships between parameters has been conducted with application of correlation coefficient technique. In general, investigated data has been analyzed by using appropriate statistical techniques such as, mean, standard deviation and calculation of frequencies and hypothesis testing has been made using one sample 't' test according to the structure and scale of data for hypothesis. The properties of the data have been studied for selecting appropriate test for hypothesis testing.

Section-(3.6)

Significance of the Study

With a long-term aim of saving USD 50 billion on logistic industries, India has flexed its muscles to curb the logistics costing from 14% to 9 %of GDP. This effort will surely make a difference in Indian logistics market and help in developing the competitiveness in competition to the global market. The efficiency of the logistics market is on the strong pillar for export and in turn the job market associated to export. The reports indicate a growth potential to reach $ 3.5 trillion industry in near future.

Many instances have helped in concluding that the logistics and relation business involves a combination which has lower margins but has higher cost. The problem in increased more when there are scattered players in the market, who make pricing strategy without going through a formal route of inclusion of expenses like taxes, which organized members cannot avoid. There are other dimensions which also affect such as: Restriction of weight, health and quality of drivers, vehicle condition etc.

The logistics industry involves different dimensions addressed which are shortfalls of the industry. The physical infrastructure is the main pillar of this shortfall. The next biggest shortfall in the lack of good communication system. In today's world, communication is at the heart of the success of an industry. Due to these reasons and more detailed reasons specific to 'movers and packers', there is a huge gap in the utilization of resources by this industry.

Thus, investigation of these parameters in logistic sector with reference to movers and packers enterprises from three cities namely, Mumbai, Delhi and Bengaluru hardly need any emphasis to highlight its significance of the study.

Section-(3.7)

Time span, scope and limitations of the study

As has been indicated in the introductory section, investigation of the financial aspects of movers and packers industry is the main aim of the present study. Thus, in this view of matter, primary data collected for further analysis have been considered between 2014 and 2017. In short, the facts and figures collected through pretested

questionnaire have relevance to these years only. Although, the literature and concepts reviewed for the present study has relevance before this time period and may have connectivity, in some extent, beyond this time frame.

As the study reveals itself to be confined with logistic industry, though, movers and packers are the prime focus under its investigation under the 'Roadways logistic subsector' used by movers and packers industry. In the title, itself it has been noted that, the present study is scientific investigation of logistic industry of INDIA but with special focus on Metro Cities. With this reference, it has to be noted here, may be as the scope of the present study that, major three metro cities have been selected for in depth investigation, namely, Mumbai, Bengaluru and Delhi. Further, it also appeared to be noted that, financial aspect considered under this study has been limited its scope to the cost benefit analysis of the cargo pooling of movers and packers considering three fundamental variables, such as, distance, capacity utilization (or volume) and human resources, break-down of vehicles, delayed deliveries, fragmentation and networking, general term of efficiency, number of trucks and routs, taxation and Octroi.

Irrespective of all the ways of transportation, present study deals with only road ways cargo for movers and packers. There are seven metro cities in India, but considering the volume of movers and packers, three metros have been identified which forms a golden route for movers and packers; all these aspects need to be noted as one of the limitations of the present study.

References

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[4] Donald R. Cooper et al, Business Research Methods-9th Edition, Tata McGraw-Hill, 2006, p-268

[5] www.justdial.com

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Chapter 4

Processing, Tabulation, Analysis and testing of Hypotheses

Chapter-4

Processing, Tabulation, Analysis of the Data and Testing of Hypotheses

Contents of Chapter

CHAPTER-4

PROCESSING, TABULATION, ANALYSIS OF THE DATA AND TESTING OF HYPOTHESES

In the present chapter an attempt has been made to process and tabulate the field data obtained on the basis of structured questionnaires canvassed amongst enterprises dealing in cargo pooling in logistics industry for movers and packers in Metro Cities in India. Data relating to various parameters have been obtained on the basis of field investigations and personal interviews (wherever possible and whenever thought desirable). An attempt was made basically to stress and quantify financial aspects of cargo pooling industry with specific reference to the movers and packers from three metro cities, namely, Delhi, Mumbai and Bengaluru. Considering the format of the questionnaire which was designed for collecting the field information, the present chapter has been divided into two parts and subdivided into several sections and subsections. PART-I deals with the analysis and interpretation of the field data while PART-II brings out the discussion on hypotheses testing, interpretations and generalizations.

PART-I

Descriptive Analysis and interpretation of field Data

In this part an effort has been made to interpret descriptive data collected from the field investigation. To accommodate the investigated result in logical format, present part has been divided into ten sections. In ***Section-(4.1)*** detailed discussion has been offered regarding general parameters of movers and packers enterprises from selected metro cities. In ***Section-(4.2)*** variables regarding break-down has been quantified and presented. One of the factors responsible for financial study of movers and packers, namely, delayed delivery, has been quantified and presented in the ***Section-(4.3)*** of this part. The descriptive statistical details also have been portrayed and presented in ***Section-(4.4)*** regarding fragmentation and networking in movers and packers industry. The core financial aspects and components observed during field investigation and quantified using the questionnaire have been tabulated and interpreted with the help of ***Section-(4.5),*** in this part of the chapter. In ***Section-(4.6),*** tabulation and interpretation regarding resources related to manpower has been offered. The general term of efficiency has been investigated and presented in the ***Section-(4.7)***. The quantification of financial aspects regarding

trucks and routs has been presented in the ***Section-(4.8) and (4.9)***, respectively. Finally, in the ***Section-(4.10)*** variables namely, taxation and others have been quantified, tabulated and presented.

Section-(4.1)

General Parameters

In this section general information has been analyzed and presented with the help of five questions. Accordingly, from the ***Table No. 4.1*** below, it would be seen that total 340 packers and movers have been identified and approached for further data collection. The distribution of selected movers and packers enterprises according to main city of operation has been found as 100 enterprises each from Bengaluru and Delhi while 140 from Mumbai. Apart from their main city operations these enterprises are operating in other cities as well. It is interesting to note that the movers and packers enterprises from Bengaluru don't cater in Bengaluru.

Table No. 4.1

Distribution of responding companies according to services provided in Metros Cities

(In numbers)

Sr. No.	Main Cities	Bangalore	Delhi	Mumbai	Others	Grand Total
I	II	III	IV	V	VI	VII
1	Bengaluru	0	14	33	53	100
2	Delhi	13	1	33	53	100
3	Mumbai	23	23	0	94	140
	Grand Total	**36**	**38**	**66**	**200**	**340**

(Source: Field Investigation)

This aspect also has been presented and described appropriately with the help of Chart No. 4.1. In this chart presentation has been made through comparative fashion using percentages from all the selected cities.

Chart No. 4.1
Distribution of responding companies according to services provided in Metro Cities

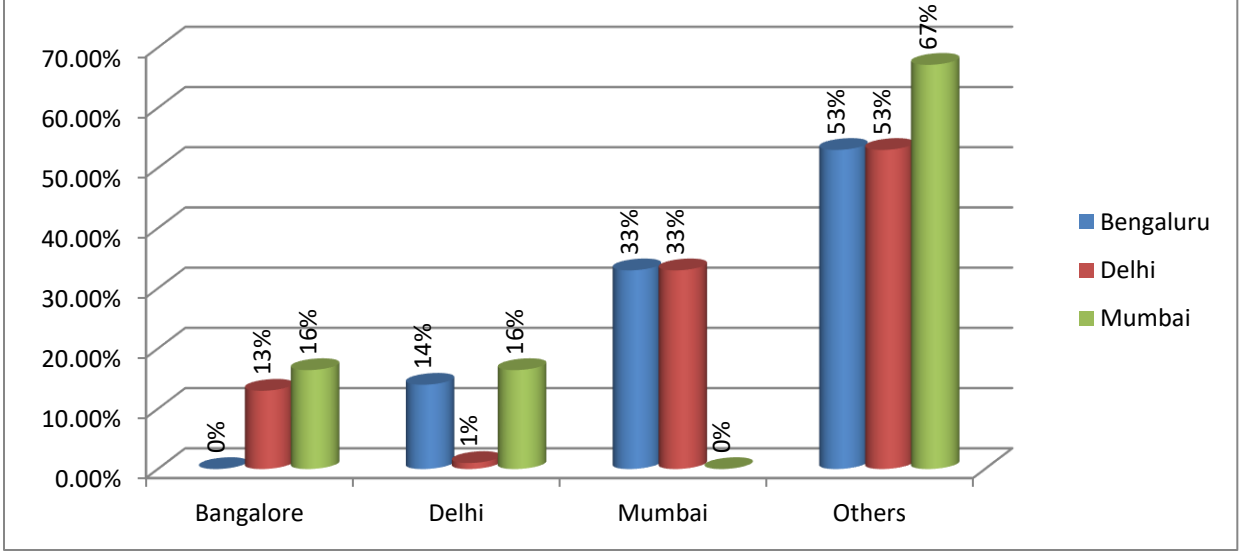


Table No. 4.1A

Distribution of Responding Companies According to Services Provided in Metro Cities (%)

Sr. No.	Main Cities	Bangalore	Delhi	Mumbai	Others	Grand Total
I	**II**	**III**	**VI**	**V**	**VI**	**VII**
1	Bengaluru	0.00%	14.00%	33.00%	53.00%	100.00%
2	Delhi	13.00%	1.00%	33.00%	53.00%	100.00%
3	Mumbai	16.43%	16.43%	0.00%	67.14%	100.00%
	Grand Total	**10.59%**	**11.17%**	**19.41%**	**58.82%**	**100.00%**

(Source: Field Investigation)

The strength of these movers and packers enterprises may be assessed from the possession of number of vehicles. Thus, from the ***Table No. 4.2*** below, it would be seen that most of the movers and packers (approximately more than 87 per cent) mentioned availability of less than 100 vehicles. Further, it need to clarify that, there is a practice of utilizing others' vehicles as per the need. Thus, this aspect underlines no need to bye, possess and maintain separate vehicle for the business. This strategy also found effective in optimum utilization of the financial resources. This aspect also has been described with the help of ***Chart No. 4.2***.

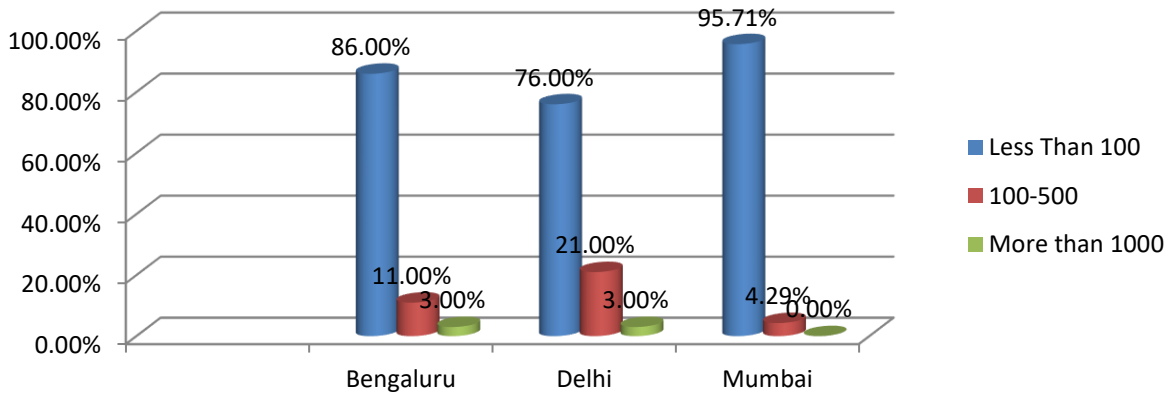
Table No. 4.2

Distribution of Responding Companies According to Total Available Vehicles

Sr. No.	Main Cities	Less Than 100	100-500	More than 1000	Grand Total
I	II	IV	III	V	VI
1	Bengaluru	86.00%	11.00%	3.00%	100.00%
2	Delhi	76.00%	21.00%	3.00%	100.00%
3	Mumbai	95.71%	4.29%	0.00%	100.00%
	Grand Total	**87.06%**	**11.18%**	**1.76%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.2
Distribution of Responding Companies According to Total Available Vehicles



The revenue of these firms strongly counted by the daily distance covered for transporting the luggage of the customers. This aspect has been quantified and presented with the help of ***Table No. 4.3***. It would be seen from the table that most of the movers and packers (66.76 per cent to be exact) covers 100 to 200 kilometers of distance per day, while very negligible proportion of movers and packers runs for average distance less than 100 km and more than 301 km per day.

This aspect significantly underlines the fact that the average daily running between 101 km and 300 km is accounted for economical equilibrium as the reason may be attributed to the phenomena of marginal productivity such as the proportion of cost increases per additional kilometers of distance after 300 km may not be recoverable.

Table No. 4.3

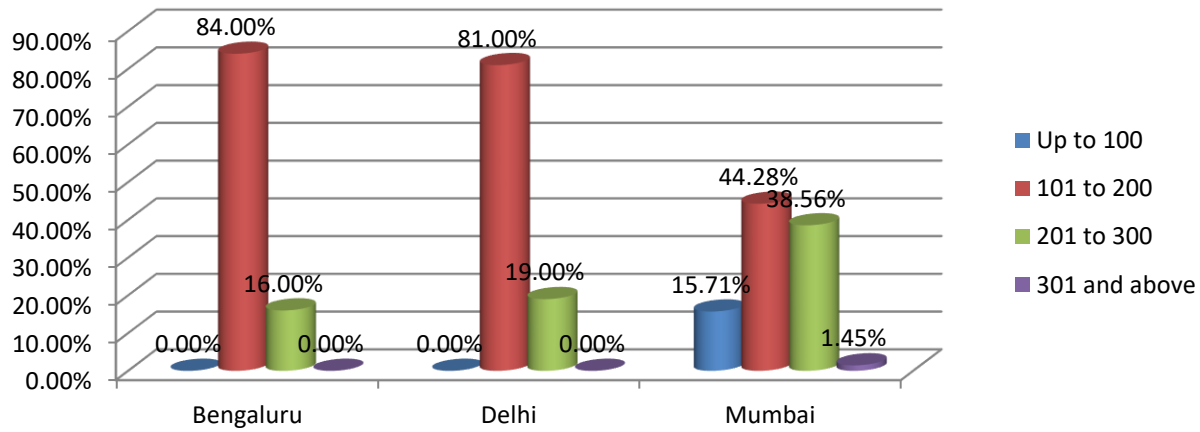
Daily Distance Covered by the Responding Companies (In Average Km.)

Sr. No.	Kilometers Covered	Bengaluru	Delhi	Mumbai	Grand Total
I	II	III	IV	V	VI
1	Up to 100	0.00%	0.00%	15.71%	6.47%
2	101 to 200	84.00%	81.00%	44.28%	66.76%
3	201 to 300	16.00%	19.00%	38.56%	26.17%
4	301 and above	0.00%	0.00%	1.45%	0.58%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

The information contained in above table has been appropriately presented in the graphical understanding with the help of ***Chart No. 4.3***.

Chart No. 4.3
Daily Distance Coveredby the Responding Companies (In Average Km.)



Another variable which has been considered for the purpose of the study for financial aspects of movers and packers is number of drivers utilized by the enterprises of movers and packers. This aspect has been investigated with the help of two dimensions such as number of drivers available with the enterprise and number of drivers employed on permanent basis. Both the dimensions regarding drivers have been shown in ***Table No. 4.4*** and ***Table No. 4.5***, respectively.

Table No. 4.4

Number of Drivers Employed by the Responding Companies (in numbers)

Sr. No.	Number of Drivers	Bengaluru	Delhi	Mumbai	Grand Total
I	II	III	IV	V	VI
1	Up to 5	35	37	38	110
2	6 to 10	29	30	43	102
3	11 to 15	30	30	53	113
4	16 and above	6	3	6	15
	Grand Total	**100**	**100**	**140**	**340**

(Source: Field Investigation)

It would be seen from the ***Table No. 4.4***, ***Table No. 4.4A*** and ***Chart No. 4.4A*** that, no major variance has been observed in the variable of drivers utilized by the movers and packers. The fact need to highlight is that, almost 96 per cent of the mover and packers have employed utilized up to 15 drivers. Though, it would be interesting to look at the proportion of permanent drivers employed by the movers and packers.

Chart No. 4.4A
Number of Drivers Employed by the Responding Companies (in percentage)

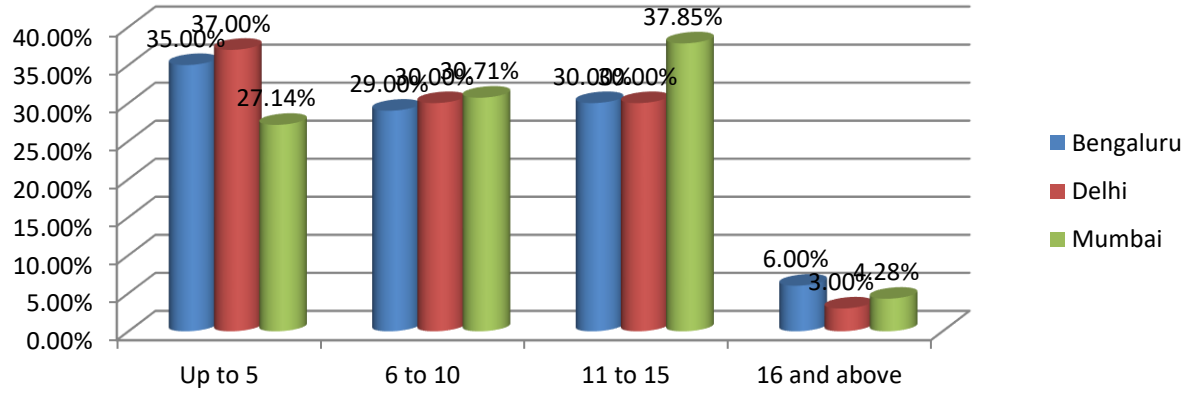


Table No. 4.4A

Number of Drivers Employed by the Responding Companies (in percentage)

Sr. No.	Drivers	Bengaluru	Delhi	Mumbai	Grand Total
I	**II**	**III**	**IV**	**V**	**VI**
1	Up to 5	35.00%	37.00%	27.14%	32.35%
2	6 to 10	29.00%	30.00%	30.71%	30.00%
3	11 to 15	30.00%	30.00%	37.85%	33.23%
4	16 and above	06.00%	03.00%	4.28%	4.41%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

Now, based on the ***Table No. 4.5***, it may be observed that in the city of Delhi most of the movers and packers (68 per cent out of total enterprises studied in Delhi) have employed permanent drivers while Mumbai based enterprises of movers and packers employed comparatively less proportion of permanent drivers, accounted for 36.43 per cent of the movers and packers studied for the present research work. The same has been presented appropriately with the help of ***Chart No. 4.5.***

This shows strategic variation of employing fewer permanent drivers in the business to enjoy flexibility and reducing operational cost. The darkest side of this strategy is to generate informal sector by raising insecure job environment resulting in loss of loyalty towards organization, which could hamper the sustainability of movers and packers in long run.

