A

PROJECT REPORT

ON

INDIAN LOGISTICS INDUSTRY AND SUPPLY CHAIN MANAGEMENT

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CERTIFICATE

SCHOOL OF MARITIME MANAGEMENT

INDIAN MARITIME UNIVERSITY, KOCHI.

This is certifying that the report entitled "**A STUDY ON THE INDIAN LOGISTICS INDUSTRY AND SUPPLY CHAIN MANAGEMENT**" submitted to the school of maritime management, Indian maritime university, cochin campus, in partial fulfilment for the award of degree of master of business administration in port and shipping management is record of project work carried out entirely by MANDA ABHILASH, REG NO: -2105304004.

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DECLARATION

The project titled **"A STUDY ON THE INDIAN LOGISTICS INDUSTRY AND SUPPLY CHAIN MANAGEMENT**" has been carried out under the direction of Ms. Amritha C.S in partial fulfilment of the requirements for the degree of master of business administration in port and shipping management to be submitted to the school of maritime management, Indian maritime university, Kochi campus.

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PREFACE

The road transport mode serves as one of the key factors in the developmental process of any economy, the railways have played a dominant role in the overall transport system of many countries, the road transport mode has, over a period of time, come to occupy a pivotal role by virtue of certain inherent advantages. Over the past few decades, the share of road transport in the total surface traffic movement in India has been gradually increasing with a distinct shift away from the railways being observed. Most recent estimates give the road mode share of 63% in freight movement compared to its share of just about 10% in the early if ties. According to these estimates, this percentage share is likely to stabilize around 85%.

Same as the Rail and Air services are also increasing day by day. Airline transport in popular for its faster services and the rail is little slower than the Air but much faster than the Road lines.

Given this emerging significant role, many issues have been raised in the context of Rail, Air and Road freight movements, which apart from many others relate to efficiency of operations, the competitiveness of the market, etc. Given the huge number of suppliers and the apparent ease of entry into the sector, it was widely believed that the market was very nearly competitive. However, it has been an emerging feeling that the organization of the structure of the industry as well as some unimaginative policy measures and trade implementation of even the limited but fairly well designed regulatory measures have resulted in inefficient provision of services which when viewed in the context of liberalized and globalized framework of economic activities. Affects competitiveness, it is against this background that an attempt has been made, in this study, to examine and understand the nature of competitiveness in the Air, Rail and Road goods transport industry in India.

EXECUTIVE SUMMARY

India is one of the fastest growing economies of the world today. This growth is fueled by growth in infrastructure, booming manufacturing sector, EXIM trade, retail and agricultural related activities amongst others. This, in turn, has resulted in increased demand for world- class logistics and warehousing services in India, leading to the growth and transformation of this sector. The logistics sector has been growing at an impressive CAGR of 8%. The industry has been valued at USD 135 billion in 2010 and is expected to continue this growth for the next 3-5 years. With rising disposable income, changing lifestyle, focus of government and private sector logistics has received special attention in the past two to three years. Development of cold chain/ warehousing infrastructure, thus, remains at the core of the government's plan to enable growth of the logistics sector. Further, the government is strengthening the infrastructure with over US $ 70 billion of investment planned till 2012. Logistics will be the backbone of flourishing trade activity and infrastructure development, and will receive special attention by the government / private sector in coming years. The accelerated growth of the logistics industry, coupled with emerging trends of 3PL services, logistics parks, cold chain and warehousing activities, has made India a vast and untapped market.

For most domestic player's logistics has for long been restricted to the basic transportation of good. Warehousing has grown to some extent but other services are still increasing demand (from both MNCs and Indian companies) and growing requirements, the Indian logistics industry has expanded its bouquet of services to courier, cold chain, container freight, 3PL etc. with greater emphasis being laid on value-added services, such as packaging, labelling, bar coding and reverse logistics.

All these factors have led to the rapid growth of the organized warehousing industry in India. Growing at the rate of 30% annum, the 3PL industry is capturing the imagination of various logistics players, both domestic as well as international. Over the next 5 years, approximately 110 million logistics parks and 45 million sq. ft. of warehousing space is expected to be developed across the country by various logistics companies.

Despite the impressive growth rates, the logistics sector in India is fraught with much inefficiency. Logistics cost in India is fairly high – at around 13% of GDP, which is much higher than that in USA (9%), Europe (10%) and Japan (11%). These inefficiencies of the Indian logistics industry can be attributed to factors such as a complicated tax regime, fragmented market structure and inadequate infrastructure. It may be noted that although, lack of infrastructure acts as an inhibitor, but the dearth of adequate

infrastructure also presents unique opportunities to players who are ready for the situation and understand the market. Infrastructure developments like the railway dedicated freight corridors, road developments projects and modernization of over 37 operational airports will increase India's handling capacities logistical performances. This report identifies such elements which are growth engines of the Indian logistics sector and focuses on understanding opportunities related within these elements.

The report begins with understanding of the industry and identification of strategic elements to logistics which are then studied to find market structure, growth drivers, barriers to entry, rules / government policies applicable to the market, competition threat and opportunities. Financials are discussed with possible scenarios and their financial/technical analysis, wherever required.

The report identifies 10 such strategic growth areas of Indian logistics sector which includes:

1. Air cargo logistics
2. Cold chain / cold storage
3. ICD / CFS
4. Third party logistics
5. Road transport services
6. Sea Ports
7. Warehouse
8. Logistics parks
9. Relocation
10. Courier

The 10 strategic elements, mentioned above, are analyzed in detail of each sector collected through credible sources.

This report is one step ahead in understanding the strategic elements of Indian logistics sector as it develops into each strategic element and identifies opportunities, rather than skimming over the logistics scenario by reporting facts, figures and new developments. The report provides insights which can be used to understand the sector and directly assess investment opportunity in a particular sector. Today, the biggest challenge before logistics industry is to increase efficiencies and become more cost effective, thereby increasing India's overall cost arbitrage. The report also examines steps that can help India achieve that increased efficiency and ensure a more balanced and planned growth of the logistics sector.

TABLE OF CONTENT

CHAPTER – 1
INTRODUCTION

1.1 ORGANIZATION PROFILE

RC, a logistics company, is well-known for its expertise in the logistics sector and its expertise in the logistics sector and its experienced workforce. With a strong network coverage across India, RC can fully comprehend your logistics and provide the most suitable logistics model and solution. Their fleet of SLR (short luggage room), VP (various parcel room), Air carriers, and truck vehicles operate 24/7, 365 days a year, covering over 3,50,000 km and more than 150 locations through more than 50 routes. All RC vehicles are equipped with all-weather proof containers for safe transit. In addition, RC also offers air locations and operates on multi-modal basis for all other locations.

