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"Role Of Supply Chain In Making India Beyond US$ 5 Trillian Economy By 2025"

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ABSTRACT

Never before has the role of the logistics/Supply chain industry in India's economic growth been more compelling. Given that the government has established several programmes like "Make in India," a strong logistics industry may significantly aid India's efforts to become a global manufacturing powerhouse. Companies all around the world are starting to view the world as a single production base as well as a market that a vibrant logistics industry can effectively enter. The government's increased projected spending, better infrastructure, and wider access to international markets have all contributed to the industry's recent rapid rise. However, given the numerous obstacles that continue to engulf the industry, our services have not fully seized the chance in the worldwide market.

Building a stronger logistics network across the nation is the goal for the upcoming years. India wants to unleash the potential of the sector required to drive economic growth through better infrastructure design, more stakeholder cooperation, and improved operational efficiency. Many conferences were organized by Professional Institutes, Chambers of commerce in last two years. Objectives of the conference were to identify the major issues impeding the development of the logistics industry; b) discuss and consider potential solutions, such as integrated end-to-end logistics and the adoption of digital technologies; and c) examine the feasibility of enacting a comprehensive national logistics policy. The issues that the nation's logistics industry faces are discussed at the outset of the study. The convergence of the value chain in logistics and the deployment of digital technology are two key strategies for addressing these concerns, and they are woven together within the broad paradigm of a National Logistics Policy in the sections that follow.

Key words Used: Compelling, Make in India Manufacturing power house, Infrastructure, Numerous, Obstacles.

INTRODUCTION

INDIAN LOGISTICS INDUSTRY'S PROBLEMS

The Indian economy is predicted to be driven more and more by logistics as a result of globalization. The World Bank LPI Index, which rates nations based on their logistics performance, placed India in 35th place in 2016, up from 54th place in 2014. Even while this shows that the industry is improving, it still faces several obstacles, including poor infrastructure, a lack of cooperation among stakeholders, a shortage of competent labor, and a sluggish uptake of new technologies.

INFRASTRUCTURE - It is one of the major obstacles limiting the expansion of the logistics industry. It is represented in poor technology adoption and adaption, inefficient operating and maintenance procedures, inefficient and poorly built storage facilities for cargo and containers, and insufficient and low-quality modal and terminal transport infrastructure. This results in a long and uneven travel time for the goods, wasteful use of resources, and subpar fleet management. - Somewhat on Verge of a Logistical Revolution 08, has to be modified. The old must be torn down in order to create a new, sensible balance in order to develop the Indian logistics infrastructure.

SKILL DEVELOPMENT - India has a demographic edge, but finding workers with the right skills remains difficult. This is especially true in the logistics sector, which is viewed more as a supporting business than a primary one. Lack of appropriate training, effective leadership, and support leads to a shortage of trained labor. Additionally the logistics industry is not a popular choice for skilled workers, which is characterized by bad working conditions and low pay scale.

INFORMATION TECHNOLOGY - Another significant barrier is the slowly spreading adoption of new technology. There is a lack of knowledge about the financial advantages of employing digital technology, and stakeholder participation is inadequate. As a result, the logistics ecosystem is riddled with operational waste and underutilized assets. Inadequate technical understanding and a lack of technological systems make things worse. Technology infrastructure continues to be deficient, characterized by sluggish network speeds, poor performance, and unstable hardware and software, all of which contribute to high prices and poor performance.

THEORETICAL FRAMEWORK

EFFECTIVE SUPPLY CHAIN CONTRIBUTES TO STRENGTHEN MSME

There are around 64 Million MSME's **in India.** This sector contributes over 30% to the GDP is very potential to grow further. According to Data shared by GOVT, even though 63.8 million MSME bringing in 11 million jobs contributing drastically in the GDP and ensuring 48% exports. The sector continues to lack in terms of Institutional support and avenue for up skilling which will assist them in the growth. To remain competitive small firms have to offer superior quality goods at lowest price possible. The need to minimize product costs makes effective supply chain management vital. There are costs involved in every process of the product life cycle and it is the responsibility of management to ensure that the costs are kept low so that ultimate savings to the end consumers.

SMART PROCUREMENT. Delivered Procurement value using consulting driven approach to enable process automation, Strategic sourcing, spending optimization, real time collaboration and contract governance. Procure to pay needs assessment and tool selection.

CIRCULAR ECONOMY: However India is progressing towards the united nations sustainable development goal (SDGs)" Agenda 2030"commitment,from 18% waste processing in 2014 to 70% in 2021.Despite the relevance of the circular economy the industry currently has a varied awareness of the concept, which possess a significant challenge concerning its widespread adoption in India it is estimated that by 2050,India would reap yearly benefits of US$ 624 billion (Rs.40 laces crore).reducing the negative externalities. The circular Economy encourages a transection from linear "Take, Make- Waste" to multiline cycle circular value chains in business model. India's circular economy development rout might generate an annual value of US$ 18 billion (Rs 14 lakh crores) by 2030 and 624 billion (Rs.40 Lakh Crores) by 2050

REGULATORY HURDLES - The adoption of GST may totally alter the logistics industry's structure, yet such a disruptive reform need competent execution. If not coordinated and brought under one roof, several regulatory authorities may hold down the development and use of logistical infrastructure. Obstacles to land consolidation, acquisition, and use change are still significant hindrances. The sector's problems are further compounded by the lack of transparency in compliances.