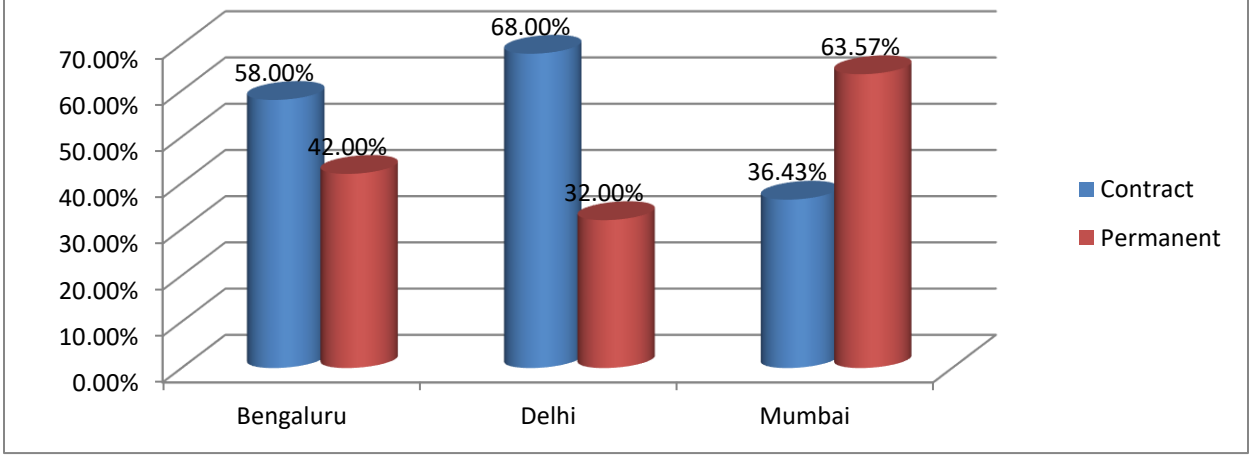
Table No. 4.5

Nature of Employment of the Drivers

Sr. No.	Main Cities	Contract	Permanent	Grand Total
I	**II**	**III**	**IV**	**V**
1	Bengaluru	58.00%	42.00%	100.00%
2	Delhi	68.00%	32.00%	100.00%
3	Mumbai	36.43%	63.57%	100.00%
	Grand Total	**52.06%**	**47.94%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.5
Nature of Employment of the Drivers



On the part of customers' satisfaction, it would be always welcomed that to provide department for handling customers' grievances called as the department of customer care. This aspect of the movers and packers industry in selected cities has investigate and presented with the help of below mentioned ***Table No. 4.6*** and ***Chart No. 4.6***.

It would be seen therefore for the table that, Mumbai based movers and packers enterprises doesn't have appropriate proportion of customer care facilities, as in fact only 18.57 per cent of enterprises reported that they have facility of customer care and or customer handling mechanism. On the part of Delhi and Bengaluru approximately equal proportion (around 52 to 56 per cent) of the enterprises have this facility of customer care.

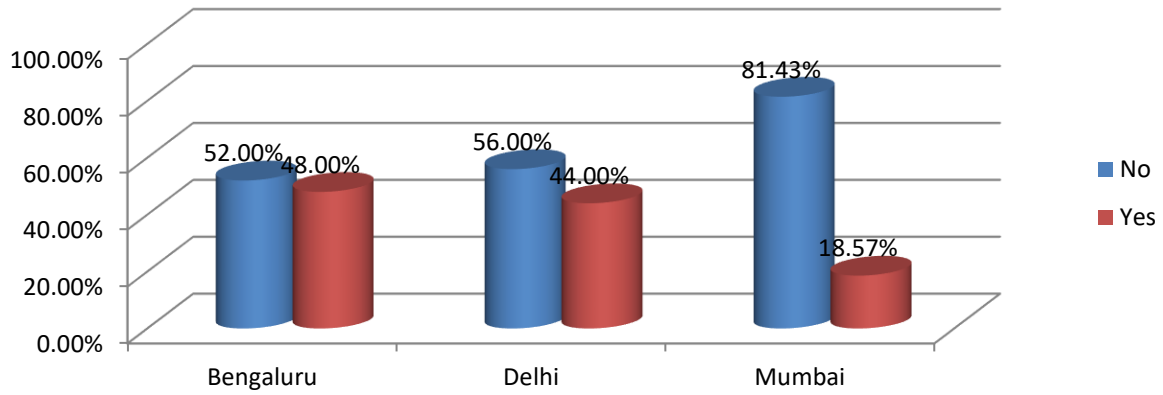
Table No. 4.6

Distribution of companies according to having facility of customer care or customer handling mechanism

Sr. No.	Main Cities	No	Yes	Grand Total
I	II	III	IV	V
1	Bengaluru	52.00%	48.00%	100.00%
2	Delhi	56.00%	44.00%	100.00%
3	Mumbai	81.43%	18.57%	100.00%
	Grand Total	**65.29%**	**34.71%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.6
Distribution of companies according to having facility of customer care or customer handling mechanism



In a summary, movers and packers have observed implementing cost cutting practices such as reflected from the daily distance covered, ratio of permanent drivers and availability of customer care facility.

Section-(4.2)

Breakdowns

In the Section-(i), general parameters have been investigated and presented. The variables attributable to the revenue generation capability also have been tabulated and interpreted in the section-(i) such as, number of drivers and average daily distance covered. Now, with the help of this section, a factor breakdown has been investigated. This factor is basically attributed to one of the cost center of the movers and packers industry. Moreover, it not only remains as a cost factor

but it plays a vital role in customer satisfaction. Sudden break down of the transport vehicle results in delayed delivery of the service or luggage of the customer implies customer dissatisfaction and attrition. Thus assuming due significance of this factor, present section has been designed and presented with the help of 4 attributes and variables and corresponding tables.

From the ***Table No. 4.7*** and ***Chart No. 4.7*** below, an effort has been made to quantify average number of breakdowns per month. It would be seen, therefore, from the table that, on an average up to 2 breakdowns per month has been reported by the 68.23 per cent of the movers and packers from all the cities. Most of the movers and packers from city of Bengaluru (44 per cent) have been reported 3-4 breakdowns on an average per month. The reasons for these breakdowns have been investigated from the ***Table No. 4.8***.

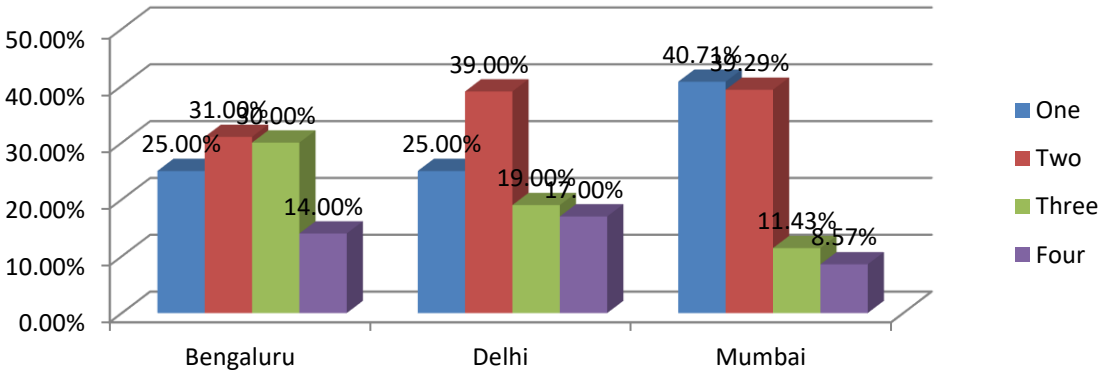
Table No. 4.7

Distribution of Companies According to the Breakdown of Vehicles (Average per month)

Sr. No.	Main Cities	Average Number of Breakdowns per month				
		1	2	3	4	Grand Total
I	II	III	IV	V	VI	VII
1	Bengaluru	25.00%	31.00%	30.00%	14.00%	100.00%
2	Delhi	25.00%	39.00%	19.00%	17.00%	100.00%
3	Mumbai	40.71%	39.29%	11.43%	8.57%	100.00%
	Grand Total	**31.47%**	**36.76%**	**19.12%**	**12.65%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.7
Distribution of Companies According to the Breakdown of Vehicles(Average per month)



It would be seen, therefore, from the ***Table No. 4.8***, that poor maintenance and natural calamities have been affected to 53.24 per cent of the movers and packers for breakdown of the vehicles. The Mumbai based movers and packers have witnessed more viability in terms of economic achievement as only 6.63 per cent of the movers and packers reported economic reason for breakdown of vehicles. Moreover, a big chunk of (36.76 per cent) movers and packers from all the cities have reported reasons other than economic, natural calamities and poor maintenance. This aspect has been appropriately presented with the help of ***Chart No. 4.8***.

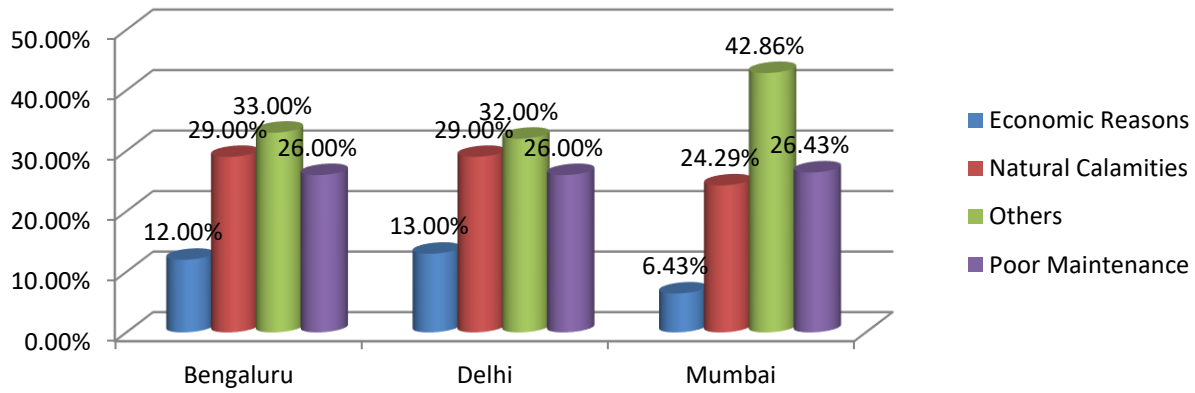
Table No. 4.8

Distribution of Companies According to Main Reasons for Breakdown of Vehicles

Sr. No.	Reasons for break down	Bengaluru	Delhi	Mumbai	Grand Total
I	II	III	IV	V	VI
1	Economic Reasons	12.00%	13.00%	6.43%	10.00%
2	Natural Calamities	29.00%	29.00%	24.29%	27.06%
3	Others	33.00%	32.00%	42.86%	36.76%
4	Poor Maintenance	26.00%	26.00%	26.43%	26.18%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.8
Distribution of Companies According to Main Reasons for Breakdown of Vehicles



The gravity of the impact from breakdowns of the vehicle can be seen from the frequency of the breakdown, measured and presented with the help of below ***Table No. 4.9*** and described with the help of ***Chart No. 4.9***. It would be seen from the table that 42.94 per cent of the movers and packers from selected cities have reported frequency of the breakdowns as 'sometime'. This clearly gives the understanding that, breakdowns observed sometimes and on an average not more than 4 per month.

Table No. 4.9

Distribution of Companies According to Frequency of Breakdowns
(Source: Field Investigation)

Sr. No.	Main Cities	None	Occasionally	Rare	Sometime	Grand Total
I	II	III	IV	V	VI	VII
1	Bengaluru	3.00%	15.00%	38.00%	44.00%	100.00%
2	Delhi	8.00%	15.00%	37.00%	40.00%	100.00%
3	Mumbai	0.00%	15.71%	40.00%	44.29%	100.00%
	Grand Total	**3.24%**	**15.29%**	**38.53%**	**42.94%**	**100.00%**

The implications of these break downs, may be mentioned as, (a) failure in connectivity; (b) need of additional expenses; (c) loss of customers; (d) need more resources; and (e) increase in fare. Further details on the seriousness of the breakdowns of the vehicles have been mentioned with the help of ***Table No. 4.10*** and are appropriately depicted with the help of ***Chart No. 4.10.***

Chart No. 4.9
Distribution of Companies According to Frequency of Breakdowns

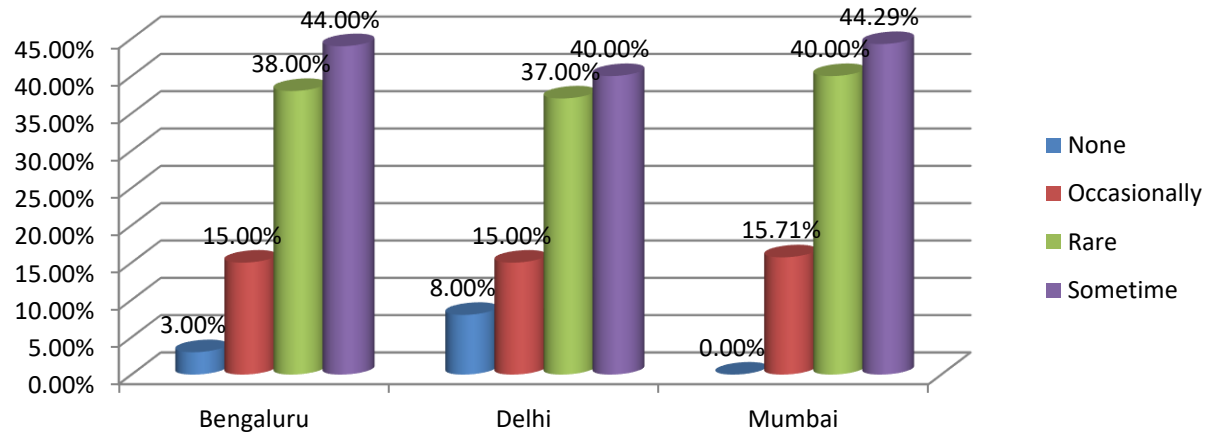


Table No. 4.10

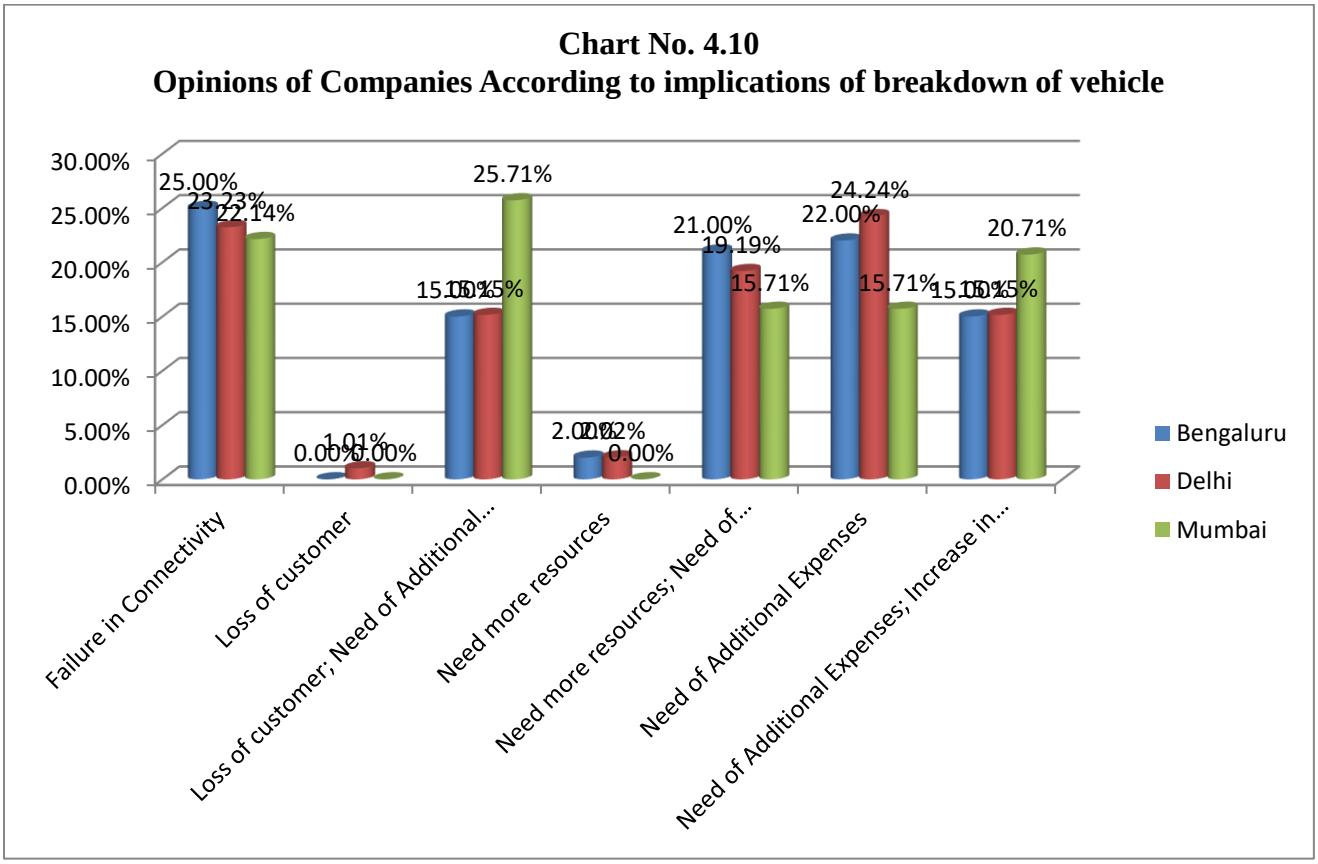
Opinions of Companies According to implications of breakdown of vehicle

Sr. No.	Implications of breakdown of vehicles	Bengaluru	Delhi	Mumbai	Grand Total
I	II	III	IV	V	VI
1	Failure in Connectivity	25.00%	23.23%	22.14%	23.30%
2	Loss of customer	0.00%	1.01%	0.00%	0.29%
3	Loss of customer; Need of Additional Expenses	15.00%	15.15%	25.71%	19.47%
4	Need more resources	2.00%	2.02%	0.00%	1.18%
5	Need more resources; Need of Additional Expenses	21.00%	19.19%	15.71%	18.29%
6	Need of Additional Expenses	22.00%	24.24%	15.71%	20.06%
7	Need of Additional Expenses; Increase in Fare	15.00%	15.15%	20.71%	17.40%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.10

Opinions of Companies According to implications of breakdown of vehicle



In a summary, breakdown of the vehicles have serious impact on image of enterprise, also it generate additional need of resources and made customer dissatisfied. Thus, as an incidence due

precautions may have to be planned by the policy makers of the movers and packers enterprises to reduce the impact of breakdowns of vehicles.

Section-(4.3)

Delayed Deliveries

One of the impacts of breakdown of the vehicles causes delayed deliveries in movers and packers industries has been presented in the Section-(ii) in this part of the chapter. This aspect of delayed deliveries is investigated, analyzed and reported in the present section.