RC offers an integrated logistics management solution as part of our 3PL product to optimize your company's supply chain. Our approach starts with an analysis of the linkages between your suppliers, producers, buyers, intermediaries, and end-users to identify any time and cost inefficiencies. We then apply our local expertise, global best practices, and advanced technology to offer integrated supply chain solutions, including warehouse management, invoicing, and a range of third-party logistics services.

RC adheres to the philosophy of 'Custodians first, Carriers later' and prioritizes the safety and security of their customer's shipments. They offer an all-risk cover – carrier's risk – which protects customer's from losses during transit. For a minimal extra charge of risk charges, customers can have their valuable shipments covered against all types of transit losses, such a fire, flood, damage, accident, shortage and more. This unburdens customers from worries about potential losses and ensures the safety of their valuable goods.

RC utilize the latest material handling equipment at their hubs to ensure the safety of goods and eliminate any laxity in the handling process. This includes hydraulic hand pallet trucks, dock levelers, trolleys, and forklifts with multilevel pallet stackers. In addition, chain pulleys and cranes are utilized for handling consignments that cannot be managed by smaller equipment. It's worth nothing that all RC hubs are located at platform level height, which is essential for effective and efficient material handling.

Any logistics professional would understand and appreciate the importance of platform level warehouse for the handling of goods back in 1999. RC started its business as door-to-door service with a modest setup consisting of 4 routes 1 Office 4 containers, 3 mounted vehicles, and 6 employees. In 2002, after two years of operation, RC expanded by opening hubs in Delhi and Ahmadabad. The following year, RC introduced its integrated logistics services and gained its first ILS client, Plodder Pigment Ltd.

In 2003, RC set a new standard in value-added cargo services with the launch of RC Air and RC Box. Furthermore, all hubs were interconnected through web-based software. Despite the tremendous growth of over 300% in just 4 years RC remained committed to maintaining its quality.

1.1.1 BACKGROUND

In 1999, RC commenced its operations with a modest setup of 4 routes, 1 office 4 containers, 3 mounted vehicles, and 6 employees. In 2002, RC expanded its reach by opening hubs in Delhi and Ahmadabad. The following year, IN 2003, RC introduced its door-to-door services. By 2005, RC had started leasing various parcel room in trains. In 2008, RC launched their air services, catering to the major sectors in India. In 2010, RC won the tender of Moser bear ltd. For air cargo transportation services.

1.1.2 PURPOSE

We aim to cultivate a work culture that embodies a we can, we will attitude, which reflects in our daily responsibilities and enables us to surpass our objectives. Our ultimate goal is to achieve market dominance by consistently striving for excellence. We aspire to create historical landmarks, building a strong foundation for the future by proactively overcoming obstacles as our personal responsibility and commitment. Our focus is on creating delight for our customers by providing impeccable, personalized services that exceed their expectations.

1.1.3 PERSPECTIVE

The goal of the organization is to be a conscious learning organization, maintaining flexibility for change to provide the most customized solutions to its customers. The company strives towards achieving global market share while also maintaining its dominance in the domestic market through good human resource practices and excellent customer service. By continuously learning and adapting, the organization aims to remain competitive in the industry and meet the evolving needs of its customers while delivering high quality solutions and services.

1.1.4 CAPABILITY

Achieving quality service requires continuous customer interaction and feedback. By promptly responding to changing environments with well-defined business processes that are managed effectively and efficiently, a company can achieve the highest output from the lowest input, which is the strongest indicator of quality. The most effective certification of a quality organization is the scale of the smile on the customer’s faces, reflecting their satisfaction with the service provided.

1.1.5 POTENCY

RC operates in over 125 destinations across 28 states and 7 union territories in India. They have a warehousing space that exceeds 15,00 sq. ft. As well as over 20 all-weather-proof vehicles. With more than 100 routes linked through 4 hubs, RC delivers over 500 tons of load each month. They operate 24 hours a day, 365 days a year, ensuring prompt and reliable service to their customers.

1.2 LINE OF WORK

The current Indian economic scenario is marked by a chaotic market with intense competition, excess inventory, shrinking margins, and frequent changes in taxation policies. In such a challenging environment, it is essential to find a way to achieve higher profits. One effective approach is to streamline the channels and outsource non-core business segments that are not the company's core focus or expertise. By doing so businesses can improve efficiency, reduce costs, and enhance their competitiveness, leading to higher profits and sustainable growth. Supply chain management is a crucial component of any business model as it serves as a bridge between products and their target markets. An efficient and robust supply chain model can significantly improve the turnaround time, lower inventory holding costs, and minimize the risk of damages during transit. The discipline of business logistics has evolved over time, extending beyond the warehouse and transportation dock to the boardroom of leading global enterprises. Today, supply chain management is viewed not just as a material and information pipeline but as an integration of logistics with human factors. As such, it is imperative to pay greater attention to understanding, creating, and managing demand effectively for a successful supply chain management strategy.

RC operates on the value chain concept, utilizing a framework that examines the connections between suppliers, producers, buyers, intermediaries, and end-users. As a logistics company, RC offers various services, including integrated logistics management, Air, Multi-modal, Door-to-Door, time-definite delivery, and consultancy services. Additionally, the company provides e-business, trading their offerings to meet the unique needs of each customer.

1.3 RC SOLUTIONS

1.3.1 EXPRESS

RC offers an express service for the movement of cargo, using all-weather proof sealed containers on feeder and express routes. This service is time-definite, with a published transit schedule that covers over 125 destinations

throughout India. RC's service provides flexibility for surface, air and multi-modal connectivity, with a wide reach through Indian airlines and air taxi operators such as jet airways and Sahara. This ensures that cargo is transported efficiently and reliably, and reaches its destinations on time.

1.3.2 PAYMENT UPON RECEIPT

RC offers an unmatched value-added service called payment upon receipt, which allows sellers to dispatch goods through RC to buyers with the assurance that delivery will only take place once the draft has been collected. In the RC PUR systems, pre-alerts are sent to the consignee, providing them with ample time to make the necessary arrangements for collecting draft. This ensures that the shipments are delivered on time, meeting the desired objective of express transit with the payment ready for collection.