FULLY INTEGRATED LOGISTICS

Transportation and Logistics Integration. A positive move in the right direction, The Indian government is located at creating an Integrated Assessment Policy for Transportation and Logistics seeks to change India's logistics industry from. From "point-to-point" to "hub-and-spoke" paradigm, centralized strategic planning is developing. Networks for distribution of shipments instead rather than only using direct route procedures maybe ineffective. To support this government's effort, it intends to establish fifty economic corridors, thirty-five multimodal fifteen places with logistics parks (MMLP), and ten station multimodal, among other things. While a policy is currently under consideration the effective implementation of integrated logistics. Several components must be implemented for include the horizontal flow services and infrastructure along the chain information, too.

Multimodal Transportation: The creation of a strong multimodal infrastructure network that enables the seamless transfer of cargo across various modes of transportation is a requirement for service integration. With such a transportation system, freight would always be transported in the fastest, safest, most economical, and least polluting way possible.

The creation of multimodal logistics parks, simplified economic corridor routes for effective freight movement, and intermodal terminals to link multiple forms of transportation would be the main driving forces behind this.

In India, the various modes of transportation largely function independently, with a skewed modal mix that heavily (approximately 60%) relies on already crowded road transportation2. Even though it is energy-efficient, environmentally benign, and lowers transport costs, the Indian coastline and river network have historically been underutilized. In comparison to INR 1.5 for railroads and INR 2.5 for roads, the cost of coastal shipping is INR 0.15–0.2 per ton km. By 2025, the economy might save up to INR 21,000–27,000 Cr in logistics costs alone by addressing these anomalies.

The 1,856 km Eastern Dedicated Rail Freight Corridor and 1,504 km Western Corridor projects are currently being carried out. Once they are up and running, they will greatly improve India's current rail system, allowing it to carry much more freight, perhaps lowering transportation costs. Additionally, the government has launched the Sagarmala Program, which aims to strengthen coastal communities and focuses on four main areas: port modernization and new port development, port connectivity, port driven industry, and coastal community development support. Such terminals obstruct the flow by causing a stoppage in the supply chain. Its success is largely dependent on where the terminals are laced and its effectiveness depends

on having adequate network connectivity..

PLATFORM DIGITALLY INTEGRATED:

An integrated information flow across various providers of services and modes of transportation is the goal of a shared digital platform. In an ideal world, such a platform would be able to link the chain to invoicing and payment points, integrate all cargo-related paperwork, offer cargo visibility through track-and-trace, and promote a seamless information flow. In this entire process, the state must be involved. It may address possible pain points for different stakeholders, increase awareness among the stakeholders, and more than just enable digitalization generally.

WAY FORWARD

PROGRESS IN THE DIRECTION OF THE FOURTH INDUSTRIAL REVOLUTION: USE OF DIGITAL TECHNOLOGY

Several technology upheavals have combined in the contemporary era of digital transformation to produce potent instruments that are altering industries all over the world. Digital technology is redefining several industries, including retail, which is closely related to logistics. It is inevitable that this disruption will also transform the logistics industry. By facilitating a more fluid interface between logistics stakeholders for seamless delivery, digital transformation has the capability to provide significant benefits for leaner and smarter logistics. By 2025, the digital revolution of the logistics industry may provide $1.5 trillion in value to its participants and an extra $2.4 trillion in social benefits, according to the World Economic Forum (2016).

Germany, Singapore, Hong Kong, and the United States are examples of nations with more developed logistics ecosystems that have demonstrated the benefits of digital transformation across their whole of logistics value chain, such as warehousing operations, transportation of goods, and last-mile delivery. In the World Bank's Logistics Performance Index, these nations have continuously been ranked higher than India. Numerous digital technologies have the ability to have an influence on various operations along the whole logistics value chain, improving customer experience, operating efficiency, maintaining cargo safety, and rationalizing logistics costs.

Incorporating such digital technologies to logistics activities in the context of India may boost the sector's performance and efficiency in the following ways, as is being seen around the world:

INTERNET OF THINGS

The Internet of Things (IoT) is the networked connectivity of physical items that can assist gather data for developing fresh insights and enhancing the business. It represents a distinctive technological shift and can support India's logistics ecosystem in the following ways:

PERFORMANCE MONITORING AND PREDICTIVE DIAGNOSIS:

Throughout the value chain, IoT may be utilized to continuously check the status of assets. In a few of nations, sophisticated sensors are being utilized to monitor and identify potential failure hazards, preventing process delays and deadly accidents. For instance, the largest railroad in the United States, Union Pacific, uses IoT to forecast equipment and component failures. It operates 8,500 locomotives and covers 32,100 route miles of track across 23 states while transporting freight. In order to keep track of the state of train wheels, acoustic and optical sensors have been inserted into the rails. Due to this, the number of bearing-related derailments, which may cause expensive delays and up to $40 million in damages per event for Union Pacific, has decreased (DHL and Cisco, 2015).