Based on the observations made in the ***Table No. 4.11***, it would be underlined that majority of the movers and packers (60.59 per cent) have reported average number of delayed deliveries up to 2 per month. Out of these 60.59 per cent of movers and packers, Mumbai Based movers and packers are facing seriousness of the delayed deliveries. This aspect regarding Mumbai based movers and packers can be addressed by considering the significant proportion (72.14 per cent) of movers and packers who faces these difficulties of delayed deliveries. This aspect has been elaborately presented in the ***Chart No. 4.11***.

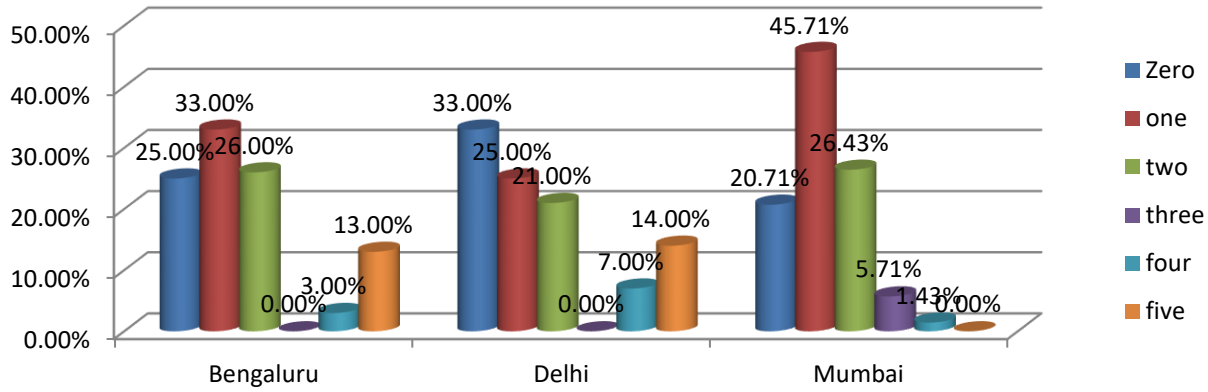
Table No.4.11

Distribution of Companies According to Number of Avg. Delayed deliveries

Sr. No.	Main Cities	0	1	2	3	4	5	Grand Total
I	II	III	IV	V	VI	VII	VIII	IX
1	Bengaluru	25.00%	33.00%	26.00%	0.00%	3.00%	13.00%	100.00%
2	Delhi	33.00%	25.00%	21.00%	0.00%	7.00%	14.00%	100.00%
3	Mumbai	20.71%	45.71%	26.43%	5.71%	1.43%	0.00%	100.00%
	Grand Total	**25.59%**	**35.88%**	**24.71%**	**2.35%**	**3.53%**	**7.94%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.11
Distribution of Companies According to Number of Avg. Delayed deliveries



The reasons for these delayed deliveries also have been investigated, tabulated and presented with the help of ***Table No. 4.12*** below and highlighted with the variations in ***Chart No. 4.12.*** As has been observed during investigation, the main reasons for these delayed deliveries have been attributed to the traffic, accidents and sometime waiting for the customers.

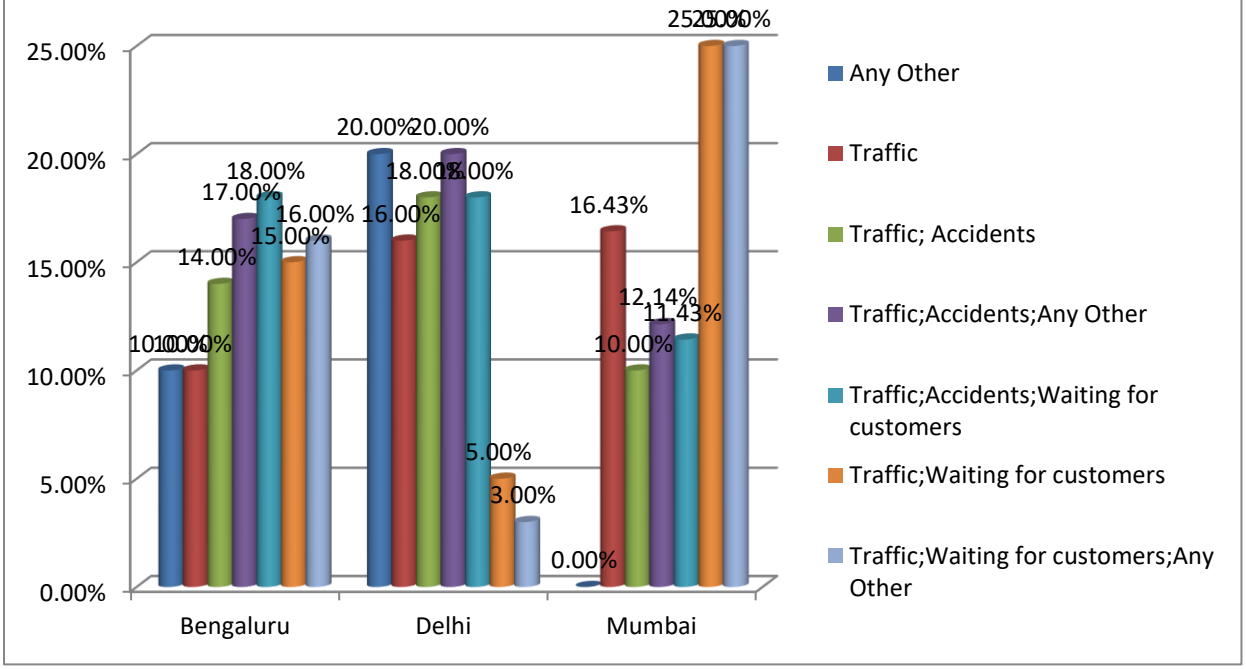
Table No. 4.12

Distribution of Companies According to Main Reasons for Delayed Deliveries

Sr. No.	Reasons for delayed deliveries	Bengaluru	Delhi	Mumbai	Grand Total
I	II	III	IV	V	VI
1	Any Other	10.00%	20.00%	0.00%	8.82%
2	Traffic	10.00%	16.00%	16.43%	14.41%
3	Traffic; Accidents	14.00%	18.00%	10.00%	13.53%
4	Traffic; Accidents; Any Other	17.00%	20.00%	12.14%	15.88%
5	Traffic; Accidents; Waiting for customers	18.00%	18.00%	11.43%	15.29%
6	Traffic; Waiting for customers	15.00%	5.00%	25.00%	16.18%
7	Traffic; Waiting for customers; Any Other	16.00%	3.00%	25.00%	15.88%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.12
Distribution of Companies According to Main Reasons for Delayed Deliveries



In a summary, it may be noted that, in the transport industry especially with reference to movers and packers, delayed deliveries assumed equal to the failure of achieving customer satisfaction and the main reasons for these delayed deliveries are traffic and accidents.

Section-(4.4)

Fragmentation and Network

In this section, general discussion on the fragmentation and the network of movers and packers industry has been investigated. The quantified results in this regard have been represented using seven tables.

An opinion from respondents regarding fragmentation of the industry has been discussed in the ***Table No. 4.13***. Surprisingly need to note here that, all the movers and packers industries across all the cities are found fragmented. It would be seen from the table that more than 90 per cent of the movers and packers enterprises from all the selected cities have responded and mentioned fragmentation of movers and packers industry. The magnitude and the extent of fragmentation have been quantified in the next table. This aspect also has been described with the help of ***Chart No. 4.13***.

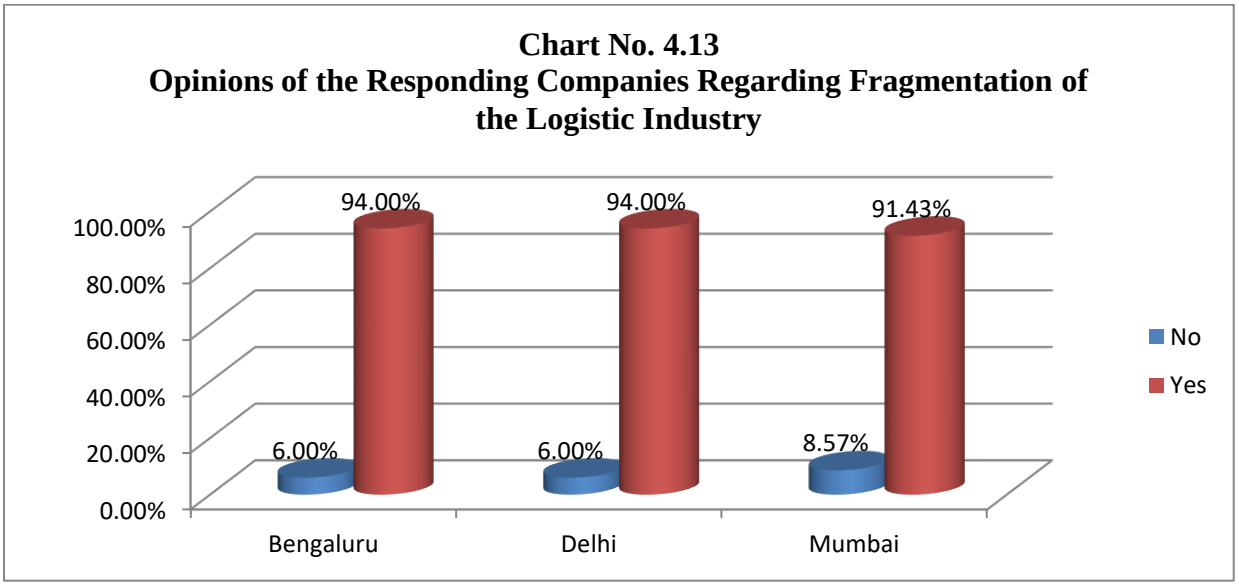
Table No. 4.13

Opinions of the Responding Companies Regarding Fragmentation of the Logistic Industry

Sr. No.	Main Cities	No	Yes	Grand Total
I	**II**	**III**	**IV**	**V**
1	Bengaluru	6.00%	94.00%	100.00%
2	Delhi	6.00%	94.00%	100.00%
3	Mumbai	8.57%	91.43%	100.00%
	Grand Total	**7.06%**	**92.94%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.13
Opinions of the Responding Companies Regarding Fragmentation of the Logistic Industry



Almost half of the respondents from Mumbai mentioned that the industry of movers and packers is highly fragmented and remaining said as it is slightly fragmented. The movers and packers industry in Bengaluru and Delhi is slightly least fragmented than Mumbai. It can be supported from the fact of almost three fourth of respondents from Bengaluru and Delhi mentioned that this industry is slightly fragmented (from ***Table No. 4.14 and Chart No. 4.14***).

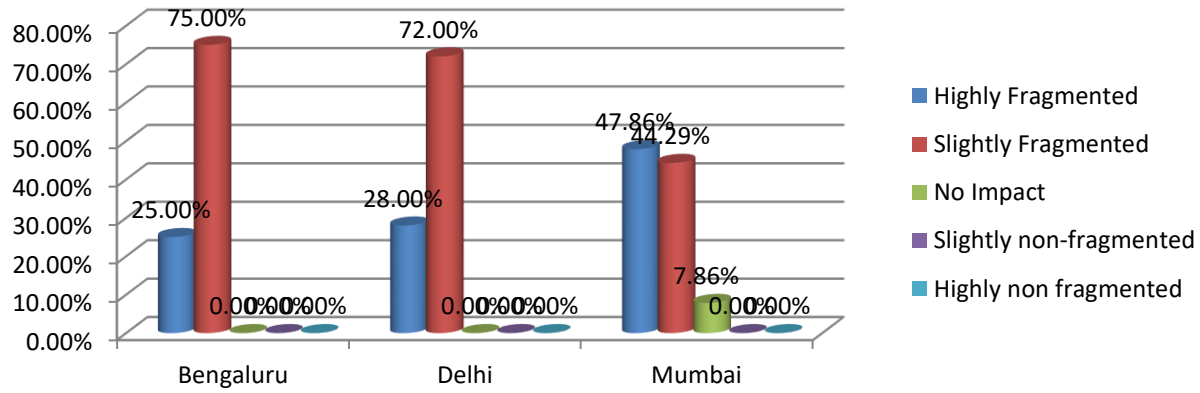
Table No. 4.14

Distribution of Companies According to an Extent of Fragmentation of the Logistic Industry

Sr. No.	Main Cities	Highly Fragmented	Slightly Fragmented	No Impact	Slightly non-fragmented	Highly non fragmented	Total
I	II	III	IV	V	VI	VII	VIII
1	Bengaluru	25.00%	75.00%	0.00%	0.00%	0.00%	100.00%
2	Delhi	28.00%	72.00%	0.00%	0.00%	0.00%	100.00%
3	Mumbai	47.86%	44.29%	7.86%	0.00%	0.00%	100.00%
	Total	35.29%	61.47%	3.24%	0.00%	0.00%	100.00%

(Source: Field Investigation)

Chart No. 4.14
Distribution of Companies According to an Extent of Fragmentation of the Logistic Industry



This significant fragmentation has diverse impact on the overall performance of the movers and packers logistic industry. As per the ***Table No. 4.15 and Chart No. 4.15***, it shows that the results of fragmentation visible in terms of disconnect between smooth functioning of logistics from one metro to another. This opinion of disconnect has been supported by three fourth (76.18 per cent to be exact) of the total respondents from all the selected metro cities. Though, Bengaluru and Delhi observed more hampered by fragmentation in terms of disconnect observed as more than 80 per cent of the movers and packers have accepted the fact.

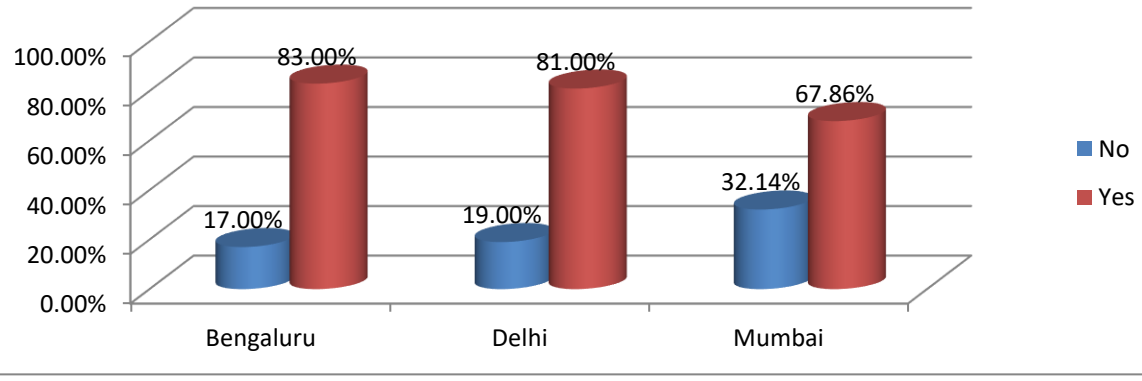
Table No. 4.15

Opinions of the Respondents Regarding Whether fragmentation results in disconnect between smooth functioning of logistics from one metro to another

Sr. No.	Main Cities	No	Yes	Grand Total
I	II	III	IV	V
1	Bengaluru	17.00%	83.00%	100.00%
2	Delhi	19.00%	81.00%	100.00%
3	Mumbai	32.14%	67.86%	100.00%
	Grand Total	**23.82%**	**76.18%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.15
Opinions of the Respondents Regarding Whether fragmentation results in disconnect between smooth functioning of logistics from one metro to another



Though, majority of the respondents mentioned that it is disconnected because of fragmentation, the extent of disconnect is not much more. As only 17.94 per cent of the respondents from all the three metro cities selected, have been ratified it to the extent of highly disconnected. The logistic respondents from Mumbai although found more disconnected as 26.43 per cent of the respondents mentioned its magnitude of highly dis-connectivity. All these aspects are shown in ***Table No. 4.16 and Chart No. 4.16***.

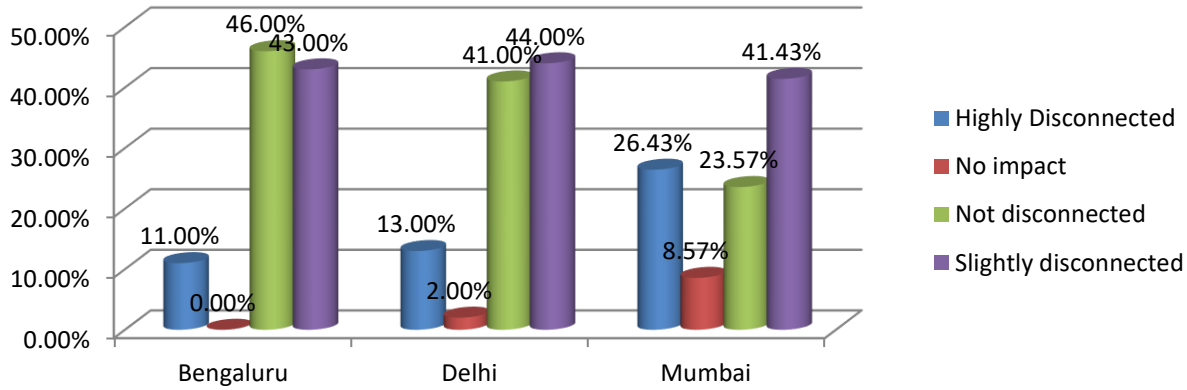
Table No. 4.16

Opinions of the Respondents Regarding Extent of disconnect between smooth functioning of logistics from one metro to another

Sr. No.	Level of Fragmentation	Bengaluru	Delhi	Mumbai	Grand Total
I	II	III	IV	V	VI
1	Highly Disconnected	11.00%	13.00%	26.43%	17.94%
2	No impact	0.00%	2.00%	8.57%	4.12%
3	Not disconnected	46.00%	41.00%	23.57%	35.29%
4	Slightly disconnected	43.00%	44.00%	41.43%	42.65%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.16
Opinions of the Respondents Regarding Extent of disconnect between smooth functioning of logistics from one metro to another



On the issue of lack of network and its result of overlapping nature of business has been presented in the ***Table No. 4.17 and Chart No. 4.17***. As appeared in the table Bengaluru based enterprises observed more overlapping (54 per cent) because of lack of network between companies. On an overall basis, almost less than half of the movers and packers, mentioned on an average that logistics companies are overlapping because of lack of network between companies, which is slightly less than the movers and packers from Mumbai.