1.3.3 COMPREHENSIVE COVERAGE

The management of RC hereby undertakes and declares that:

If any consignment under the custody of RC experiences shortage or damage, the company will compensate for the loss incurred, provided that the risk charge has been paid by either the sender or the recipient in accordance with the company policy. The declared amount of the loss will be promptly paid by the company to the ender or recipient without the need for any request or claim.

1.3.4 SECURITY BOX

The security box is available in two sizes- 17" * 17" *12" and 16" *12" *9"- making it convenient to accommodate up to 29 and 10 Kgs of cargo, respectively. The box features a robust design, reinforced with internal insulation for added safety of the cargo. By using the safe box, customers can save on packaging costs, and for a nominal amount, it is ready for delivery with auto insurance up to RS. 5000 offered free of cost, providing added peace of mind during transit.

1.3.5 RC AIR

RC Air provides a faster mode of transport to ensure time-sensitive cargo reaches its destination on time, meeting all delivery requirements. They utilize airlines and altos to connect your cargo and take advantage of morning and evening flights to provide a wide range of connectivity options that suit different market cut-offs. This guarantees that your cargo is transported quickly and efficiently, arriving at its destination within the specified time frame.

1.3.6 ILM

RC operates on the value chain concept, which involves examining the connections between suppliers, producers, buyers, intermediaries, and end-users. By focusing on the success of the entire chain, RC combines local expertise with the best global practices, technology, and perspective. This ensures that every aspect of the chain is optimized for efficiency and effectiveness, resulting in a streamlined and successful logistics operations.

1.3.7 COUNSELING

RC provides value-added services that go beyond physical operations through their logistics consultancy, which covers a wide range of the Indian economy. The company is a key player in guiding diverse market segments on existing and recommended logistics models, utilizing various simulation modules to map transactions using historical data and providing suitable supply chain solutions. These consultancy services are designed to enhance the overall efficiency and effectiveness of logistics operations, providing clients with the tools and resources they need to optimize their supply chain management and ultimately improve their bottom line.

HOW EFFICIENCY IT WORKS

On Saturday, July 14, 2021 at 18:00 hours, cargo was booked from Vadodara to Guwahati, which will travel a distance of 2280 Km/1425 miles. Check posts will be passed through during the journey. To ensure smooth transit, customers are required to provide two copies of the consignor's invoice with ST and GST numbers, printed permits/forms such as VAT FORM-505/VAT FORM-515, an octroy applicability certificates, (depending on the nature of the transactions). By air mode, the cargo is expected to be delivered on Sunday, July 15, 2021, at 15:00 hours, and by rail mode on Tuesday, July 17, 2021, at 11:00 hours.

1.4 FUTURE ENLARGEMENT

Logistics service provider RC has announced plans to invest between RS 3-4 crore in the next five years to expand its operations, driven by the growth of rail activities in the country. The expansion is expected to increase the company's turnover to RS 25 crore by 2014. The company intends to fund its expansion through internal accruals and debt, as it claims to have a strong bottom line and cash reserve. With growth rate of 50% and a turnover of RS 7 crore in 2011-12, the company expects similar growth this year. RC plans to establish logistics parks comprising warehouse, vendor management services, raw material management, and finished product storage at three locations across the country, with each park covering an area of 5000 sq. ft. A group real estate company specializing in real estate

has already completed 50% of the land acquisition for these parks. In addition, the company plans to strengthen its presence in the air cargo segment by leasing private space in civil aircraft to cover five cities in the country by the next financial year. RC has also placed an order for five trucks to add to its current fleet of 20 vehicles, which the company hires through its network of 59 vendors.

1.5 BUSINESS VOLUME

The CEO announced in a meeting with employees that the company aims to double its turnover to Rupees 14 crore by 2012-13. Currently, the privately-held company has been experiencing a growth rate of 50% and has posted a turnover of Rupees 7 crore in 2011-12. It is expected to maintain similar growth this year as well. Over the next three year RC plans to expand its existing 3000 sq. ft. space with an additional 7000 sq. ft. It will establish logistics parks, warehouses, vendor managements, finished product storage, and distribution centers. The company plans to open these parks in 38 different locations throughout the country.

1.6 ORGANIZATIONAL VICTORY

In 2008, RC was awarded the Vadodara transportation association business excellence award. Then on September 13, 2011, Mr. Ashwini Kumar, the owner RC, was honored with the 3rd large business provider award by Sr. DCM Mr. D K CHACHONDIA of western railway in Ahmadabad.

CHAPTER-2

INDIAN LOGISTICS INDUSTRY

2.1 LOGISTICS INTRODUCTION

Logistics management is a critical aspect of the supply chain that involves planning, implementing, and controlling the efficient and effective flow of goods, services, and information from the point of origin to the point of consumption. Its primary goal is to meet customer's requirements and satisfaction. A professional who specializes in logistics management is referred to as a logistician.

The concept of logistics as a business practice emerged in the 1950s due to the increasing complexity of global supply chains. This called for experts in the field, now known as supply chain logisticians, to manage the flow of materials and products. Supply chain logistics aims to ensure that the right locations, for the right target customers. It is a complex science that spans across all sectors of industry.

The objective of logistics work is to effectively manage the project life efficiencies. Logistics aims to ensure products and services are delivered to their intended destinations at the right time. It is a crucial component in the success of any marketing or manufacturing effort. Logistics involves the seamless integration of information, transportation, inventory, warehousing, material handling, and packaging. The primary responsibility of logistics is to relocate raw materials, work in progress, finished inventories to where they are needed at the lowest possible cost.

2.2 HISTORY AND MEANING OF LOGISTICS

The term 'logistics' has its roots in ancient Greek, derived from the word ('logos'), which means ratio, word, calculation, reason, speech, oration. The concept of logistics can be traced back to the military's requirement to transport arms, ammunition, and rations from their base to a forward position in the ancient Greek, Roman, and Byzantine empires, there were officers known as 'logistics' who were responsible for financial management and distribution of supplies to the military.

According to the Oxford English Dictionary, logistics is defined as the branch of military science that involves procuring, maintaining, and transporting material, personnel, and facilities. The American council of logistics management, on the other hand, defines logistics as the process of planning, implementing, and controlling the efficient and effective flow and storage of goods, services, and related information from the point of origin to the point of consumption, with the ultimate goal of meeting customer requirements.