GIVING IN-TRANSIT TRANSPORTERS VISIBILITY: Additionally, the Internet of Things (IoT), which includes GPS and RFID technologies, is being utilized to give logistics carrier's immediate access to vital position data. This has aided in improving the responsiveness of the logistics ecosystem. Customers may track & trace their consignment in real-time, while on the one hand this gives service providers more control over how to estimate delivery dates and enhance asset usage.

AUTOMATION

Through the application of artificial intelligence, automation and robotics in the logistics industry enables the use of control functions for controlling equipment, procedures, trucks, ships, and aero planes. Robots, self-driving cars, drones, and other automation technologies can all be used in the logistics industry for the following purposes:

Reducing the need for manual interference to cut costs: Artificial intelligence (AI) may assist in automating corporate operations to decrease or eliminate manual interventions for freight handling, to increase quality, speed up procedures, and ultimately save logistics costs. The theft and pilferage of freight as well as the holding of inventory account for nearly two-thirds of the logistical expenses, which are hidden. Therefore, automating operations could aid in removing unintended expenses and lowering India's high logistics costs overall. Additionally, minimizing physical intervention could hasten regulatory bodies' inspection processes while assuring minimal handling damage and cutting down on inventory holding times.

USING BLOCK CHAIN TECHNOLOGY

With no risk to the data's integrity, it may be used to build networks across entities that are reluctant to exchange information. Given the fragmented character of the business and absence of shared platforms for information sharing, this technology becomes particularly pertinent in the Indian setting. It can be utilized for:

- ❖ Coordinating the value chain of multi-party logistics: By doing away with the requirement for redundant paperwork procedures, block chain technology may be utilized to seamlessly align activities from one point of the logistics value chain to the next. Because manual data entry occurs at several places throughout the value chain, this would also lessen the chance that mistakes would seep into the system. The development of an integrated end-to-end logistics system would also be accelerated by it. To simplify container operations at its port, the Port of Antwerp in Belgium has started a process to use block chain technology. By reducing the number of exchanges between various parties and eliminating data manipulation, the goal is to accelerate interactions between port customers, including carriers, terminals, freight forwarders, haulers, drivers, and shippers, among others (Zhao, 2017).

UTILIZING THE WEB

The term "cloud technology" describes the ubiquitous and practical access to a shared collection of networks, storage, servers, and applications that are reachable online. The Indian logistics industry can benefit from this technology by:

- Improving resource use: Optimizing asset usage is crucial to improving operational efficiency as logistics in the nation strives to become leaner. The road transportation industry in India is still incredibly fragmented, and frequently, after delivering the freight, the fleet of vehicles either sits empty or returns.

By working together to share fleets and networks, cloud computing may assist service providers in making better use of their resources. Service providers can coordinate and work together for the shipment and

collection of freight by sharing information in real time via cloud-based systems. By doing this, the delivery ecosystem will become more effective and their fleet's idle time will be decreased.

DATA: Throughout find improvement possibilities and create operational efficiency in the nation's logistics framework, analytics may be used to the whole logistics value chain. Examples of tools that may be used to manage and conduct complicated statistical study, data mining, and retrieval procedures for big data include GE's Predix analytics platform and Cisco's Unified Computing System (UCS) Integrated Infrastructure for Big Data. The algorithms created from this study may then be used to calculate an asset's remaining usable life, find operational inefficiencies, cut wasteful spending, and determine the direction of future strategy.

A COMPREHENSIVE NATIONAL LOGISTICS POLICY OR BLUEPRINT: FROM STRATEGY TO IMPLEMENTATION

Instead of taking a piecemeal approach, an all-encompassing solution was required to make the Indian logistics sector competitive on a global scale. To do this, the government of India has taken the initiative to launch National Logistics Policy. It was launched on September 17, 2022 with an aim to to boost the trade sector in the Indian economy. This will help to transform the country in to a global logistics hub. More than 22 million people are working in the logistics sector. Integrated transport infrastructure development is the primary emphasis of a newly announced integrated logistics policy.

After implementing the comprehensive national logistics policy. The national strategy would be taken in to account, the sector's main drivers, including integrated logistics, information technology, infrastructure, regulation, human resources, skill development, and equally crucial, the complete stakeholder community.

CONCLUSION:

Foundation for economic growth; Societies with a highly developed supply chain infrastructure(Modern interstate high way system, vast rail road network, numourous modern ports and airports) are able to exchange many goods between business and consumers quickly and at low cost as a result the economy grow, one of the economic survey, conducted by IMF that Indian economy is likely to grow at 6.5 percent in 2023- 24,moreover an annual economic growth of 6.5% with inflation less than 5% for the next five years. Holds the key for India's ambitious target of making India a$5 Trillian economy according to International Monitory Fund that India may achieve the target set by the present GOVT.

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