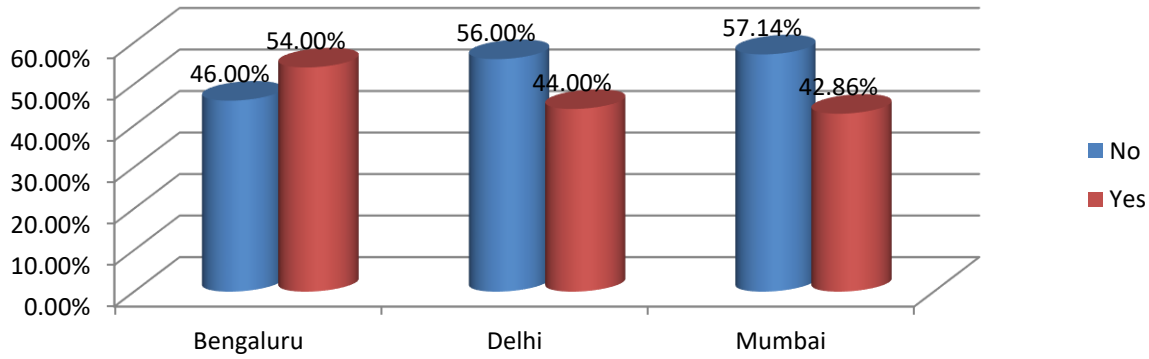
Table No. 4.17

Opinions of Responding Companies Regarding Whether Resources of the Logistics Companies are Overlapping Because of Lack of Network Between Companies

Sr. No.	Main Cities	No	Yes	Grand Total
I	II	III	IV	V
1	Bengaluru	46.00%	54.00%	100.00%
2	Delhi	56.00%	44.00%	100.00%
3	Mumbai	57.14%	42.86%	100.00%
	Grand Total	**53.53%**	**46.47%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.17
Opinions of Responding Companies Regarding WhetherResources of the Logistics Companies are Overlapping Because of Lack of Network Between Companies



The extent of overlapping resources has been measured and presented with the help of ***Table No. 4.18 and Chart No. 4.18***. It would be seen from the table that, 25.42 per cent of the respondents from Mumbai, recorded highly overlapping of the resources. On an average, almost 40.31 per cent of the respondents mentioned no overlapping of the resources in movers and packers industry of logistics across all cities considered. Apart from this, almost half of the respondents from all the cities mentioned slightly overlapping of the resources in the industry.

The lack of connectivity and networking in the industry may have had an impact on measurement of the extent of overlapping. The absence of knowledge regarding other players of movers and packers industry may be attributed to the level of understanding of the respondents regarding extent of overlapping resources.

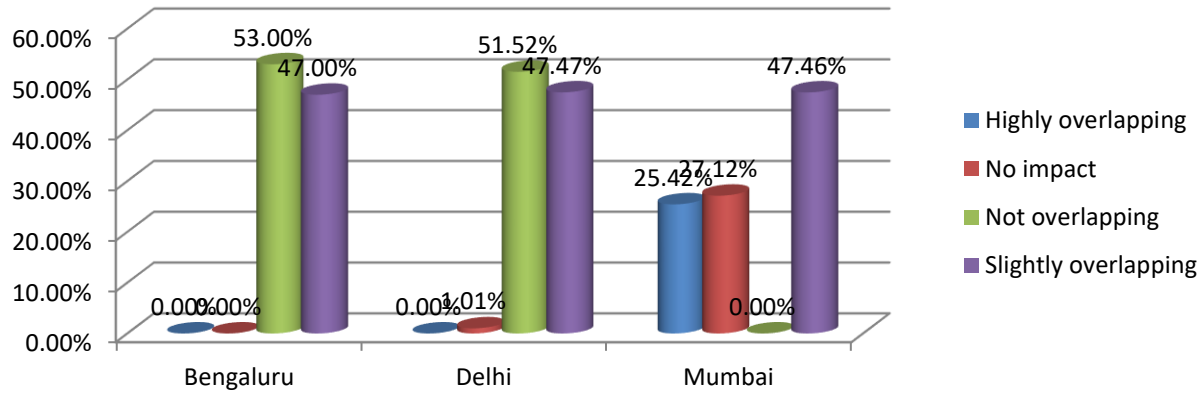
Table No. 4.18

Distribution of the Companies According to an Extent of Overlapping of Resources due to Lack of Network between Companies

Sr. No.	Extent of Overlapping	Bengaluru	Delhi	Mumbai	Grand Total
I	II	III	IV	V	VI
1	Highly overlapping	0.00%	0.00%	25.42%	5.81%
2	No impact	0.00%	1.01%	27.12%	6.59%
3	Not overlapping	53.00%	51.52%	0.00%	40.31%
4	Slightly overlapping	47.00%	47.47%	47.46%	47.29%
5	(blank)	0.00%	0.00%	0.00%	0.00%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.18
Distribution of the Companies According to an Extent of Overlapping of Resourcesdue toLack of Network betweenCompanies



Surprisingly need to note here that, almost half of the responding movers and packers industries are not aware of any kind of association of cargo and movers. Only satisfying nature of this tabulated information in ***Table No. 4.19*** is that 56.76 per cent of the respondents from all the three cities considered have supported the conclusion regarding presence of association for cargo and movers. The same dimension is appropriately more visible in ***Chart No. 4.19***.

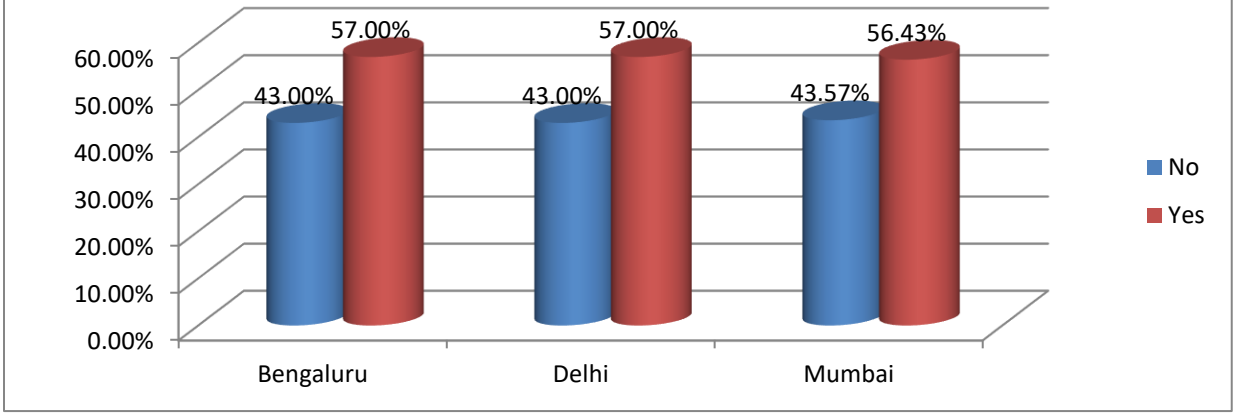
Table No. 4.19

Awareness of the Responding Companies Regarding Any Association of Cargo and Movers

Sr. No.	Main Cities	No	Yes	Grand Total
I	II	III	IV	V
1	Bengaluru	43.00%	57.00%	100.00%
2	Delhi	43.00%	57.00%	100.00%
3	Mumbai	43.57%	56.43%	100.00%
	Grand Total	**43.24%**	**56.76%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.19
Awareness of the Responding Companies RegardingAny Association of Cargo and Movers



In a summary, it may be precisely mentioned that cargo and movers industry is fragmented and not having network between the players, resulting in overlapping of the resources. This overlapping of resources is ultimately impacting efficiency and profitability of the industry players of movers and packers. This aspect of financial efficiency has been investigated and presented in the next section.

Section-(4.5)

Core financial aspects and components

As the title of the present section clearly explains that core financial aspects and components of cargo pooling of movers and packers is presented with the help of five tables. In ***Table No. 4.20 and Chart No. 4.20***, general opinion of the respondents has been asked in regards with the opinion about financial effectiveness observed in the industry. It would be seen from the

table that, 42.31 per cent of the respondents from all considered cities have mentioned that financial effectiveness is slightly observed, while, half of the respondents (48.52 per cent to be exact) have mentioned total absence of financial effectiveness in movers and packers industry.

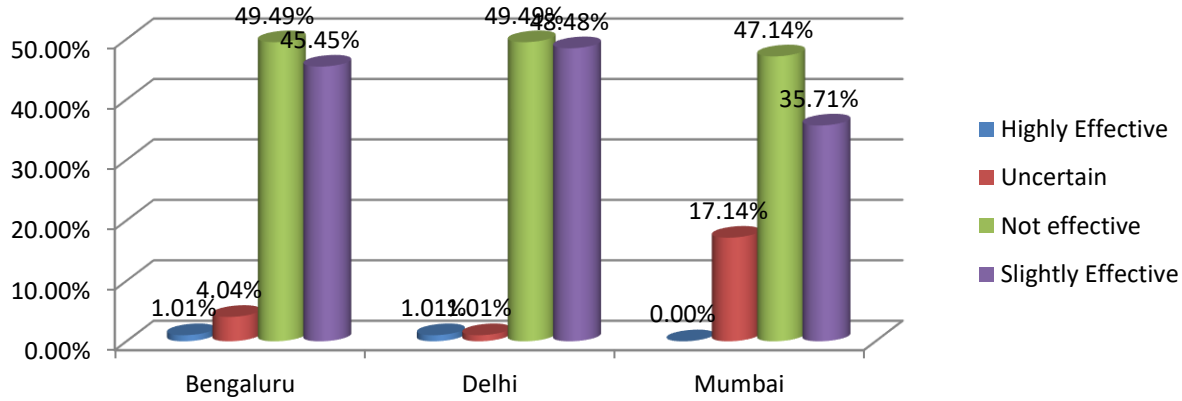
Table No. 4.20

Opinion of the Responding Companies Regarding Level of Financial Effectiveness Observed in Logistic Industry

Sr. No.	Main Cities	Highly Effective	Uncertain	Not effective	Slightly Effective	Grand Total
I	II	III	IV	V	VI	VIII
1	Bengaluru	1.01%	4.04%	49.49%	45.45%	100.00%
2	Delhi	1.01%	1.01%	49.49%	48.48%	100.00%
3	Mumbai	0.00%	17.14%	47.14%	35.71%	100.00%
	Grand Total	**0.59%**	**8.58%**	**48.52%**	**42.31%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.20
Opinion of the Responding Companies Regarding Level of Financial Effectiveness Observed in Logistic Industry



In the ***Table No. 4.21*** question has been asked to the respondents to seek their opinions about expected level of cost effectiveness by using resources optimally. The cost reduction by optimum utilization of resources has been compared with average cost. All these comparisons has been quantified and presented with the help of Table No. 4.21. It would be seen from the table that only 9.41 per cent of the respondents pointed out that using resources optimally will reduce the cost 'more than average cost'. Almost 60.29 (considering total of 'exactly same as average cost'

and 'No impact') per cent of the respondents mentioned that there may not be any impact on cost by using resources optimally. Only 9.41 per cent of the respondents mentioned favorableness towards optimum utilization of resources by saying that optimum utilization of resources will reduce the cost to the extent of 'more than average cost'. This aspect also appropriately described with the help of ***Chart No. 4.21***.

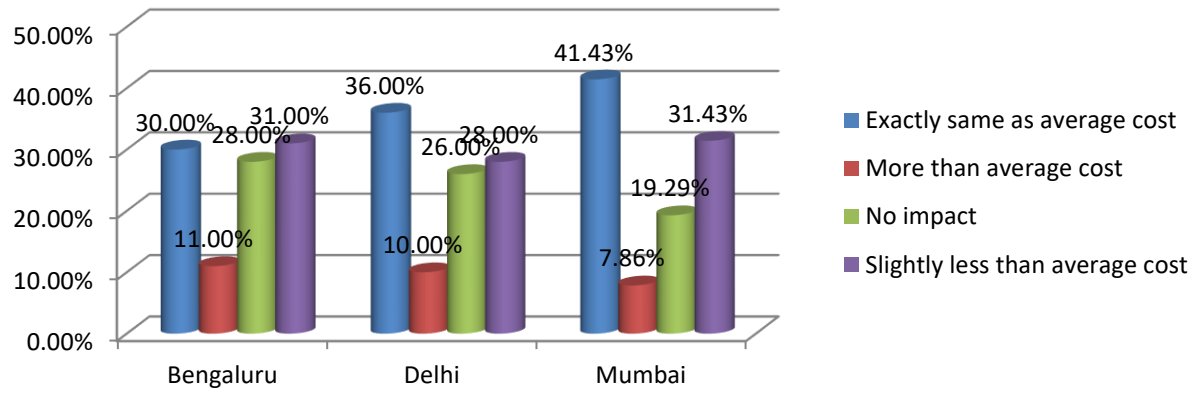
Table No. 4.21

Opinions of the Respondents Towards at what level cost will be reduced by using optimum resources

Sr. No.	Level cost reduction	Bengaluru	Delhi	Mumbai	Grand Total
I	**II**	**III**	**IV**	**V**	**VI**
1	Exactly same as average cost	30.00%	36.00%	41.43%	36.47%
2	More than average cost	11.00%	10.00%	7.86%	9.41%
3	No impact	28.00%	26.00%	19.29%	23.82%
4	Slightly less than average cost	31.00%	28.00%	31.43%	30.29%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.21
Opinions of the Respondents Towards at what level cost will be reduced by using optimum resources



The reasons for not utilizing the resources optimally has been canvassed and presented with the help of ***Table No. 4.22 and Chart No. 4.22***. The highlighted reasons which have been mentioned by majority of the movers and packer player in selected cities are as; (a) competition;

(b) fragmentation of industry; and (c) unorganized nature. Apart from these reasons major reasons, geographically diverse distribution and inefficient technology also has been reported as the reasons for non-using resources optimally.

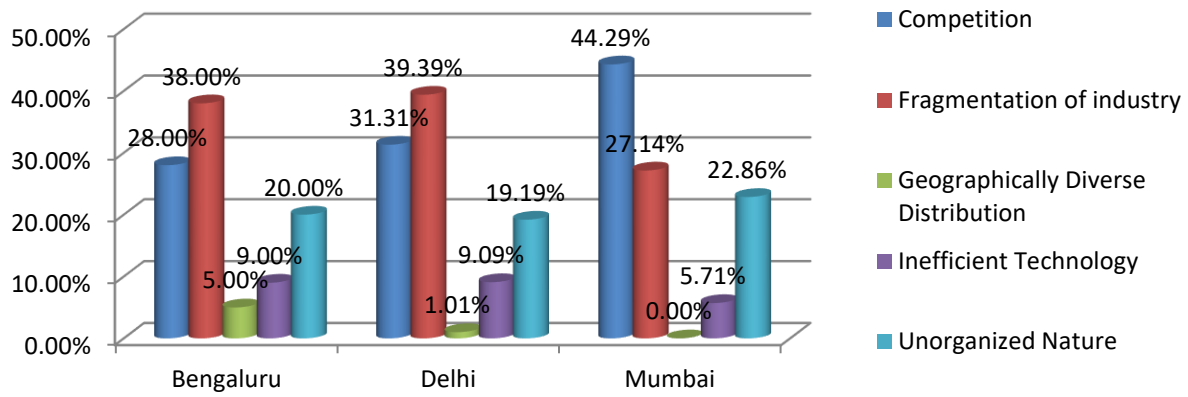
Table No. 4.22

Opinion of the Respondents about Peculiarities observed in utilization of available resources in logistic industry

Sr. No.	Peculiarities	Bengaluru	Delhi	Mumbai	Grand Total
I	II	III	IV	V	VI
1	Competition	28.00%	31.31%	44.29%	35.69%
2	Fragmentation of industry	38.00%	39.39%	27.14%	33.92%
3	Geographically Diverse Distribution	5.00%	1.01%	0.00%	1.77%
4	Inefficient Technology	9.00%	9.09%	5.71%	7.67%
5	Unorganized Nature	20.00%	19.19%	22.86%	20.94%
6	(blank)	0.00%	0.00%	0.00%	0.00%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.22
Opinion of the Respondents about Peculiarities observed in utilization of available resources in logistic industry



The costing and pricing of the fuel price has been witnessed as significant factor for logistic industry. This fact has been reported by all the respondents from three cities. ***Table No. 4.23and Chart No. 4.23*** has furnished further details on this aspect.

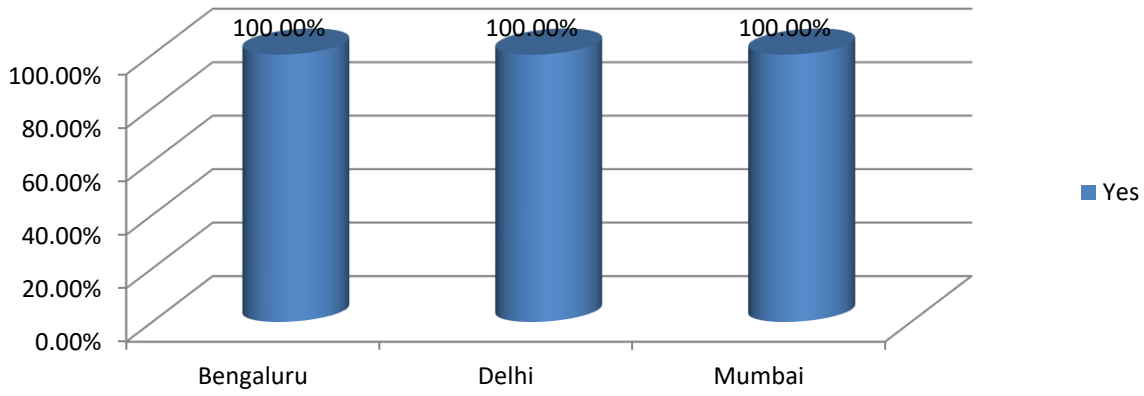
Table No. 4.23

Opinion about the Fuel price: Whether it is important factor in costing of logistic industry

Sr. No.	Main Cities	Yes	Grand Total
I	**II**	**III**	**IV**
1	Bengaluru	100.00%	100.00%
2	Delhi	100.00%	100.00%
3	Mumbai	100.00%	100.00%
	Grand Total	**100.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.23
Opinion about the Fuel price: Whether it is important factor in costing of logistic industry



As has been indicated in the earlier table that fuel price is a significant factor in costing of logistic industry; though, the proportion of share in total cost varies significantly. This variation of proportion in cost ranges between 15 per cent and 45 per cent of the total cost. The variation in the responses highlights that this proportion is mostly depend on the management practices of particular enterprise. The more details on this aspect have been presented in the ***Table No. 4.24*** and Graphed in ***Chart No. 4.24.***