2.3 STREAMLINING OF THE SUPPLY CHAIN

The primary goal of logistics management is to move the supply chain in an effective and efficient manner to provide customers with the desired level of service at the lowest possible cost. This process begins with identifying the customer's needs and continues until their requirements are met through the supply of products. However, a proper logistics system must also achieve specific objectives, which include the following:

2.3.1 ENHANCING CUSTOMER SERVICE

The primary goal of marketing efforts, including physical distribution activities, is to enhance customer service. Efficient management of physical distribution can play a vital role in elevating the level of customer service by implementing effective systems foe warehousing, ensuring quick and cost-effective transportations and maintaining an optimal level of inventory.

2.3.2 SWIFT RESPONSE

The concept of swift response focuses on a company's ability to fulfill customer service demands quickly and efficiently. With the advent of information technology, businesses can now delay logistical operations until the latest possible time, and still achieve swift delivery of the required inventory to customers.

2.3.3 MINIMIZE END-TO-END SUPPLY CHAIN COSTS

Physical distribution costs comprise several components, including transportation, warehousing, and inventory maintenance. It's important to note that a decrease in the cost of one component may result in an increase in the cost of another component. Therefore, firms should aim to minimize the overall costs of distribution, rather than focusing solely on reducing costs in a single element. This approach ensures that the cost of all components is optimized, resulting in efficient and effective physical distribution.

2.3.4 DRIVING SALES GROWTH

Offering superior services at lower prices is an effective way for a company to attract new customers. By decentralizing its warehousing operations or utilizing efficient and cost effective transportation methods, a company can increase its market share. Additionally, preventing situations where products are out of stock can help retain loyal customers and prevent loss of business.

2.3.5 DEVELOPING TEMPORAL AND SPATIAL INFRASTRUCTURE

This article explains that products are moved from their place of origin to the location where they are needed for consumption, and that the purpose of the products is solely for consumption. Therefore, the products must be available at the time they are needed by the customers. In other words, the logistics and distribution of the products are crucial to ensure that the products are available for consumption at the right time and in the right place.

2.3.6 PRICE REGULATION

The regulation of product flow to the market can be achieved by utilizing available transport facilities and compatible warehouse operations. By stocking raw materials during periods of excess supply and making them available during periods of short supply, price can be stabilized.

2.3.7 QUALITY ENHANCEMENT

The ultimate goal of the logistics system is to constantly strive for quality improvement. Total Quality Management (TQM) has become a significant priority across all industries. Any defect in a product or failure to meet service promises can greatly diminish the value provided by logistics. Once logistical costs are incurred, they cannot be undone. Therefore, it is crucial for logistics to prioritize quality and work towards continuous improvement in order to maximize value for customers.

2.3.8 SYNTHESIS OF MOVEMENTS

Transportation is one of the most significant costs in logistics and is directly related to the product type, shipment size, and distance. Many logistical systems that offer premium services rely on high-speed, small shipment transportation, which is often expensive. To reduce transportation costs, movement consolidation is desirable. By consolidating shipments. It is possible to reduce the number of trips and vehicles needed for transportation, resulting in cost savings. This approach helps to optimize the transportation process and reduce costs, ultimately to a more efficient and profitable logistics systems.

2.4 PROCUREMENT MANAGEMENT

Logistics refers to the movement of goods throughout a company's supply chain. This process involves various functions that must be efficiently managed to ensure effectiveness and efficiency in the organization's supply chain. The below illustrates the major logistical functions.

2.4.1 FULFILMENT

The first step in physical distribution activities is the processing of customer's orders. To provide fast customer services, it is essential to process the orders received from customers as quickly as possible. The order processing procedure includes receiving, recording, filling, and assembling orders for transportation. Both the company and the customers benefit greatly when these steps are carried out accurately and in a timely manner, as any errors committed at this stage can be very costly.

The order processing activity includes the following steps:

I. Checking for any deviations in the agreed or negotiated terms, including price, payment, and delivery terms.
II. Checking the availability of material stocks.
III. Scheduling production and material storage.
IV. Acknowledging the order and indicating any deviations that may exist.

2.4.2 PRESERVATION

Warehousing involves the storage and organization of products to create time utility. Its main purpose is to arrange the placement of goods, provide storage facilities, consolidate products with similar items, divide them into smaller quantities, and build assortments of products. A firm with a greater number of warehouse can serve customers at different locations more quickly, but this increase the cost of warehousing. Therefore, firms must strike a balance between the cost of warehousing and the level of customer service.

- Several key decisions are involved in warehousing, including:
- Determining the location of warehousing facilities.
- Deciding on the number of warehouses.
- Choosing the appropriate size for each warehouse.
- Designing the buildings themselves.
- Deciding on ownership of the warehouse.

2.4.3 INVENTORY FORECASTING

The success of physical distribution is closely tied to inventory decisions, which can account for as much as 30-40 % of inventory costs in industries such as steel and automobiles. As a result, the concept of Just-in-time inventory decision-making is becoming increasingly popular among companies. Estimating demand for a product is crucial in determining the appropriate inventory level and controlling inventory costs. Accurate demand estimates not only help reduce inventory costs and ensure timely supply to customers, but also maintain consistent production levels. The

level of inventory is determined by various factors, including the firm's policy on customer service levels, the accuracy of sales forecasts, and the responsiveness of the distribution system to transmit inventory needs to the factory and get products to the market. Inventory costs include holding costs, such as warehousing expenses, tied-up capital, and obsolescence, as well as replenishment costs, including manufacturing costs.

2.4.4 TRANSPORTATION

The goal of transportation is to efficiently and effectively move goods from points of productions and sale to points of consumption at the required quantities and times, and at a reasonable cost. To accomplish these objectives, transportation facilities must be sufficient, consistent, reliable, and equitable in terms of costs and benefits provided by the facilities and services. By meeting these standards, transportation contributes to the economic value of the goods being transported and ensures that they reach their intended destinations on time and in good conditions.

2.4.5 INFORMATION

Physical distribution managers require accurate and up-to-date information about inventory, transportation, and warehousing to effectively manage their operations. For example, regarding inventory, they need information about current stock levels at each location, future commitments, and replenishment capabilities. Similarly, when choosing a carrier, they need information about the availability of various modes of transport, their costs, services, and suitability for particular products. Regarding warehousing, they need information about space utilization, work schedules, unit load performance, and more.