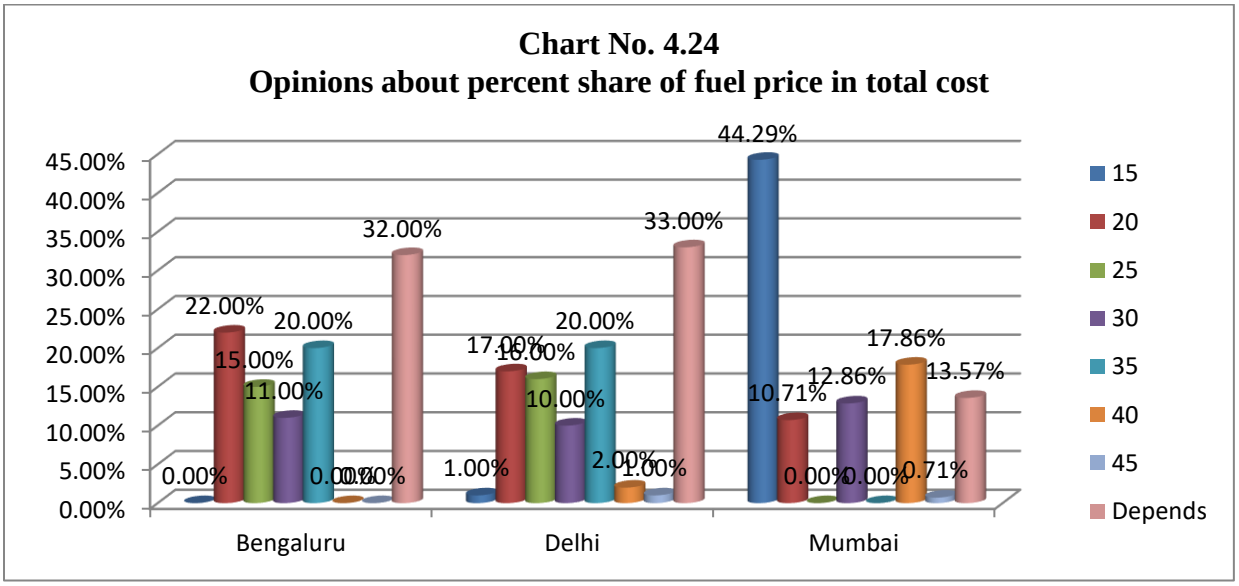
Table No. 4.24

Opinions about percent share of fuel price in total cost

Sr. No.	Share in total cost	Bengaluru	Delhi	Mumbai	Grand Total
I	II	III	IV	V	VI
1	15	0.00%	1.00%	44.29%	18.53%
2	20	22.00%	17.00%	10.71%	15.88%
3	25	15.00%	16.00%	0.00%	9.12%
4	30	11.00%	10.00%	12.86%	11.47%
5	35	20.00%	20.00%	0.00%	11.76%
6	40	0.00%	2.00%	17.86%	7.94%
7	45	0.00%	1.00%	0.71%	0.59%
8	depends	32.00%	33.00%	13.57%	24.71%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.24
Opinions about percent share of fuel price in total cost



Another critical factor studied in the present research is the insurance of goods. It is always suggested to have insurance of the goods being transported to cover any losses incurred during the transit. All the respondents from three cities have supported this assumption that insurance of goods is important in logistic industry. ***(Table No. 4.25 and Chart No. 4.25)***

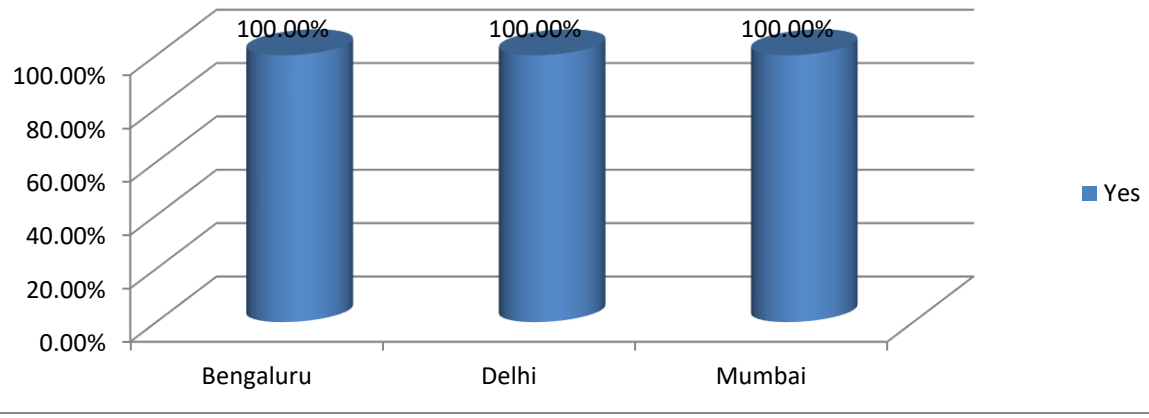
Table No. 4.25

Opinions of the Respondent Companies regarding importance of insurance for transport of goods

Sr. No.	Main Cities	Yes	Grand Total
I	II	III	IV
1	Bengaluru	100.00%	100.00%
2	Delhi	100.00%	100.00%
3	Mumbai	100.00%	100.00%
	Grand Total	**100.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.25
Opinions of the Respondent Companies Regardingimportance of insurance for transport of goods



In a summary, it may be said that logistic industry is not operative financially effective because of fragmentation and other factors. The fuel remains as the major factor for cost of the logistic industry. Logistic players from all the three cities admitted that insurance of the transport goods is the efficient proposition to mitigate the risk. Other factors of the logistic industry have been discussed in the section-(vi).

Section-(4.6)

Manpower

In this section factor of manpower has been studied with the help of parameters such as; (a) manpower for management; (b) drivers; (c) manpower for administration; and (d) manpower

required for loading and unloading. All these parameters are found as an essential for the industry of logistic thus have been quantified, tabulated and presented using four tables.

In ***Table No. 4.26*** and ***Chart No. 4.26***, the parameter namely skilled manpower for management has been quantified and presented. It would be seen from that almost same proportionate (63 per cent) of respondents stated shortage of skilled manpower for management. Though in case of Mumbai based logistic companied availability of skilled manpower for management has been found satisfactory and this aspect has been supported by approximately half of the respondents (47.20 per cent).

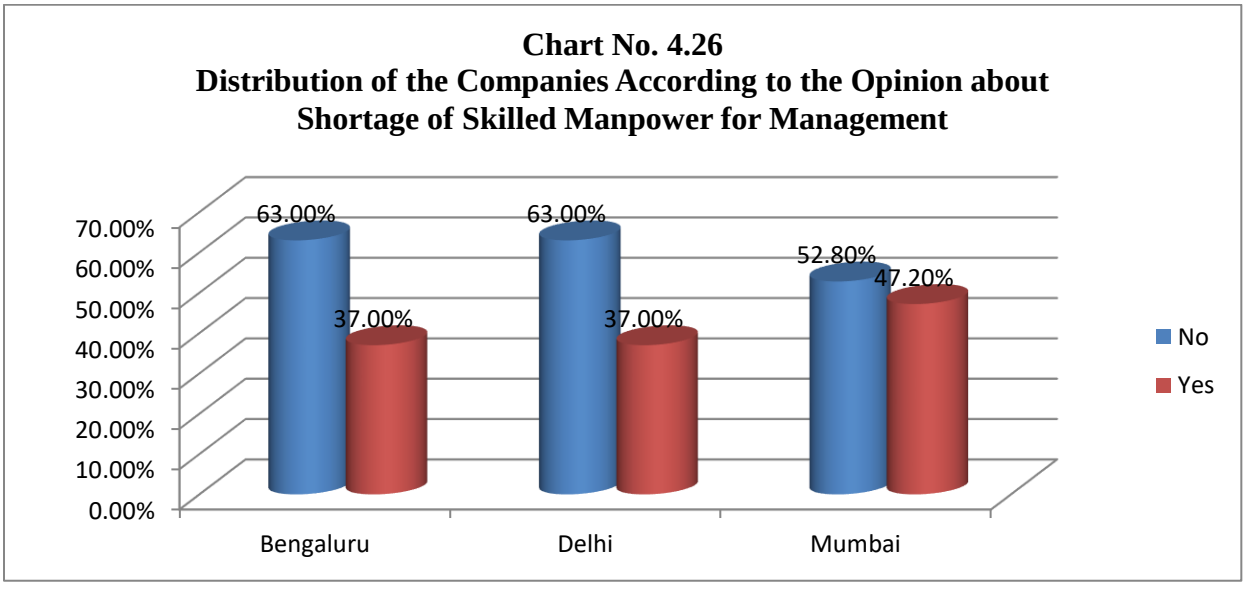
Table No. 4.26

Distribution of the Companies According to the Opinion about Shortage of Skilled Manpower for Management

Sr. No.	Main Cities	No	Yes	Grand Total
I	II	III	IV	V
1	Bengaluru	63.00%	37.00%	100.00%
2	Delhi	63.00%	37.00%	100.00%
3	Mumbai	52.80%	47.20%	100.00%
	Grand Total	**57.94%**	**42.06%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.26
Distribution of the Companies According to the Opinion about Shortage of Skilled Manpower for Management



Approximately equally alike question has been asked to the respondents regarding their opinion about shortage of skilled manpower for drivers. The quantification and tabulated responses of this aspect has been presented in the ***Table No. 4.27 and Chart No. 4.27***. Surprisingly need to

note that almost equal magnitude of results have been observed regarding shortage of manpower for driver shortage of manpower for management. In both of the cities namely Bengaluru and Delhi 60 per cent of respondents mentioned shortage of manpower for drivers and in Mumbai 46.35 per cent mentioned shortage of manpower for drivers.

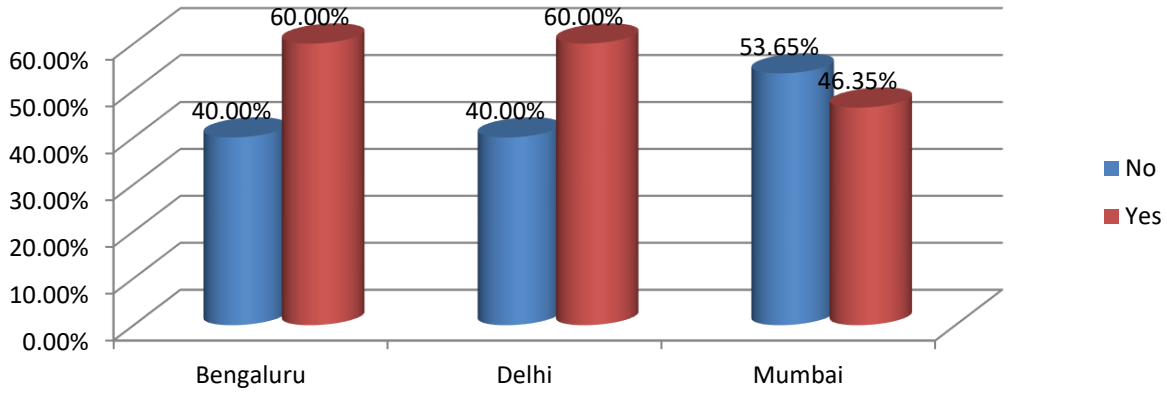
Table No. 4.27

Distribution of the Companies According to the Opinion about shortage of skilled manpower for drivers

Sr. No.	Main Cities	No	Yes	Grand Total
I	II	III	IV	V
1	Bengaluru	40.00%	60.00%	100.00%
2	Delhi	40.00%	60.00%	100.00%
3	Mumbai	53.65%	46.35%	100.00%
	Grand Total	**44.55%**	**55.45%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.27
Distribution of the Companies According to the Opinion about shortage of skilled manpower for drivers



On the same lines such as shortage of manpower for drivers and management; ***Table No. 4.28*** and ***Chart No. 4.28*** presents responses regarding shortage of manpower for administration. It has been seen that comparatively, Bengaluru and Delhi has minimum shortage of skilled manpower for administration (76 per cent mentioned no shortage of manpower) as in the Mumbai 50.71 per cent mentioned no shortage of skilled manpower for administration.

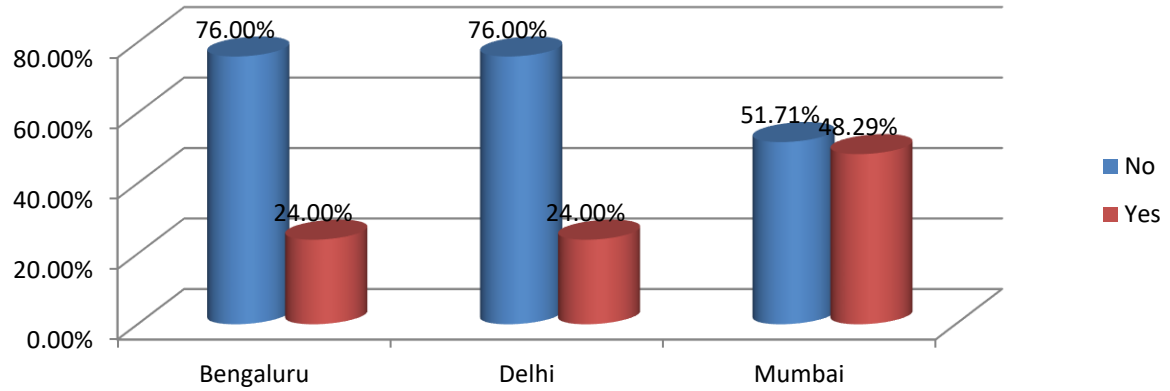
Table No. 4.28

Distribution of the Companies According to the Opinion about shortage of skilled manpower for administration

Sr. No.	Main Cities	No	Yes	Grand Total
I	**II**	**III**	**IV**	**V**
1	Bengaluru	76.00%	24.00%	100.00%
2	Delhi	76.00%	24.00%	100.00%
3	Mumbai	51.71%	48.29%	100.00%
	Grand Total	**65.59%**	**34.41%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.28
Distribution of the Companies According to the Opinion about shortage of skilled manpower for administration



On the same line of manpower shortage, it has to be mentioned that, manpower for loading / unloading is also observed scarce in Mumbai though in Delhi and Bengaluru it comparatively available. This aspect has been presented in ***Table No. 4.29*** and ***Chart No. 4.29***.

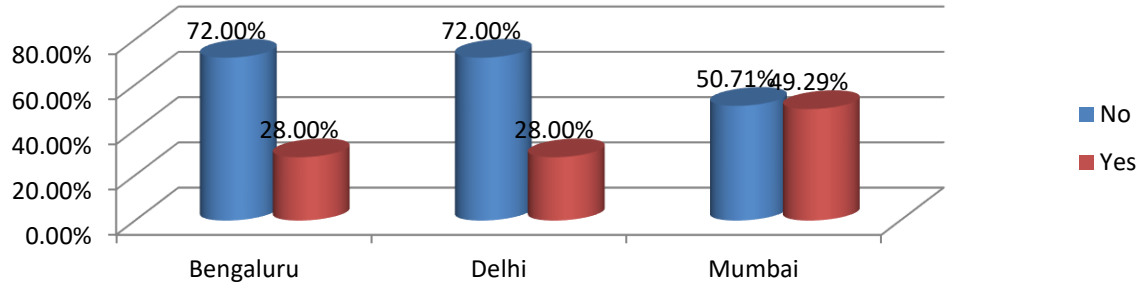
Table No. 4.29

Distribution of the Companies According to the Opinion about shortage of manpower for loading/unloading

Sr. No.	Main Cities	No	Yes	Grand Total
I	II	III	IV	V
1	Bengaluru	72.00%	28.00%	100.00%
2	Delhi	72.00%	28.00%	100.00%
3	Mumbai	50.71%	49.29%	100.00%
	Grand Total	**63.24%**	**36.76%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.29
Distribution of the Companies According to the Opinion about shortage of manpower for loading/unloading



In a summary, it may be pointed out that, comparatively on an average manpower for loading / unloading and for administration is available as compared to skilled manpower for management and drivers.

Section-(4.7)

Efficiency of movers and packers enterprises

In this section, an effort has been to ascertain, quantify and present efficiency related opinions from the respondents. The parameters studied and presented with the help of five tables are namely; (a) efficiency of manpower; and (b) application of technology.

In the ***Table No. 4.30*** and ***Table No. 4.31*** along with ***Chart No. 4.30***, the parameter of manpower efficiency has been presented. According to the opinions of the respondents from movers and packers, level of efficiency of their manpower has been observed between 60 per cent and 100 per cent. Though, only 17.65 per cent of the respondents mentioned that their manpower has been working with 100 per cent efficiency. Apart from this, majority of the respondents (71.76 per cent of total 340 respondents) mentioned manpower efficiency between 60 per cent and 80 per cent. The fact highlights inefficiency of the movers and packers. The ways to improve this efficiency are presented in table below.

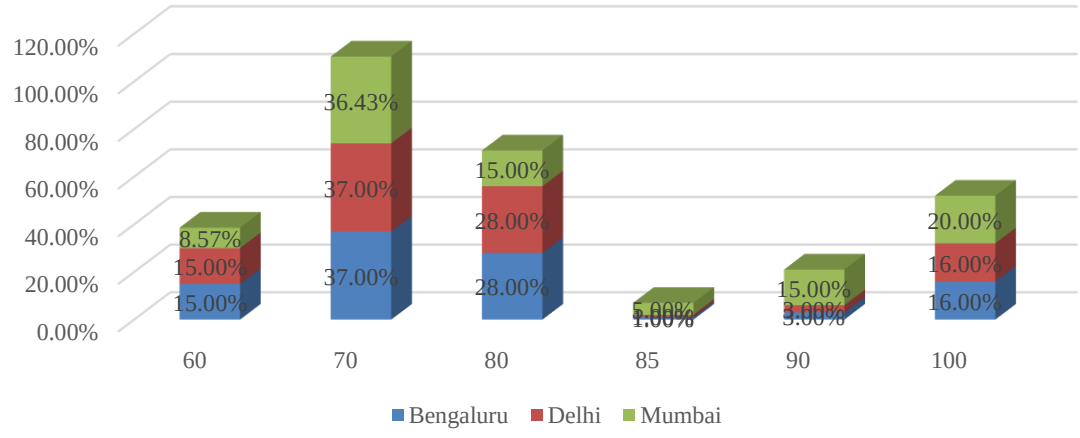
Table No. 4.30

Distribution of the Responding Companies According to Level of Efficiency observed for Manpower in Per cent

Sr. No.	Level of Efficiency	Bengaluru	Delhi	Mumbai	Grand Total
I	II	III	IV	V	VI
1	60	15.00%	15.00%	8.57%	12.35%
2	70	37.00%	37.00%	36.43%	36.76%
3	80	28.00%	28.00%	15.00%	22.65%
4	85	1.00%	1.00%	5.00%	2.65%
5	90	3.00%	3.00%	15.00%	7.94%
6	100	16.00%	16.00%	20.00%	17.65%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.30
Distribution of the Responding Companies According to Level of Efficiency observed for Manpower in Per cent



Apart from the manpower utilization and efficiency present research addresses the factor of technology in achieving efficiency of the movers and packers industry. In ***Table No. 4.32*** along with ***Chart No. 4.32***, it would be seen that, almost 64.71 per cent of the total movers and packers have been answered affirmative to the fact that application of advance technology will improve efficiency of resources. This fact has been observed equally in all the cities under consideration.