An efficient management information system can provide all of the necessary information to control costs, improve services, and determine the overall effectiveness of distribution operation. While it is difficult to accurately assess the cost of physical distribution, having correct information available can enable systematic analysis and significant cost savings. With the right information and tools, physical distribution managers can make informed decisions and optimize their operations for maximum efficiency and effectiveness.

2.4.6 INFRASTRUCTURE

The facilities logistics element encompasses a range of planning activities aimed at ensuring that all necessary permanent or semi-permanent facilities for operations and support (such as training, field and depot maintenance, storage, operational testing) are available in conjunction with system fielding. Comprehensive planning is necessary, including the need

for new construction and modifications to existing facilities. Facility construction take between 5 to 7 years from concept formulation to user occupancy. Studies are conducted to assess the impacts on life cycle cost, funding requirements facility locations and improvements, space requirements, environmental impacts, duration or frequency of use, safety and health standards requirements, and security restrictions. This element also covers utility requirements for both fixed and mobile facilities, with a focus on minimizing the demand for scarce or unique resources.

2.5 PROSPECTS OF GROWTH IN THE INDUSTRY

In years gone by, the traditional warehousing and logistics facility was located by railroad tracks a water part or freeways, usually in the least desirable parts of cities or large town.

This stereotype than faded as gigantic state of the art facilities began to sprout in more rural areas on the outskirts of transportation and population hubs. The world started beginning to see such facilities showing up in even less traditional areas. Modern warehouse now is being located in carefully manicured industrial parks that are sprouting open space-often in out of the way places. Why the emphasis on such locations for logistics companies?

Much of it is due to the great that the logistics industry has been undergoing in the first three years of the 21st century. Most of these changes are being driven by a growing trend in the manufacturing and retail sectors to from partnerships with companies to which they can outsource non-care logistics competencies-3PL providers.

In turn, 3PL providers are continually looking to provide innovative supply chain solutions to customers by focusing on value-added capabilities, differentiating themselves from the competition. They focus key objectives, such as implementing information technologies, instituting effective management process, integrating services and technologies globally and delivering comprehensive solutions that create value for 3PL users and their supply chains. This need to partner with customers and become more integrated into their supply chain processes has created the ancillary need to locate close to these customers.

That isn't to say the need for easy access to transportation hubs and different modes of transportations won't continue to be important. But the above shift in business strategy, along with the advances in technology and enhanced communication, has opened the door for logistics facilities to operate effortlessly in a myriad of locations.

Profit warnings, share price pressures, mergers, reorganization, relocations, disposals, painful layoffs and great geopolitical uncertainties

can sweep away even the most Comprehensive logistics strategies and that despite outstanding management over many years.

These are exceptionally difficult times and it has never been more important to connect logistics and freight planning to executive board thinking than now. It's easy to lose sight of the bigger picture in the rush to cut infrastructure cost and conserve cash. Hope fully organization succeed in protecting the business, satisfying shareholders and analysts, but what about capacity and flexibility, morale and momentum?

To be a logistics winner in the coming years organizations need to use the downturn to reshape for growth, propelled by an unshakeable conviction that the mission is still important, that more prosperous times lie ahead, and that in some way the company infrastructure is helping to build a better kind of world.

Own passion or running the race matters most of all in a downturn, when people are insecure, see only savage cost savings, and loyalty is tested. The corporation's futures will be dominated by six factors or faces of a cube, spelling future.

Logistics is inevitable in the future and essentially the management policy also has a significant role in the future of world. Generally, the study is being featured with all aspects of management in logistics and freight areas (logistics include transportation, warehousing, networking design, cross docking, and adding).

2.6 OVERVIEW OF KEY PLAYERS

2.6.1 GATEWAY DISTRIAPARKS LTD.

GDL is a company that focuses on owning, developing, and managing container freight stations (CFS) and inland container depots (ICD). They have CFS locations at navy Mumbai, Chennai, and Vishakhapatnam, as well as an inland container depot at Geri Hoarser. Furthermore, GDL is in the process of expanding capacity at its existing CFS locations and establishing a new CFS at cochin. As a publicly-traded company, GDL's share are listed on both the national stock exchange and the Bombay stock exchange.

FINANCIAL BENCHMARKS

In the fiscal year 2020-2021, RC experienced a significant 19% growth in income from operations and other sources, total Rupees- 2,092.86 million compared to Rupees. 1,758.47 million in 2007-2008. Despite maintaining a throughput of 247,618 TEUs in 2008-09(compared to 252,728 TEUs in 2020-21), the company was able to increase its profit before tax from rupees 867.65 million in 2007-08 to rupees. 1,073.24million in 2008-09. Even after providing for interest expenses of rupees. 7.03 million

(compared to rupees 0.62 million in 2020-21) and depreciation of rupees. 149.53 million (compared to rupees. 133.47 million in 2020-21).

2.6.2 ALL CARGO GLOBAL LOGISTICS LTD.

AGL provides a range of services, including container freight station/inland container depot (CFS/ICD), Multi-modal transport operations (MTO), equipment hiring, and oil rig and supply vessel management services. The company currently operates three CFSs located at Jawaharlal Nehru Port Trust (JNPT), Chennai, and mudra ports, as well as an ICD at Pathmark near Indore. With a wide spread network covering over 5,000 destinations both nationally and internationally, AGL has formed a joint venture with container corporation of India to establish an ICD at Dardic, with AGL holding a 51% share. Moreover, AGL has partnered with Ms. Hind Terminals Pvt. Ltd. To set up commission, operate, manage, and commercially run CFS/ICDs at Indore, Hyderabad, Nagpur, Bengaluru, and other mutually agreed-upon locations, as per their long-term agreement signed in February 2009.

FINANCIAL BENCHMARKS

During the latest financial year, the company achieved a turnover of rupees. 5,167.56 million and earned a net profit of rupees. 987.05 million, indicating a 5.54% growth compared to the previous year's turnover of rupees. 3,167.91 million and net profit of rupees. 926.73 million. Additionally, the EBITDA for the current financial year is rupees. 1,588.45 million, showing a growth of 12.86% when compared to the EBITDA of rupees. 1,407.46 million in the preceding financial year.

2.6.3 GATI LTD.

GATI is atop provider of express distribution and supply chain solutions in India specializing in multi-modal transport services by air, road, ocean, and rail. With a strong presence in the Asia pacific region and SAARC countries, GATI has an extensive network that covers 603 out of 611 districts in India and operates a fleet of over 4,000 vehicles on the road. As a listed company on both the national stock exchange and the Bombay stock exchange, GATI was recognized as a consumer super brand in 2009-10. The company's road transport business offers bulk and container services, including features such as online cargo tracking, door-to-door pickup and delivery and documentation. GATI CTC recently introduced its sixth vessels the MV-GATI pride, which is a custom-built vessel with a capacity of 7000DWT and 441 TEU. In 2009, GATI acquired the remaining 26.01% stake in KAUSAR India, increasing its total stake to 99.73%.

FINANCIAL BEMCHMARKS

In the fiscal year 2020-21, the operating income of the company saw a growth of 12 %, rising from rupees 5.5 billion in 2007-08 to rupees 6.8 billion in 2008-09. However, during the same period, the company experienced a net loss of rupees 150.6 million due to losses incurred in the freighter business and derivative transactions. The net loss was further compounded by an increase in interest costs and depreciation, which were of the result of the high capital expenditure incurred by the company.

2.6.4 BLUE DART EXPRESS LTD.

Blue dart express limited, the leading courier and integrated air express package distribution company in south Asia, was acquired by DHL Express (Singapore) acquisition, blue dart operates independently and provides a complete range of domestic network, blue dart covers over 25,416 locations and serves over 220 countries and territories worldwide through a sales alliance with DHL. The premier global brand in express distribution services. Headquartered in Mumbai, blue dart has a workforce of over 6,947 people and a fleet of 5,408 vehicles, in addition to air support from 3 Boeing 737 and 4 Boeing 757 freighters.

FINANCIAL BENCHMARKS

In the fiscal year 2019-20, the company generated an income from operations of rupees. 979.42 crore, which decreased to rupees. 907.40 crore in the following year of 2020-21. Despite this, the net worth of the company increased from rupees. 391.87 crore in 2019-20 to rupees. 449.81 crore in 2020-21.

CHAPTER – 3

SUPPLY CHAIN MANAGEMENT

3.1 MEANING

Since the early 1990s, the business scenario has undergone a paradigm shift, primarily due to the liberalization policies of various economies worldwide and revolutionary advancements in the field of science and technology.

The advent of information technology and communication infrastructure has resulted in a significant increase in the level of competition across various industries. To survive in such a highly volatile business environment, firms must possess robust competency and productivity. Therefore, firms are now adopting more systemized activities related to the movement and storage of goods, allowing them to make products available with shorter notice and lower inventory levels. For example, Godrej locks, a division of Godrej & Boyce company, has reduced its order-to-delivery cycles from three weeks to only three days. Similarly, computer GAINT Hewlett PCKARD has reduced its delivery time to customers in India from 37 days to 10 days, resulting in a one-third reduction in delivery duration. Such progress is due to the implementation of more advanced and systematic supply chain management techniques. As a result, more and more Indian companies are jumping onto the supply chain management bandwagon to gain a competitive edge.

Supply chain management is a comprehensive business system that encompasses enterprise strategies, business process, and information technologies to enhance the planning, execution, and collaboration of material flows, financial flows, and workforce flows throughout the supply chain. This system is bolstered by modular software applications that seamlessly integrate and optimize all aspects of supply chain management, resulting in improved efficiency and productivity.

This article describes the activities that take place across various organizations, starting from demand forecasting product planning parts purchasing inventory control manufacturing product assembly and finally to product distribution.

3.2 DEFINITION OF SUPPLY CHAIN MANAGEMENT

Efficiently planning, implementing, and controlling the operations of the supply chain management. This involves managing the movements and storage raw materials, work-in-process inventory, and finished goods from the point-of-origin to the point-of-consumption. The American professional association defines supply chain management, conversion, and logistics management, including coordination and collaboration with channel partners such as suppliers, intermediaries, third-party service providers, and customers. In summary, supply chain management involves

integrating supply and demand management across and within companies to ensures a smooth flow of goods and service.

3.3 SUPPLY CHAIN MANAGEMENT BY ROBERT B. HANDFIELD.

3.3.1 CONSUMERS

The existence of any business revolves around its consumers. Consumers interact with retailer, supermarkets, websites, or telemarketing firms, which serve as an interface between the consumers and the business. Retailers strive to fulfill the consumer's demands either by maintaining an inventory or by placing fresh orders with the preceding link in the supply chain. In some cases, consumers bypass the traditional supply chain and interact directly with manufactures. For example, when purchasing a computer online from HP computers, consumers can place an order directly with the manufacturer, HP.

3.3.3 MANUFACTURERS

Manufacturers typically receive orders from retailers or distributors after assessing the demand for their products. Based on this demand, manufacturers determine their production targets and schedules. Manufacturers may adopt either a push-based strategy or pull-based strategy. In a push-based strategy, production decisions are based on long-term forecasts, which can make it challenging for manufacturers to make adjustments to their productions schedules.

In contrast, a pull-based strategy is driven by customer demand rather than forecasts. This approach provides greater flexibility in production and scheduling. Technologies such as Point-of-sales (POS) data and information flow are critical in enabling this strategy.

3.3.4 SUPPLIERS

Manufacturers collaborate with suppliers to ensure they have all the necessary materials for their manufacturing processes. The orders for raw materials placed with suppliers are more accurate as they are based on the production schedule. However, it's important to ensure that the production schedule accurately reflects the demand. To reduce high inventories, Manufacturing work closely with suppliers. One technique used to achieve this objective is the Just-In-Time method, which allows manufactures to receive materials only when they are needed for production.

3.4 DEMAND PLANNING AND FORECASTING

Our Global Supply Chain Management Practice Centers Around Four Primary Solution Areas:

3.4.1 DYNAMIC IMPLEMENTATION

Our goal is to transform your supply chain into a high speed, low cost, and rapid-response engine that enhances visibility and responsiveness from procurement to fulfillment and replenishment.

3.4.2 MATERIALS MANAGEMENT

Our collaborative business processes and advanced technologies enhancing sourcing, procurement, contracting, purchasing, invoicing, and analysis. By leveraging our innovative tools and methods, we streamline these key areas of business and create a more efficient and effective process. Our goal is to optimize every stage of the supply chain, from initial sourcing to final analysis, to deliver the best possible results for our customers.

3.4.3 CUSTOMER-CENTRIC SYNCHRONIZATION

Integrating supply chain management with marketing, sales, and customer management can result in increased sales, improved availability, and reduced costs. By aligning these keys business functions, rush shipments and back-orders can be eliminated, leading to an overall improvement in customer satisfaction. This integration can streamline the supply chain process and optimize inventory management, ultimately resulting in higher profits and improved performance.