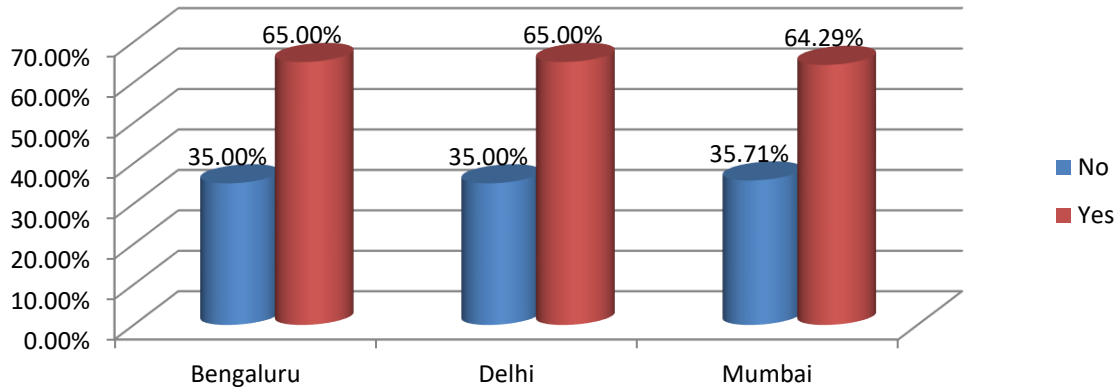
Table No. 4.32

Opinions Regarding Whether Application of Advanced Technologies will Improve Efficiency of Resources

Sr. No.	Main Cities	No	Yes	Grand Total
I	II	III	IV	V
1	Bengaluru	35.00%	65.00%	100.00%
2	Delhi	35.00%	65.00%	100.00%
3	Mumbai	35.71%	64.29%	100.00%
	Grand Total	**35.29%**	**64.71%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.32
Opinions Regarding WhetherApplication of AdvancedTechnologieswillImprove Efficiency of Resources



From ***Table No. 4.33*** and ***Chart No. 4.33,*** it would be seen that, Out of total respondents half of the movers and packers observed using advanced technologies as mentioned in the ***Table No. 4.30.***

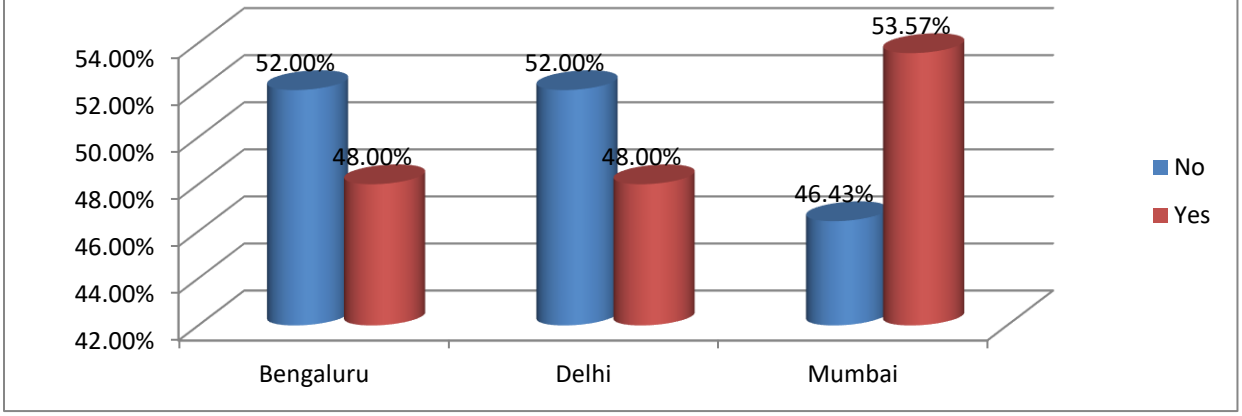
Table No. 4.33

Opinions of Respondents According to Utilization of Advanced Technology

Sr. No.	Main Cities	No	Yes	Grand Total
I	**II**	**III**	**IV**	**V**
1	Bengaluru	52.00%	48.00%	100.00%
2	Delhi	52.00%	48.00%	100.00%
3	Mumbai	46.43%	53.57%	100.00%
	Grand Total	**49.71%**	**50.29%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.33
Opinions of Respondents According to Utilization of Advanced Technology



The ***Table No. 4.34*** and ***Chart No. 4.34*** lists the details of such advanced technologies, namely; (a) Ground Positioning System (GPS); (b) computers and applications; and (c) smartphones. Though, majority of movers and packers (81.71 per cent of the total respondents) observed using technology based on computers and GPS trackers while only 18.29 per cent respondents observed using smart phones as a technology for logistic industry.

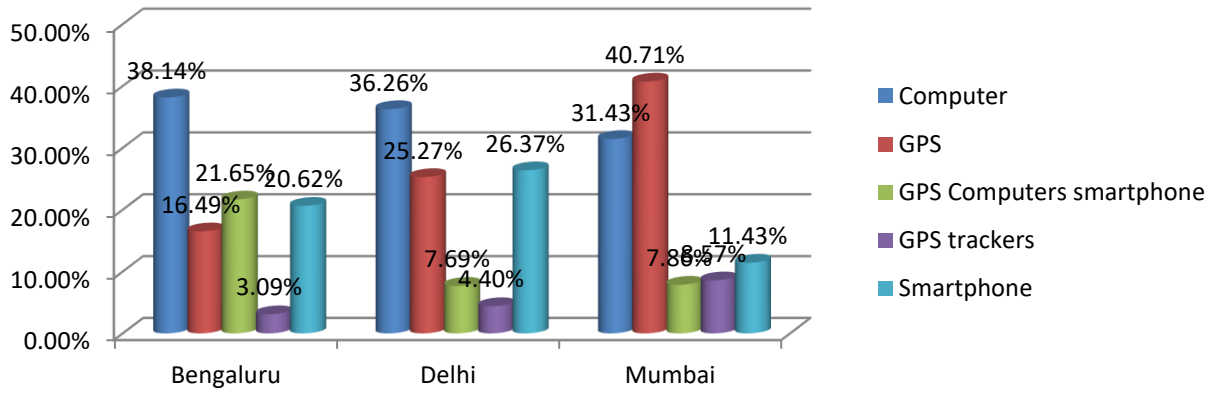
Table No. 4.34

Distribution of Responding Companies According to Technologies Being Used

Sr. No.	Technologies Used	Bengaluru	Delhi	Mumbai	Grand Total
I	II	III	IV	V	VI
1	Computer	38.14%	36.26%	31.43%	34.76%
2	GPS	16.49%	25.27%	40.71%	29.27%
3	GPS Computers smartphone	21.65%	7.69%	7.86%	11.89%
4	GPS trackers	3.09%	4.40%	8.57%	5.79%
5	Smartphone	20.62%	26.37%	11.43%	18.29%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.34
Distribution of Responding Companies According to Technologies Being Used



With reference made to the table no. 4.33, it has been observed that almost 49.71 per cent of the movers and packers are not using advanced technology. The reason of not using advanced technology has been captured and tabulated using ***Table No. 4.35*** and ***Chart No. 4.35***. As may be seen from the table that two major reasons observed and can be attributed to the fact of non-using advanced technology, namely, (a) high level of cost and another is (b) non availability of suitable technology. While 63.49 per cent of the respondents who are not using advanced technology have mentioned reason other than those mentioned above.

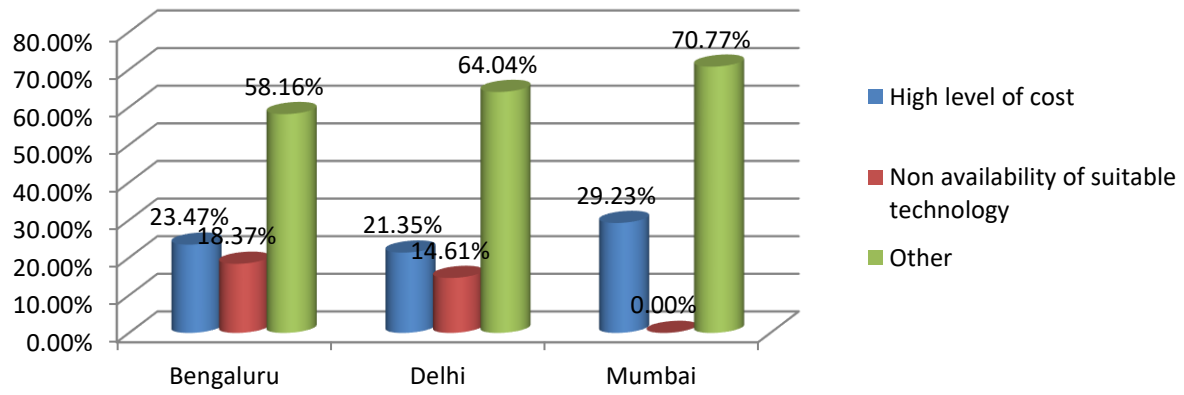
Table No. 4.35

Distribution of the Companies According to the reasons for not using advance Technologies

Sr. No.	Reasons	Bengaluru	Delhi	Mumbai	Grand Total
I	**II**	**III**	**IV**	**V**	**VI**
1	High level of cost	23.47%	21.35%	29.23%	24.21%
2	Non availability of suitable technology	18.37%	14.61%	0.00%	12.30%
3	Other	58.16%	64.04%	70.77%	63.49%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.35
Distribution of the Companies According to the reasons for not using advance Technologies



In summary of this section, it may pointed out that in movers and packers industry human resources are not seen such efficient as per the opinions of the respondents from three cities. Also, the industry admits the importance of applying advanced technology to improve efficiency of the resource but significant portion of the respondents (49 per cent) are using such technologies because of expensiveness of the technology and non-suitability of the amiable technology.

Section-(4.8)

Trucks

The entire financial aspect can be divided into two broad categories such as, fixed costs and operative costs apart from overheads costs. Any business needs to satisfy both the needs of costs in long run to survive in the business arena. In case of logistic industry, revenue generating activity is basically moving out trucks on the routes. Naturally, more the trucks runs on roads covering most number of routes obviously will generate greater revenue. Now, this aspect has been investigated in the present section for trucks.

Table No. 4.36

Distribution of the Companies According to Number of trucks move daily out from facility

Sr. No.	Number of trucks	Bengaluru	Delhi	Mumbai	Grand Total
I	II	III	IV	V	VI
1	More than 16	0.00%	1.00%	1.43%	0.88%
2	06/04/2017	67.00%	60.00%	45.71%	56.18%
3	09/07/2017	27.00%	27.00%	37.14%	31.18%
4	12/10/2017	6.00%	12.00%	15.71%	11.76%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

From the ***Table No. 4.37 and Chart No. 4.37***, it would be seen that, around 80 per cent of movers and packers from all the cities have mentioned that on an average their trucks are 40 per cent to 70 per cent occupied. This has reflects under-utilization of the trucks' capacities and may seriously impact on the revenue of the movers and packers.

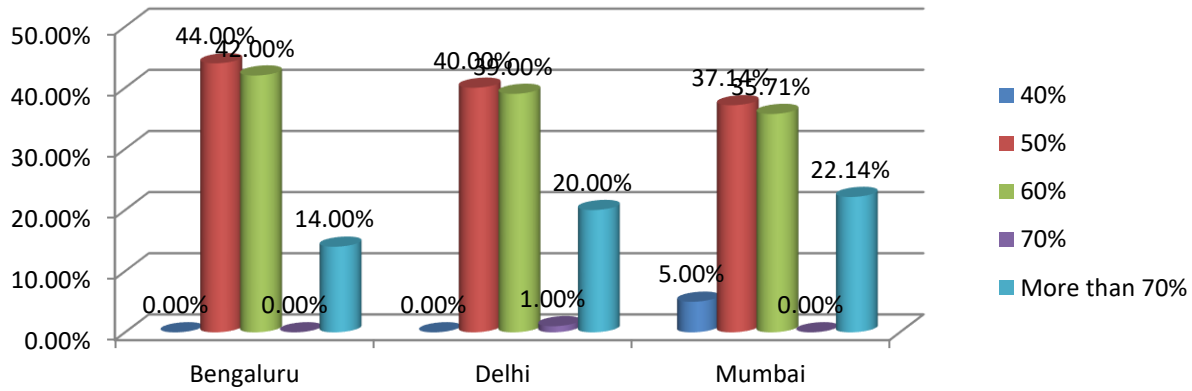
Table No. 4.37

Distribution of Companies According to Extent (Per cent) of Utilization of Capacities (100%) of trucks

Sr. No.	Main Cities	40%	50%	60%	70%	More than 70%	Grand Total
I	II	III	IV	V	VI	VII	VIII
1	Bengaluru	0.00%	44.00%	42.00%	0.00%	14.00%	100.00%
2	Delhi	0.00%	40.00%	39.00%	1.00%	20.00%	100.00%
3	Mumbai	5.00%	37.14%	35.71%	0.00%	22.14%	100.00%
	Grand Total	**2.06%**	**40.00%**	**38.53%**	**0.29%**	**19.12%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.37
Distribution of Companies According to Extent (Per cent) of Utilization of Capacities (100%) of trucks



Apart from the per cent utilization of the trucks, it would be necessary to understand size of the trucks being used by the enterprises. With reference to this, ***Table No. 4.38*** and ***Chart No. 4.38***, gives necessary details on this aspect. It would be seen from the table that, almost 97.36 per cent of the movers and packers from all the three cities under consideration are using trucks of having average capacity between 800 Cu. Ft. and 1000 Cu. Ft.

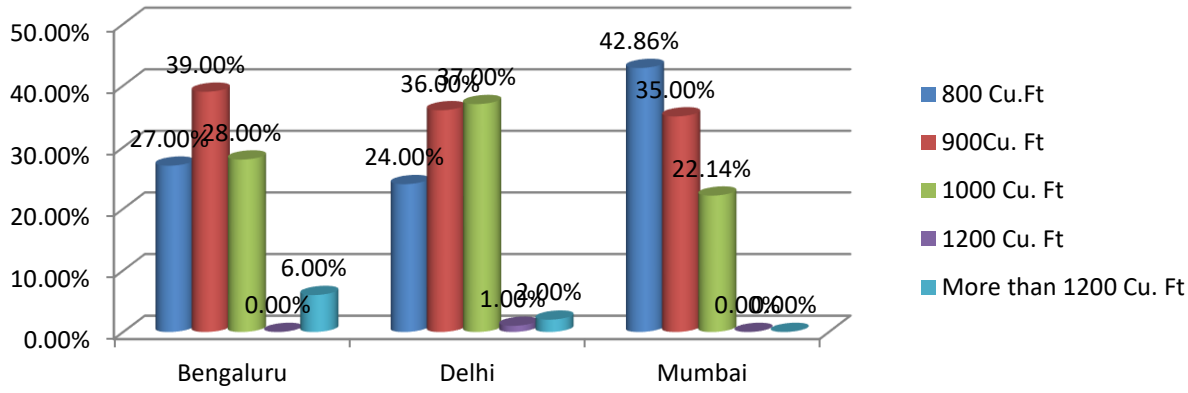
Table No. 4.38

Distribution of Respondents According to Average Size of the truck for movers and packers

Sr. No.	Size of Trucks	Bengaluru	Delhi	Mumbai	Grand Total
I	**II**	**III**	**IV**	**V**	**VI**
1	800 Cu. Ft	27.00%	24.00%	42.86%	32.65%
2	900 Cu. Ft	39.00%	36.00%	35.00%	36.47%
3	1000 Cu. Ft	28.00%	37.00%	22.14%	28.24%
4	1200 Cu. Ft	0.00%	1.00%	0.00%	0.29%
5	More than 1200 Cu. Ft	6.00%	2.00%	0.00%	2.35%
	Grand Total	**100.00%**	**100.00%**	**100.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.38
Distribution of Respondents According to Average Size of the truck for movers and packers



In summary, it need to be mentioned that, on an average movers and packers from three cities are using trucks of 800 Cu. Ft to 1000 Cu. Ft. and almost most of the trucks are not 100 per cent full. The trucks utilization is mostly between 50 per cent and 60 per cent of its capacity.

Section-(4.9)

Routes for Movers and Packers

In this Section, an effort has been made to investigate into most frequent route of the movers and packers. It has been seen that, Bengaluru based movers and packers are frequently running on Bengaluru to Delhi and Mumbai. Also, Delhi based movers and packers are operating on the routes from Delhi to Bengaluru, Hyderabad and Mumbai while, Mumbai based movers and packers are operative on the route from Mumbai to Bengaluru and Delhi. All these details have been mentioned with the help of ***Table No. 4.39*** and ***Chart No. 4.39***.

Table No. 4.39

Distribution of Responding Companies According to most frequent Route for the Trucks

Sr. No.	Frequent Routes	Bengaluru	Delhi	Mumbai	Grand Total
I	II	III	IV	V	VI
1	Bangalore-Chennai	4.00%	0.00%	0.00%	1.18%
2	Bangalore-Delhi	37.00%	0.00%	0.00%	10.88%
3	Bangalore-Hyderabad	13.00%	0.00%	0.00%	3.82%
4	Bangalore-Kolkata	5.00%	0.00%	0.00%	1.47%
5	Bangalore-Mumbai	41.00%	0.00%	0.00%	12.06%
6	Delhi-Bangalore	0.00%	37.00%	0.00%	10.88%
7	Delhi-Chennai	0.00%	4.00%	0.00%	1.18%
8	Delhi-Hyderabad	0.00%	13.00%	0.00%	3.82%
9	Delhi-Kolkata	0.00%	5.00%	0.00%	1.47%
10	Delhi-Mumbai	0.00%	41.00%	0.00%	12.06%
11	Mumbai-Bangalore	0.00%	0.00%	57.86%	23.82%
12	Mumbai-Delhi	0.00%	0.00%	42.14%	17.35%
	Grand Total	100.00%	100.00%	100.00%	100.00%

(Source: Field Investigation)

Naturally, one major conclusion may be drawn from this section is, logistic industry mostly mover and packers are doing their business on the golden triangle namely Delhi-Bengaluru-Mumbai.

Section-(4.10)

Taxation and Other parameters

In this section of the chapter core financial parameters such as taxation and related variables are tabulated and presented with the help of five tables.

It would be seen from the ***Table No. 4.40*** and ***Chart No. 4.40*** that, movers and packers industry is liable to impose taxation ranges between 5 per cent and 15 per cent. This has been the situation until June 2017. Currently in India GST has been applicable and this aspect of change legislation of taxation may be considered as the input for the further researches. Though, from the table slight variations are observed between opinions of movers and packers, thus, those variations may be because different rates of OCTROI and road taxes including toll charges on the highways.