3.4.4 ENSURING SUPPLY CHAIN SECURITY

Ensure compliance with security requirements and expedite container inspections by utilizing solutions that provide tracking, analysis, alert capabilities, as well as process and policy documentation. These solutions enable you to streamline the container inspection process while still maintaining security standards. With features such as tracking and analysis, you can easily monitor container movements and identify potential security risks. Alert capabilities notify you of any issues in real-time, allowing you to take swift action. Process and policy documentation ensure that all procedures are clearly defined and adhered to minimizing errors and maximizing efficiency.

3.5 INVENTORY MANAGEMENT SYSTEM

Supply chain management is a complex system that encompasses social and soft elements, including goals, components, processes, and boundaries. It involves managing the flow of goods, services, information, and finances from the source to the final destination. Effective supply chain management requires careful coordination and collaboration among various stakeholders, including suppliers, manufacturers, distributors, retailers, and customers. By understanding the goals components processes and boundaries of the supply chain, organizations can improve efficiency reduce costs, and enhance customer satisfaction.

3.5.1AMBITIONS OF SUPPLY CHAIN MANAGEMENT

- To reduce inventory cost.
- To increase sales.
- To improve the coordination and the collaboration with suppliers, manufacturing and distributor.

3.5.2 THE PROCESS OF ACQUIRING GOODS AND SERVICES FROM SUPPLIERS

The fundamental components of a supply chain system are following:

Supply chain software and hardware: This includes the technological infrastructure and tools necessary to manage and optimize the various processes and operations within a supply chain system. This can include things like inventory management software, transportation management systems, and warehouse management systems.

Supply chain business processes and users of supply chain management systems. This includes the various business processes and practices involved in managing a supply chain, as well as the people who are responsible for executing those processes, it is essential to have skilled and knowledgeable personnel who can effectively use the technology and tools provided by the supply chain software and hardware to optimize supply chain operations and maximize efficiency.

INVENTORY MANAGEMENT SOFTWARE AND HARDWARE

The key component of a supply chain management systems is the supply chain management software, which is an application based on modular design. Each software module is designed to automate business activities related to a specific functional area in the supply chain. This software plays a crucial role in managing and optimizing the various aspects of the supply chain, enabling businesses to streamline their operations, reduce costs, and

enhance efficiency. The use of supply chain management software has become increasingly common across various industries and is a vital tool for companies seeking to gain a competitive edge in the market.

UNIX

The supply chain management software is most commonly run on the UNIX operating system.

WORKFLOW MANAGEMENT

The supply chain business processes consist of supply chain planning, execution, collaboration, and operational control.

USERS

Supply chain management systems are utilized by workers of supply chain participants at all levels. This includes individuals involved in the production, transporting, warehousing, distribution, and sale of goods, as well as those involved in procurement and sourcing of raw materials. The user base of supply chain management systems spans across all levels of the supply chain and plays a crucial role in ensuring the efficiency and effectiveness of the overall supply chain operation.

3.6 PROCESS OF SUPPLY CHAIN MANAGEMENT

3.6.1 DEMAND MANAGEMENT

Accurate demand forecasting is a critical success factor for effective supply chain management. To achieve this, supply chain software utilize advanced mathematical models that analyze historical data to predict future demand. These models help companies make informed decisions about inventory management, production planning, and logistics, which in turn can lead to improved operational efficiency and cost savings. By leveraging technology and data analysis, supply chain managers can give valuable insights into market trends and customer behavior, ultimately enabling them to optimize their supply chain processes and deliver better results for their organization.

3.6.2 PURCHASING

This refers to the procurement process, which entails selecting suppliers who can provide the necessary goods and services for manufacturing, assembly, or service creation. This process typically involves negotiating prices with suppliers, receiving the shipments, and verifying that goods or services meet the required standards.

3.6.3 MANUFACTURING AND ASSEMBLY

The process of assembling raw components results in the creation of final products, while the process of manufacturing raw materials leads to the production of finished goods.

3.6.4 DISTRIBUTION

Distribution refers to the process of delivering your products or services to consumers, which includes warehousing, delivery, invoicing, and payment collection.

3.6.5 RETURN

Return and refunds are crucial aspects of supply chain management, yet they can also pose significant challenges.

3.6.6 BOUNDARY OF THE SUPPLY CHAIN MANAGEMENT SYSTEMS

A Supply chain management system extends beyond the boundaries of a single company and encompasses the extended enterprise, including suppliers, partners, distributors, and customers. They system involves managing the flow of goods, services, and information from the point of origin to the point of consumption, with the goal of creating value for all stakeholders involved in supply chain. By including all members of the extended enterprise, supply chain management can ensure that all parties are working together efficiently and effectively to optimize the flow of goods and services, ultimately benefiting all parties involved.

CHAPTER- 4
WAREHOUSING

A warehouse is a commercial facility designed for the storage of goods, commonly utilized by manufacturers, importers, exporters, wholesalers, transport businesses, and customs. These facilities are typically large, plain buildings located in industrial areas of cities and towns. Warehouse are equipped with loading docks to facilitate the loading and unloading of trucks, or in some cases, they are directly loaded from railways, airports, or seaports. To aid in the movement of goods, warehouses are often equipped with cranes and forklifts. Goods are typically placed on ISO standard pallets and loaded into pallet racks for safe and efficient storage.

Several warehouses have now become fully automated with no human workers operating within them. Instead, a system of automated conveyors, storage and retrieval machines, and logistics automation software, all coordinated by programmable logic controllers and computers, move the pallets and products. These systems are commonly installed in refrigerated warehouses where the temperature is kept very cold to prevent spoilage, and in areas where land is costly. Automated storage systems can efficiently utilize vertical space, making high-bay storage areas of over 10 meters, and some even exceeding 20 meters in height.

The management of materials within the warehouse is facilitated by the WMS, or warehouse management system, which is a database-driven computer program. Logistics personnel utilize the WMS to improve the efficiency of the warehouse by directing put-away and ensuring accurate inventory by recording all warehouse transportations. Proper slotting is critical for warehouse to function optimally. Effective slotting determines the storage medium from which a product will be picked (pallet rack or carton flow) and the method of picking (pick-to-light, pick-to-voice, or pick-to-paper). With a well-designed slotting plan, a warehouse can improve its inventory rotation requirements. Such as first-in, first-out(FIFO) method.

By implementing the inventory management methods of FIFO (first in first out) and LIFO (last in first out), businesses can effectively control labor costs and boost productivity. These methods ensure that inventory is organized and processed in a systematic and efficient manner. FIFO ensures that older inventory is used first, while LIFO allows for the use of newer inventory first. Both methods can optimize the use of resources and minimize waste, leading to increased productivity and reduced labor costs.

The use of traditional warehousing has been in decline since the latter half of the 20th century due to the adoption of Just in Time (JIT) techniques. JIT aims to improve a business's return on investment by reducing in-process inventory and promotes the direct delivery of products from factories to retail merchants or large-scale factories without the use of warehouses. However, with the increasing use of offshore outsourcing and offshoring during the same period, the distance between manufacturers and retailers.

As a result, at least one warehouse per country or region became necessary for most supply chain of a given range of products.

Marketing advancements have spurred the creation of warehouse-style retail stores featuring high ceilings and heavy-duty industrial racks in place of traditional decorative shelving. Products available for purchase are stored on the lower shelves, while crated or palletized inventory items are typically placed on the higher shelves. This innovative approach allows for the same building to serve as both a retail store and a warehouse, maximizing efficiency and convenience.

Modern warehouses serve not only as storage facilities but also as a means for exporters/manufacturers to establish retail outlets in specific regions or countries. By doing so, they can reduce the end cost of their products for consumers, thereby increasing the production-to-sale ratio. Warehousing has been a tried-and-true concept for ages and can be powerful tool for manufacturers to establish a direct connection with their customers and improve their bottom line.

4.1 THE INFLUENCE OF THE INTERNET ON WAREHOUSE OPERATIONS

The impact of the internet is not limited to online stores as it has also affected warehouses. With internet-based stores, physical points of selling are no longer necessary, but warehouse are still essential for storing goods. The shift to direct customer contact has resulted in an increase in small orders, as opposed to stores which would typically order large quantities of goods. As result, warehouse have shifted from shipping large quantities of goods to shipping large numbers of small quantities of goods, reflecting the changing landscape of modern retail.

Maintaining a large and intricate supply chain with multiple warehouses can be a costly affair. In certain cases, it may be advantageous to have a single large warehouse per continent. These warehouse should be strategically located at a central point, where transportation is readily available to all other destinations. At these continental hubs, goods are customized for different countries. For instance, products may be labeled with price tags in the local language of the country it is destined for. These minor alterations to the goods at a warehouse are referred to as value-added services.

CHAPTER – 5
FINDINGS

FINDINGS:

There have been several findings in the logistics industry and supply chain management, which have helped improve the efficiency and effectiveness of supply chain operations. Some of the significant findings are:

Collaboration is key: Collaborative relationships between supply chain partners, such as suppliers, manufacturers, distributors, and retailers, have been found to be crucial in achieving a more efficient and effective supply chain. Collaboration can help in reducing costs, improving quality, and enhancing customer service.

Technology is transforming supply chains: The adoption of new technologies, such as the Internet of Things (IoT), blockchain, and artificial intelligence (AI), is transforming supply chains by providing real-time visibility, improving data accuracy, and enhancing decision-making capabilities.

Lean principles are effective: The implementation of lean principles, such as just-in-time (JIT) inventory, kanban, and continuous improvement, has been found to be effective in reducing waste, improving quality, and enhancing efficiency in supply chain operations.

Sustainability is becoming more critical: Sustainability has become a critical concern in supply chain management, with organizations looking for ways to reduce their carbon footprint, minimize waste, and promote ethical practices in their supply chains.

Risk management is crucial: Supply chain disruptions, such as natural disasters, political unrest, and supplier bankruptcies, can have significant impacts on supply chain operations. Effective risk management practices, such as contingency planning and supply chain resilience, can help organizations mitigate the impact of these disruptions.

Customer-centricity is essential: The rise of e-commerce and changing customer expectations have made customer-centricity a crucial factor in supply chain management. Organizations need to focus on delivering personalized experiences, fast delivery, and flexible options to meet customer demands.

Overall, these findings demonstrate the importance of collaboration, technology, lean principles, sustainability, risk management, and customer-centricity in supply chain management. Organizations that adopt these practices can improve their supply chain operations and gain a competitive advantage in the marketplace.

CHAPTER – 6
LIMITATION OF THE STUDY

The study relied on secondary data obtained from published sources such as newspapers, books, and journals. However, using old or inaccurate data collected by researchers can lead to inherent errors in the analysis of current situations.

Moreover, time and cost constraints played a crucial role in determining the scope of the study. Due to these limitations, the researchers could not gather a large sample size, and as a result, the findings may not be generalizable to a large population. Thus, the study may lack comprehensive information, and the findings may not be applicable to broader contexts.

CHAPTER – 7
CONCLUSION

In today's global market, economic barriers are falling, and customer satisfaction is the top priority for successful businesses. In a highly competitive economy, enterprises that can provide a high level of customer satisfaction at a low cost are the ones that thrive. The focus now is not just on meeting customer expectations, but on surpassing them. This is where logistics and supply chain management play a vital strategic role, ensuring that businesses are able to exceed customer expectations and remain competitive in the market.

In order to achieve the goals of logistics and supply chain management, it is crucial to have a well-defined organizational structure that aligns with the corporate mission and enhances the performance of the logistics system. Over the years, with the expanding nature and scope of logistics and supply chain management, there have been changes in the logistics organizational structure. What was once part of various functions, such as manufacturing, finance, and marketing, has become a core function that plays a critical role in the overall performance of the enterprise. This shift highlights the increasing importance of logistics and supply chain management and the need for a dedicated and effective organizational structure to support it.

When developing a logistics organizational structure, companies should adhere to key principles of organization, such as unity of command, span of control, authority and responsibility, line and staff relationship, and centralization and decentralization of power. These principles ensure effective management of logistics operations, clear communication and accountability, efficient allocation of resources, and a streamlined decision-making process. By following these principles, companies can establish a well-structured logistics organization that can effectively meet the demands of their supply chain and ensure smooth operations.

While considering logistics and supply chain management, it is important to take various factors into consideration, such as the size of the organization, corporate structure and strategy, the role of logistics in value-addition activities, the availability of IT infrastructure resources, and environmental uncertainty. These factors play a significant role in determining the optimal logistics supply chain management strategy for an organization.

CHAPTER – 8
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