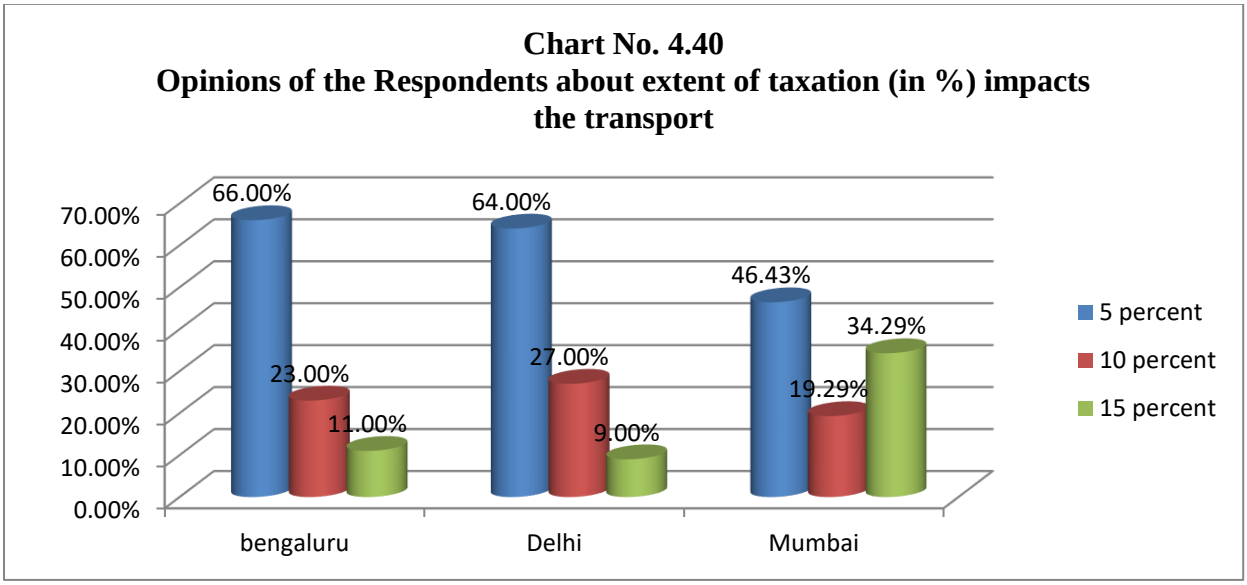
Table No. 4.40

Opinions of the Respondents about extent of taxation (in %) impacts the transport

Sr. No.	Main Cities	5%	10%	15%	Grand Total
I	II	III	IV	V	VI
1	Bengaluru	66.00%	23.00%	11.00%	100.00%
2	Delhi	64.00%	27.00%	9.00%	100.00%
3	Mumbai	46.43%	19.29%	34.29%	100.00%
	Grand Total	**57.35%**	**22.65%**	**20.00%**	**100.00%**

(Source: Field Investigation)

Chart No. 4.40
Opinions of the Respondents about extent of taxation (in %) impacts the transport



The aspect of paying Octroi has been investigated, tabulated and presented with the help of ***Table No. 4.41*** and ***Chart No. 4.41*** below. It would be seen therefore that, the movers and packers from rom Mumbai are not paying any charges and taxes on octroi for household transport. While only one per cent of the enterprises from Delhi and Bengaluru are paying octroi on household transport. It is true that rules are same for all but here variations are observed in terms of some paying Octroi and some are not. This may be because non-awareness about the taxation and or may be trucks are carrying other luggage along with household items.

Table No. 4.41

Opinions of the Responding Companies about Paying Octroi for Household Transport

Sr. No.	Main Cities	No	Yes	Grand Total
I	II	III	IV	V
1	Bengaluru	99.00%	1.00%	100.00%
2	Delhi	99.00%	1.00%	100.00%
3	Mumbai	100.00%	0.00%	100.00%
	Grand Total	**99.41%**	**0.59%**	**100.00%**

(Source: Field Investigation)

Further with reference to the ***Table No. 4.42 and Chart No. 4.42***, it has been observed that the octroi paid on transport on household materials is contributing 100 per cent to the cost.

Table No. 4.42

Opinions of the responding companies regarding extent of Octroi charges contributing to cost

Sr. No.	Main Cities	less than 5%	Grand Total
I	II	III	IV
1	Bengaluru	100.00%	100.00%
2	Delhi	100.00%	100.00%
3	Mumbai	100.00%	100.00%
	Grand Total	**100.00%**	**100.00%**

(Source: Field Investigation)

According to the tabulation made in ***Table No. 4.43 and Chart No. 4.43***, it would be seen that Bengaluru and Delhi are experiencing more seasonal fluctuations on the roads. This aspect has been affirmed by 42 per cent to 44 per cent of the respondents from both the cities. Though,

67 per cent of the respondents mentioned that no seasonal fluctuation has been observed on the traffic. This may be attributed to the fact that in Mumbai everyday there will be traffic, indifferent to the extent of its experience.

Table No. 4.43

Opinions about seasonal fluctuations in the traffic

Sr. No.	Main Cities	No	Yes	Grand Total
I	II	III	IV	V
1	Bengaluru	56.00%	44.00%	100.00%
2	Delhi	58.00%	42.00%	100.00%
3	Mumbai	67.86%	32.14%	100.00%
	Grand Total	**61.47%**	**38.53%**	**100.00%**

(Source: Field Investigation)

It may be learned from the present study that logistic industry in all the cities under consideration is not efficiently operating due to various reasons such as not utilizing full cubic feet capacity of the trucks possessed by the industry. Though, the players in the industry are not playing their vehicles on other business domains when these vehicles are vacant (82.94 per cent). This may be because of the reason that, playing vehicles on other business domain may disturb their routine and system of working which as they believe may be set well on the part of movers and packers services.

Table No. 4.44

Opinions about plying vehicles in other business domains when vacant

Sr. No.	Main Cities	No	Yes	Grand Total
I	II	III	IV	V
1	Bengaluru	80.00%	20.00%	100.00%
2	Delhi	84.00%	16.00%	100.00%
3	Mumbai	84.29%	15.71%	100.00%
	Grand Total	**82.94%**	**17.06%**	**100.00%**

(Source: Field Investigation)

In the Part-II, an effort has been made to test the four hypotheses formed based on the earlier tabulation made in this part.

PART-II

Hypotheses Testing

The details on testing procedures, calculations and logical reasoning with interpretations have been presented in this part of the chapter.

The hypotheses

H1- The movers and packers industry is highly fragmented and hence there is a strong disconnect between smooth functioning of the logistics from one metro to another metro city in India

H2- The industries of logistics are not sufficiently inter-connected hence strong overlapping of resources are taken place.

H3- A very weak financial effectiveness is displayed in the complete supply chain network

H4- There is a strong scope for improving productivity and decreasing costs through optimum utilization of available resources.

The objective of the research is to "Study the financial aspects of cargo pooling in logistics industry for movers and packers in Metro Cities in India". These hypotheses mentioned above are an attempt to align with the financial analysis as mentioned in the objective.

This aspect of hypothesis testing has been divided into four sections and each hypothesis has been presented in respective section. In ***Section-(4.11)*** hypothesis-H1 has been tested and presented. Hypothesis-H2 has been presented in ***Section-(4.12)***. Hypothesis-H3 and H4 are tested and presented in ***Section-(4.13) and (4.14)***, respectively.

Section-(4.11)

Hypothesis Testing for H1

The hypothesis proposed for the testing in this section has been mentioned below:

H1- The movers and packers industry is highly fragmented and hence there is a strong disconnect between smooth functioning of the logistics from one metro to another metro city in India.

In this hypothesis majorly two variables have been seen, namely; (a) fragmentation of the industry and; (b) disconnect of the enterprises. To test this hypothesis, data mentioned in ***Table No. 4.14 and 4.16*** may be considered worthwhile.

At the first instance, in the referred table 4.14, opinions regarding extent of fragmentation of the industry have been quantified using 'Summative Five-Point Likert Scale'. This quantification has been used in the present hypothesis to test significance of fragmentation of the logistic industry. Arithmetic mean of the opinions regarding fragmentation of the industry has been observed to be 4.32, which is favorable to the situation of highly fragmentation of the industry. Now considering all these aspects, technical hypotheses for the selected variable have been presented in below ***Table No. 4.45***.

Table No. 4.45

Technical hypotheses for H1-Fragmentation

Sr. No.	Table No. Referred	Question of Hypothesis	H_0	H_a
I	II	III	IV	V
1	4.14	On the 5 point scale standard average is 3 which stood neutral on fragmentation of the industry. Now, can it be said that the observed mean is significantly differed from the standard average of 3?	there is no significant difference	There is significant difference

Considering all the aspects of the present hypothesis, one sample 't' test with 5 per cent of the significance level has been observed to be appropriate for further procedure of the testing. Hence the output of testing has been presented with the help of Table No. 4.46.

Table No. 4.46

Descriptive Statistic for Hypothesis H1

Details	N	Mean	Std. Deviation	Std. Error Mean
Defragmentation of Logistic Industry	340	4.32	.532	.029

Table No. 4.46 A

One-Sample Test

Details	Test Value = 3					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Defragmentation of Logistic Industry	45.745	339	.000	1.321	1.26	1.38

On scrutinizing the results of calculations mentioned above in ***Table No. 4.46 and 4.46A*** the inferences are as follows-

In case of hypothesis-H1, one can conclude that because of the Significance value obtained show a tendency to be less than 0.05. In such cases, the column labeled Sig. (2-tailed) displays a probability from the 't' distribution with 339 degrees of freedom. The value listed is the probability of obtaining an absolute value greater than or equal to the observed 't' statistic, if the difference between the sample mean and the test value is purely random. Since, confidence intervals lie entirely above 0.0; in case of variable fragmentation of the logistic industry, one can safely say that observed level of fragmentation is significantly (positively) differing from the standard mean of 3. Hence, in this case of hypothesis-H1, hypothesis null may be rejected and result can be interpreted as logistic industry is highly fragmented.

Once this conclusion has been established regarding fragmentation of the logistic industry, second part of this hypothesis, naturally need to be tested. This aspect deals with the data quantified using ***Table No. 4.16***. In this table, an effort has been made to quantify the opinions of the movers and packers regarding whether there is a strong disconnect between smooth functioning of the logistics from one metro to another metro city in India as a result of fragmentation. The responses for this variable have been quantified by using 'Summative Five point Likert Scale'. The observed mean of this quantification has been observed to be magnitude of 3.43 showing slightly positive response towards disconnect of industry due to fragmentation.

Now considering all these aspects, technical hypotheses for the selected variable have been presented in below ***Table No. 4.47***.

Table No. 4.47

Technical hypotheses for H1-Disconnect

Sr. No.	Table No. Referred	Question of Hypothesis	H_0	H_a
I	II	III	IV	V
1	4.16	On the 5 point scale standard average is 3 which stood neutral on disconnect of the industry. Now, can it be said that the observed mean is significantly differed from the standard average of 3?	there is no significant difference	There is significant difference

Considering all the aspects of the present hypothesis, one sample 't' test with 5 per cent of the significance level has been observed to be appropriate for further procedure of the testing. Hence the output of testing has been presented with the help of ***Table No. 4.48***.

Table No. 4.48

Descriptive Statistic for Hypothesis H1-Disconnect

Details	N	Mean	Std. Deviation	Std. Error Mean
Disconnect of the Logistic Industry	340	3.43	1.146	.062

Table No. 4.48A

One-Sample Test- Disconnect

Details	Test Value = 3					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Disconnect of the Logistic Industry	6.955	339	0.000	0.432	0.31	0.55

On scrutinizing the results of calculations mentioned above in ***Table No. 4.48 and 4.48A*** the inferences are as follows-

In case of hypothesis-H1-disconnect of logistic industry, one can conclude that because of the Significance value obtained show a tendency to be less than 0.05. In such cases, the column labeled Sig. (2-tailed) displays a probability from the 't' distribution with 339 degrees of freedom. The value listed is the probability of obtaining an absolute value greater than or equal to the observed 't' statistic, if the difference between the sample mean and the test value is purely random. Since, confidence intervals lie entirely above 0.0; in case of variable disconnect of the logistic industry, one can safely say that observed level of disconnect of the logistic industry is significantly (positively) differing from the standard mean of 3. ***Hence, in this case of the hypothesis-H1, hypothesis null may be rejected and result can be interpreted as logistic industry is highly disconnected because of high level of fragmented.***

Section-(4.12)

Hypothesis Testing for H2

In this section of the part-II, an effort has been to test hypothesis H2, mentioned below.

H2-The industries of logistics are not sufficiently connected hence strong overlapping of resources are taken place.

In the descriptive analysis made in part-I of this chapter, an attempt has been made to quantify the aspect of overlapping nature of logistic industry due to nature of disconnectedness of

the logistic industry. All these quantification of this phenomenon of overlapping nature of resources has been tabulated and presented with the help of table no. 4.17 and 4.18. It is clearly seen from the table no. 4.17 that almost half of the respondents does admit this fact and almost equal responding companies have voted against this fact. Moreover, the responses found affirmative have been further asked to mention extent of overlapping of the industry and mentioned in table no. 4.18.

Now, for the purpose of testing hypothesis-H2, data in table no. 4.18 have been considered. At the first instance, in the referred table 4.18, it would be seen that, opinions regarding extent of overlapping nature of the logistic industry have been quantified using 'Summative Five-Point Likert Scale'. This quantification has been used in the present hypothesis to test significance of overlapping nature of the logistic industry. Arithmetic mean of the opinions regarding overlapping nature of the industry has been observed to be 3.14, which is slightly favorable to the situation of overlapping of the industry. Now considering all these aspects, technical hypotheses for the selected variable have been presented in below ***Table No. 4.49.***

Table No. 4.49

Technical Hypotheses for H2

Sr. No.	Referred Table No.	Question of Hypothesis	H_0	H_a
I	II	III	IV	V
1	4.18	On the 5 point scale standard average is 3 which stood neutral on overlapping nature of the industry. Now, can it be said that the observed mean is significantly differed from the standard average of 3?	There is no significant difference	There is significant difference

Considering all the aspects of the present hypothesis, one sample't' test with 5 per cent level of significance has been observed to be appropriate for further procedure of the testing. Hence the output of testing has been presented with the help of Table No. 4.50.

Table No. 4.50

Descriptive Statistic for Hypothesis H2

Details	N	Mean	Std. Deviation	Std. Error Mean
Disconnect of the Logistic Industry	340	3.14	0.908	0.049

Table No. 4.50A

One-Sample Test

Details	Test Value = 3					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Disconnect of the Logistic Industry	2.868	339	.004	0.141	0.04	0.24

On scrutinizing the results of calculations mentioned above in ***Table No. 4.50 and 4.50A*** the inferences are as follows-

In case of hypothesis-H2 overlapping nature of logistic industry, one can safely conclude that because of the Significance value obtained show a tendency to be less than 0.05. In such case, the column labeled 'Sig. (2-tailed)' displays a probability from the 't' distribution with 339 degrees of freedom. The value listed is the probability of obtaining an absolute value greater than or equal to the observed 't' statistic, if the difference between the sample mean and the test value is purely random. Since, confidence intervals lie entirely above 0.0; in case of variable overlapping nature of the logistic industry, one can safely say that observed level of overlapping of the logistic industry is significantly (positively) differing from the standard mean of 3. ***Hence, in this case of the hypothesis-H2, hypothesis null may be rejected and result can be interpreted as logistic industry is significantly overlapping its resources due to disconnect of the players.***

Section-(4.13)

Hypothesis Testing for H3

In this section, effort has been made to test the hypothesis regarding financial effectiveness of the complete supply chain network in logistic industry. The hypothesis on this aspect has been mentioned as below-

H3-A very weak financial effectiveness is displayed in the complete supply chain network

For the purpose of testing this hypothesis, tabulation and quantification presented in the table No. 4.20 from section-(v), has been adopted. The quantification of the opinions made in this table is scaled using 'summative five point likert scale'. It has been observed from the table that overall average of the financial effectiveness of logistic industry has been observed 3.54. This arithmetic mean of the opinions from movers and packers industries is showing slight degree of agreeableness of the respondents towards acceptance of the fact that logistic industry is displaying weak financial effectiveness. Considering all these aspects, technical hypotheses have been presented in ***Table No. 4.51***.

Table No. 4.51

Technical hypotheses for H3

Sr. No.	Referred Table No.	Question of Hypothesis	H_0	H_a
I	II	III	IV	V
1	4.20	On the 5 point scale standard average is 3 which stood neutral on weak level financial effectiveness. Now, can it be said that the observed mean is significantly differed from the standard average of 3?	There is no significant difference	There is significant difference

Considering all the aspects of the present hypothesis, one sample't' test with 5 per cent level of significance has been observed to be appropriate for further procedure of the testing. Hence the output of testing has been presented with the help of ***Table No. 4.52***.

Table No. 4.52

Descriptive Statistic for Hypothesis H3

Details	N	Mean	Std. Deviation	Std. Error Mean
Financial effectiveness of the logistic industry	340	3.54	0.799	0.043

Table No. 4.52A

One-Sample Test

Details	Test Value = 3					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Financial effectiveness of the logistic industry	12.489	339	.000	0.54118	0.4559	0.6264

On scrutinizing the results of calculations mentioned above in ***Table No. 4.52 and 4.52A*** the inferences are as follows-

In case of hypothesis-H3 financial effectiveness of logistic industry, one can safely conclude that because of the Significance value obtained show a tendency to be less than 0.05. In such case, the column labeled 'Sig. (2-tailed)' displays a probability from the 't' distribution with 339 degrees of freedom. The value listed is the probability of obtaining an absolute value greater than or equal to the observed 't' statistic, if the difference between the sample mean and the test value is purely random. Since, confidence intervals lie entirely above 0.0; in case of variable weak nature of financial effectiveness of the logistic industry, one can safely say that observed level of overlapping of the logistic industry is significantly differing from the standard mean of 3. ***Hence, in this case of the hypothesis-H3, hypothesis null may be rejected and result can be interpreted as logistic industry is showing significant level of financial effectiveness.*** Before generalizing this observation, one has to be on safer side that even if the interpretation has been supported by statistical evidences, though the magnitude of the effectiveness is negligible. Thus in an ultimate way, it may be said with due care that logistic industry is financially efficient but some players are yet to be improved.

Section-(4.14)

Hypothesis Testing for H4

In this section, an effort has been made to investigate and test the hypothesis-H4 as mentioned below-

H4- There is a strong scope for improving productivity and decreasing costs through optimum utilization of available resources

This hypothesis has been presented with the help of data quantified and presented using ***Table No. 4.21***. It may be observed that the hypothesis above includes variables of improving productivity and decreasing cost through optimum utilization of available resources. In this view of variable identified earlier for the purpose of testing present hypothesis, an opinion has been asked to the respondents from movers and packers of logistic industry. In the question respondents have been asked to compare their views with average cost of logistic industry standard. These comparative opinions then asked to scale using Likert Five Point Scale, such as, between the extreme opinions as 'Highly above the average cost' and 'Highly below the average cost'.

Now, it has been observed from the table that, average agreeableness towards this phenomenon as mentioned in the present hypothesis accounted for 2.79. This shows the opinions slightly favorable towards situation that utilization of optimum resources will leads to saving cost slightly below the average cost. Keeping this in mind, technical hypotheses may be presented as below-

Table No. 4.53

Technical hypotheses for H4

Sr. No.	Referred Table No.	Question of Hypothesis	H_0	H_a
I	II	III	IV	V
1	4.21	On the 5 point scale standard average is 3 which show no impact on saving cost. Now, can it be said that the observed mean is significantly differed from the standard average of 3?	There is no significant difference	There is significant difference

Considering all the aspects of the present hypothesis, one sample 't' test with 5 per cent level of significance has been observed to be appropriate for further procedure of testing. Hence the output of testing has been presented with the help of ***Table No. 4.54***.

Table No. 4.54

Descriptive Statistic for Hypothesis H4

Details	N	Mean	Std. Deviation	Std. Error Mean
What level of cost will be saved	340	2.79	6.12	0.033

Table No. 4.54A

One-Sample Test

Details	Test Value = 3					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
What level of cost will be saved	-6.114	339	0.00	-0.203	-0.27	-0.14

On scrutinizing the results of calculations mentioned above in ***Table No. 4.54 and 4.54A*** the inferences are as follows-

In case of hypothesis-H4, one can safely conclude that because of the Significance value obtained show a tendency to be less than 0.05. In such case, the column labeled 'Sig. (2-tailed)' displays a probability from the 't' distribution with 339 degrees of freedom. The value listed is the probability of obtaining an absolute value greater than or equal to the observed 't' statistic, if the difference between the sample mean and the test value is purely random. Since, confidence intervals lie entirely below 0.0; in case of variable 'level of cost will be saved', one can safely say that observed level of scope for saving cost through optimum utilization of resources, is significantly differing from the standard mean of 3. ***Hence, in this case of the hypothesis-H4, hypothesis null may be rejected and result can be interpreted as in logistic industry,*** **there is a strong scope for improving productivity and decreasing costs through optimum utilization of available resources.** Before generalizing this observation, one has to be on safer side that even if the interpretation has been supported by statistical evidences, though the magnitude of the effectiveness is negligible. Thus in an ultimate way, it may be said with due care that logistic industry need to focus on optimum utilization of resources.

Chapter 5

Summary, Concluding Observations and Suggestions

Chapter-5

Findings Suggestions and Conclusion

Contents of Chapter

CHAPTER-5

SUMMARY, CONCLUDING OBSERVATIONS AND SUGGESTIONS

In the present research work titled as mentioned in the earlier chapter; an effort has been made to quantify and investigate financial aspects of the movers and packers industries in select three metro cities, namely, Mumbai, Bengaluru and Delhi. The financial aspects of movers and packers industries have been represented by the parameters, mentioned in Chapter 1. The scientific enquiry of all these parameters based on the field data collected carefully with the aim to study financial aspects of the industry, possible optimization of the resources and exploring challenges of the logistic industry has stood as main crux of the present study.

With this purpose, total 440 movers and packers industries have been identified for the study and questionnaires have been sent for collecting responses. Out of these 440 movers and packers industries total 412 questionnaires received duly filled with responses, making the success rate at 93.63 per cent and underlining the significance of the present study. Though, on different grounds 72 questionnaires have not been included in the further tabulation and analysis, which made sample size of 340 movers and packers from selected three metro cities. The sample size so arrived has been good representative of the movers and packers industry of Mumbai, Delhi and Bengaluru as it accounted for more than 9.50 per cent of the total population under study and based on the proportionate representation of all the three cities under consideration.

1. Summary Findings:
    - General Parameters: The general parameter findings of logistics industry
    - Break-down of vehicles: How does this parameter play a role in logistics
    - Delayed deliveries: How do delayed deliveries in logistics are impacted
    - Fragmentation of Network: Fragmented analysis of logistics network
    - Core Financial Aspects:
    - Manpower resources
    - General efficiency
    - Financial aspects related to trucks and routes
    - Taxation and other variables

2. Objectives:
    - General Observations: The observing facts of metros selected: Mumbai, Delhi & Bengaluru
    - Optimization of resources and challenges in utilization of resources: The biggest findings of this observation are:
        - Logistics is a highly fragmented market
        - A high degree of lack of awareness in the members of the industry
        - There is a huge shortage of skilled manpower
        - Technology utilization in the industry is extremely less
    - Financial aspects: What are the findings of the financial aspects

3. Solutions:
    - Suggestions to policy makers of “Movers and Packers” association
    - Ground positions system to track freight shipment
    - Networking of movers and packers to avoid fragmentation
    - Awareness of insurance policies in movers and packers sector

Considering the methodology mentioned in chapter-3 along with data analysis presented in the chapter-4, the objective work has been done to arrive at concise results of present study and this is represented with the help of ***Section-5.1*** of the present chapter. Based on this summary of findings, concluding observations have been made in the ***Section-5.2*** according to the objectives of the present study. Finally, in ***Section-5.3***, probable solutions have been offered.

Section-5.1: Summary of findings

As has been indicated in earlier section; this section deals with summarizing the findings of present research work. This aspect of presenting summary has been made according to the pre-decided nine financial parameters and thus, naturally, this section has been divided into nine subsections.

5.1.1: General Parameters

Almost half of the companies considered in the present study are catering their services of movers and packers logistics in Mumbai, Bengaluru and Delhi. Around 58 per cent of the responding companies catering in other cities. Most of the movers and packers companies (87.06 per cent) from three metro cities possess less than 100 vehicles while Mumbai based more than 95 per cent companies possessing less than 100 vehicles. An average running of these vehicles on daily basis has been observed between 101km and 300km (92.93 respondents). Most of these companies complete this workload based on the contractual drivers as almost 96 per cent of companies employ drivers not more than 15, resulting in more recruitment of drivers on contractual basis (more than 52 per cent). Generally, in this sector customer handling mechanism observed not properly set as only 34 per cent of the respondents are having facility of customer care or customer handling mechanism.

5.1.2: Break down of vehicles

All the above-mentioned summary regarding number of vehicles, drivers and kilometers covered are essential to ensure revenue in the logistic industry through breakdown of the vehicles is the element which impact on these factors. In the selected

movers and packers industries from three metro cities, slightly less than 70 per cent of the companies are experiencing an average of 2 vehicle breakdowns in a month. The reasons for these breakdowns have been attributed by the respondents to the reasons namely, natural calamities, poor maintenance and economic attributes. There are 37.76 per cent of the respondents mentioned other reasons for these breakdowns of vehicles. The frequency of this breakdown of vehicles is occasionally for 15.29 per cent of respondents and some time for 43 per cent of the respondents whereas some of them (38.53 per cent) mentioned it as rare. Although all these breakdowns lead to failure of connectivity, need of additional expenses, loss of customers and increase in fare.

5.1.3: Delayed deliveries

Losing of customers and impact of customer satisfaction may be attributed to the delayed deliveries. Thus, in the present study, based on the field investigation and analysis of the data, around 60 per cent of the responding companies have mentioned up to 2 delayed deliveries on an average. These delayed deliveries may be attributed to traffic and accidents along with waiting for customers.

5.1.4: Fragmentation and Network

The logistic industry is observed to be fragmented as 93 per cent of the respondents mentioned it during field investigation. Though, 35.29 per cent of the respondents mentioned it as highly fragmented industry whereas 61.47 per cent admits slight fragmentation in the industry. The players of this industry 76.18 percent admit that because of the disorganized structure of the market, there is a lack of connect and rough working relation of logistics between two metros. The extent of this disconnect due to fragmentation of the industry witnessed slightly significant to 42.65 per cent of the respondents while 17.94 per cent said it is highly disconnected. Moreover, overlapping of resources as an implication of disconnect between players of logistic industry, nearly half of the respondents stood at an either side of the argument. The reason for this half side distribution of respondents towards argument of overlapping of the resources can be attributed to the non-awareness regarding association of movers and packers as only 56.76 per cent respondents are aware about it.

5.1.5: Core Financial Aspects

Under the investigation of the core financial parameters in this study has been observed slight financial effectiveness (as per the responses of 42.31 per cent of the respondents) in the logistic industry. Moreover, with the help of optimum utilization of the resources, slightly more than average cost will be saved as mentioned by the 30.29 per cent of the respondents. Though, efforts of optimum utilization of resources have certain peculiarities such as, competition, fragmentation of the industry and unorganized nature of logistic industry.

Additionally, all the respondents have admitted that fuel price is the key factor in costing of logistic industry, because fuel price plays significant role in costing of logistic industry by curbing up to 20 per cent to 40 per cent share of the total cost.

Apart from the cost of operating business, there always a need of mitigating the risk of transport during the transit of goods through insurance of transport of goods, as all the respondents have agreed with this aspect.

5.1.6: Manpower resources

During assessment of manpower related aspect in the present study, it has been observed that, 42.06 per cent respondents mentioned the reason of availability of only unskilled people for management, 55 per cent mentioned lesser proficient drivers for their transport vehicles, 34.41 per cent mentioned facing shortfall of good resources for administrative work and 36.76 per cent said there is a scarcity for the skilled manpower for work op loading and unloading.

5.1.7: General efficiency

Further, it has been observed that, manpower utilized in the logistic industry shows varied level of efficiency. For instance, it has been observed that, the level of manpower efficiency witnessed by the 71.76 per cent of the responding companies is between 60 per cent and 80 per cent of total efficiency expected. Moreover, 64.71 per cent responding companies admitted that, application of advanced technology will improve level of manpower efficiency and even though 50.29 per cent of the respondents doesn't utilize

advanced technology such as, computers, GPS, smartphones etc. The reasons for non-application of the advanced technology can be attributed to high level of cost of technology and non-availability of suitable technology.

5.1.8: Financial aspects related to trucks and routes

In this section another aspect of the revenue generation has been investigated in the chapter of analysis namely, cubic capacities of the vehicles used in movers and packers industry and per cent of the utilized capacity of these trucks. It has been observed that 50 per cent to 60 per cent of the capacity of vehicles (out of 800 cu ft. to 1000 cu ft. of total on an average capacity of vehicles) has been utilized. Further it has also observed that majority of the companies in movers and packers industry under consideration fly over Bengaluru to Delhi, Mumbai and Delhi to Mumbai vice versa on most frequently basis.

5.1.9: Taxation and other variables

In this last subsection, efforts have been made to investigate cost and spending side of the logistic industry, particularly, tax, Octroi and seasonal fluctuations. On this aspect all the respondents mentioned that variation of the tax on transport is up to 5 per cent to 15 per cent of tax rate, it may be because of the different stats have different taxation policy. Octroi is the levy paid on the products being sold in the area of certain city thus for movers and packers these are the house hold items shifting from one city to another and doesn't meant for sale, thus no one is paying this tax to the government and get total exemption.

Now on the part of traffic, it has been observed that 38.53 per cent of the respondents found seasonal fluctuation in traffic. It has been also observed that most of the responding movers and packers are not plying their vehicle on another domain when vacant. This shows particular focus on movers and packers business than achieving equilibrium of economics in business.

Section-5.2: Concluding Observations

Considering all the aspects of the present study, based on the analysis, interpretation made in the respective chapter and summary of findings detailed in the previous section, an effort has been made to conclude the study of financial aspects of logistic industry according to the aims and objectives described in the chapter on research methodology.

In a ***general way***, units considered in the present research, representing movers and packers from three metro cities such as Mumbai, Bengaluru and Delhi, it has been observed that all these enterprises are medium sized and possesses less than 100 vehicles. These vehicles stood for their prime source of revenue generation which needs to be used optimistically to attain financial effectiveness. The enterprises in logistic industry employ only up to 15 drivers on permanent basis and hire remaining drivers on contractual basis.

On logical ground managing business activity of up to 100 vehicles with the help of 15 drivers looks challenges. But this is may be the strategy of these companies to reduce the burden of fixed operative cost borne by employing permanent employees as drivers.

Optimization of resources and challenges in utilization of resources may happen based on considering the facts of fragmentation and disconnect observed in the industry. It would may be concluded that logistic industry observed to be highly fragmented resulting in significant disconnect between the industry players along with overlapping of the resources. This fact may be attributed to the non-awareness of the logistic enterprises towards knowing association of movers and packers or not been interested in joining it. Another aspect of optimum utilization of the resources may be attributed to the lack of availability of skilled manpower for drivers, management, and administrative work as well as for loading and unloading tasks. This shortage of skilled manpower may be significantly impact on optimum utilization of the available resources with logistic industry players. On these grounds of non-utilization of available resources optimally, may be attributed to the fact of non-up gradation and not availing the advanced technology in the industry. This is because high cost of technology and non-suitability of the technologies to the small-scale businesses of logistic industry.

Financial aspects in the logistics industry can be concluded with the help of below mentioned discussions. On the cost side, breakdown of vehicles considered significant. The reasons for the breakdowns have been identified as, natural calamities, poor maintenance and economic attributes. These breakdowns imply failure in connectivity, need for additional resources, loss of customers and increase in fare.

In addition to these delayed deliveries also have consequences of keeping customers waiting which may result in customer attrition and could hamper revenue of the firm. In general way logistic industry observed to be slight financial effective and needs more strategic efforts to increase its financial effectiveness. This may result in saving of cost slightly than average cost due to increased optimum utilization of the resources. But, to obtain optimum utilization of resources need to be surpassed from competition, fragmentation of industry and unorganized nature of logistic industry as all these aspects have been identified as most peculiar areas concerned to this phenomenon.

Apart from these cost consequences of the logistic industry sharp focus should be given on revenue maximization efforts. It has been observed that logistic companies in Mumbai, Bengaluru and Delhi are not utilizing maximum capacity of the trucks. Thus, more strategic efforts need to put on utilizing maximum capacity to increase revenue with the help of constant cost.

Section-5.3: Suggestions

Based on the summary of findings and corresponding conclusions made in the earlier sections probable solutions have been offered in the present section.

- Policy makers in the association of movers and packers advised to raise awareness in the industry players regarding association and network available for smooth functioning. Further, these associations may provide online web portal-based platform to share quick updates regarding capacity of vehicles scheduled to fly on roads. This will enable maximum utilization of available cubic meter capacities and leads to reduction in overlapping of resources.
- Ground position system may be enabled to track the shipment of the freight and to address delayed deliveries. This may become part of the customer care facility to be provided by the industry. Unique online booking system may be made available to track bookings and to avoid overlapping of resources. This also will become part of the customer service platform.
- By avoiding fragmentation of the industry more efforts need to be made on efficient networking of the movers and packers. These networks may operate as pressure group and may raise policy to make rate agreements with petroleum associations and government to ensure stability of the fuel prices.
- Awareness also shall be needed on promoting insurance practices for the freight, vehicles and drivers as well.

Finally, it can be highlighted that the intention of the research specifically is directed to the objective of contributing to the understanding of financial aspects of movers and packers industries and to offer general probable solutions in the light of analysis made in the research work. This research has added to the current body of knowledge relating to the financial aspects of movers and packers industry in India and provided insights into the areas that warrant further exploration.

Annexure

A Study of Financial Apects of Cargo Pooling in Logistic industry for Movers and Packers in Metro Cities in India

Questionnaire

Section-I: Basic Information

Q1) Name of company

_____

Q2) Main city of Operation : Mumbai / Delhi / Bengaluru (Tick one)

Q3) Caters in the Metros : a) Mumbai b) Delhi c) Bengaluru d) _____

Q4) Total available vehicles

Sr. No.	Vehicle Capacities (Cub. Ft.)	Owned (in Numbers)	Hired on Rented (in Numbers)
1	Up to 900		
2	1000		
3	1200		
4	More than 1200		
5	……..		

Q5) Daily distances covered : On an average_____ in km.

Q6) Number of Drivers : a) Permanent_____ b) Contract_____

Q7) Break down of vehicles : On an average _____ (Nos.) per month

Q7.1) what are the probable reasons for breakdown of vehicles?

Sr. No.	Reasons	Yes / No	Frequency of occurrence (Tick)				
			None	Rare	Some time	Occasionally	Frequent
a)	Rash driving / accidents at our end						
b)	Accidents						
c)	Poor maintenance						
d)	Natural calamities						
e)	Economic reasons						
f)	Any other ...……..						

Q7.2) what are implications of breakdown of vehicles?

a) Lost of customers ( ) b) Needed more resources ( )

c) Need of additional expenses c) Failure in connectivity

d) Increase in fare e) Increased overhead cost on customer

Q8) Delayed deliveries : On an average _____ (Nos.) per month

Q8.1) what are the probable reasons for delayed deliveries?

Sr. No.	Reasons	Yes / No	Frequency of occurrence (Tick)				
			None	Rare	Some time	Occasionally	Frequent
a)	Traffic						
b)	Trucks not fully loaded						
c)	Accidents						
d)	Waiting for customers						
e)	Any other ..……..						

Section-II: Hypothesis

Q9) Do you feel that logistic industry is fragmented? Yes / No

Q9.1) If yes, then at what extent?

1	2	3	4	5
Not highly Fragmented	Not fragmented	No impact	Slightly Fragmented	Highly Fragmented

Q10) Do you feel that this fragmentation results in disconnect between smooth functioning of logistics from one metro to another? Yes / No

Q10.1) If yes, then at what extent?

1	2	3	4	5
Not highly Disconnected	Not Disconnected	No impact	Slightly Disconnected	Highly Disconnected

Q11) Do you feel that resources of the logistics companies are overlapping because of lack of network between companies? Yes / No

Q11.1) If yes, then at what extent?

1	2	3	4	5
Not highly overlapping	Not overlapping	No impact	Slightly overlapping	Highly overlapping

Q12) what level of financial effectiveness observed in this industry as per your opinion?

1	2	3	4	5
Not highly Effective	Not Effective	No impact	Slightly Effective	Highly Effective

Q13) as per your opinion, at what level cost will be reduced by using optimum resources?

1	2	3	4	5
Mostly Less than average cost	Slightly Less than average cost	No impact	Exactly same as average cost	More than average cost

Section-III: Objectives

Q14) as per your opinion what are peculiarities observed in utilization of available resources in logistic industry?

a) Fragmentation of industry
b) Unorganized nature
c) Competition
d) geographically diverse distribution
e) Inefficient infrastructure
f) inefficient technology

Section-IV) General

Q15) do you feel that fuel price is important factor in costing of logistic industry?

Yes / No

Q15.1) if yes, then what is per cent share of fuel price in total cost? _____

Q16) what are the proportionate share of the below factors in total cost of logistic?

Sr. No.	Factors of Cost	Per cent Share of total cost
1	Toll charges on roads	
2	Octroi Charges	
3	Insurance Charges	
4	Vehicle utilization (EMI + Maintenance)	
5	Fuel	
6	Driver	
7	Administrative expenses	
8	Loading / unloading	
9	Any other…….	
	TOTAL	**100%**

Q17) Do you feel importance of insurance for transport goods? Yes / No

Q18) do you know any association of cargo and movers? Yes / No

Q19) do you feel shortage of skilled manpower for management? Yes / No

Q20) do you feel shortage of skilled manpower for drivers? Yes / No

Q21) do you feel shortage of skilled manpower for administration? Yes / No

Q22) do you feel shortage of manpower for loading/unloading? Yes / No

Q23) what level of efficiency do you observe for your manpower? ……..in %

Q24) what are the ways to improve their efficiency?

a) …… b) …….
b) …… d) …….

Q25) what efforts you put to improve efficiency of your available resources?

a) …… b) …….
b) …… d) …….

Q26) do you feel that application of advance technology will improve efficiency of resources? Yes / No

Q27) are you using such kind of technology? Yes / No

Q28) if yes, then please name it. ……

Q29) if No, then please mention the reason?

a) Non availability of suitable technology b) high level of cost

c) Any other……..

Q30) do you have facility of customer care or customer handling mechanism?

Q31) what are the chances of violating traffic rules, such as, breaking signals, over speeding, over loading etc…. ……. in %

Section-D: Unit of analysis

Q32) please mention five routes / distances having frequent business?

Sr. No.	From (Source)	Destinations	Distance (in Km)	Frequency (Daily, weekly, etc.)
1				
2				
3				
4				
5				

Q33) please fill below table considering average details for present month

Sr. No.	Capacity of vehicles		Distances				
			Up to 100Km	100 Km to 250 Km	250 Km to 500 Km	500 Km to 750 Km	More than 750 Km
1	Up to 900	Price or Revenue					
		Capacity utilized					
2	1000	Price or Revenue					
		Capacity utilized					
3	1200	Price or Revenue					
		Capacity utilized					
4	More than 1200	Price					
		Capacity utilized					
5	……..	Price					
		Capacity utilized					

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