IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Key Trends And Challenges In Indian Logistics – A Study

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ABSTRACT : India has become the prime destination for logistics service providers all over the world. The logistics industry in India is growing rapidly, with the country's economy expanding at a rapid pace. The sector is expected to grow at a compound annual growth rate (CAGR) of 15.5% between FY2019 and FY2024, according to various market research. The sector employs around 22 million people and is expected to create another 1.2 million jobs by 2025.The government's focus on infrastructure development, FDI reform, and the implementation of the Goods and Services Tax (GST) are some of the key drivers of growth in the sector. The government's initiatives such as Make in India and Digital India are also expected to boost the growth of the logistics industry in the country. India is also experiencing a big retail boom as the buying capacity of the middle and upper middle segment of the population has scaled new heights. Many large multinationals from the retail industry are planning to set up operation in India and large local retailers are also planning to expand their operations. But with the infrastructure largely under-developed and incapable of catering to a growing economy, logistics management in India becomes too complex. The poor condition of infrastructure directly translates to higher turnover, pushing up the operating costs and reducing efficiency.

There are other problems such as complex regulatory compliance and limited adoption and utilization of technology, which has resulted in increased paperwork and inability to communicate effectively with customers. In spite of dismal infrastructural scenario, the hopes of the logistics sector are kept up by the various upcoming infrastructural projects like logistics parks and hubs and other initiatives by public and private sector. The future of the logistics sector depends not only on the continued development of infrastructure but also on the capability of the service providers in adapting themselves and making optimal utilization of technology. The present paper focus on the latest trends in the Indian logistics industry and the initiatives undertaken by the Government for infrastructure development and the measures adopted by the private organizations too.

Keywords: GDP,CAGR, Logistics, Infrastructure, GST

INTRODUCTION: The logistics industry has become fragmented, volatile, and unpredictable in the recent years. The supply of essential goods and services had a devastating impact on the Logistics industry due to pandemic. As per the SCOR report, in 2021 alone there has been a 430 percent growth in supply chain attacks. This revealed the vulnerability of today's supply chain and logistics industry.

There is also continuing uncertainty around regulation, requiring organisations to rethink their tactics and strategies to meet compliance requirements while still maintaining their competitive edge. Logistics and supply chain leaders should prepare for disruptions apart from weather and natural disaster, labour shortage, port congestion, and more.Preparing for such a market upheaval demands enterprises to develop new tactics and strategies.

Here are a few trends that will transform the logistics industry in 2023

- **RFID Improvements:** The global Radio Frequency Identity (RFID) Tags market revenue is expected to reach a value of USD 17.6 million by the year 2028. RFID provides real-time tracking data. However, even with considerable investment by out-of-delivery (OFD) enterprises, RFID struggles to obtain any ROI from the technology. This highlights that RFID chips do not mean you'll be able to access data. Hence, it would be wise for enterprises to set up systems in place near the RFID chips to collect and share the data. Not only that, but logistics enterprises should have integrated file-based technology in place to connect devices to the core enterprise systems where the data is stored and analysed. This will help organizations to have a greaterand actionableinsights to build strategies.

- **Enhancement in the Last Mile delivery:** Last Mile Delivery is the final step in the delivery process, where the goods and services are moved from the distribution to the final destination, Last Mile Delivery, incurs huge costs due to the rising demand for fast delivery, resulting in pushing enterprises forward to deploy the latest technological solutions. At the end of 2016, Amazon first delivered an order to its customer using a drone. This delivery was conducted in England within Amazon's new program called Prime Air which implied that a customer could get a package in 30 minutes. After Amazon's success, various companies started investing in drone delivery to increase the cost-effectiveness of their business and customer experience as well.

    - In the EON of COVID-19 the contactless address delivery became the most popular and it motivated even more companies to turn their eyes to this delivery option and start adopting it.
    - The recent development in this space shows that last-mile delivery is being pushed to its edge. Efficient last-mile delivery operations result in keeping customers happy and satisfied, increasing business, brand loyalty and better margins.

- **Decarbonisation :** No industry has taken a heavy toll on the COVID-19 pandemic than the logistics industry. But, as things started to get normal in most parts of the world, the industry bounced back. At the same time, the emission from the industry has also accelerated making the emission of CO2 much worse. Freight transportation contributes to 8% of global greenhouse gas emissions (11% if counting warehouses and ports) and the logistics industry is set to become the highest carbon-emitting sector by 2050. Hence, logistics leaders are taking steps toward decarbonisation.

  Investors worried about the material risks posed by climate change have developed new reporting frameworks such as those by the Sustainability Accounting Standards Board (SASB) and the Task Force on Climate-related Financial Disclosures (TCFD). Achieving the reduction of greenhouse gas emissions will require the industry to take strict measures and be ready to embrace the changes that can fundamentally transform it

- **Warehousing :** Warehousing has become one of the major segments contributing to a rapidly growing Indian logistics industry. The growth in international trade and a rapid rise in containerization levels have led to high demand for warehouses and a tremendous opportunity for the private sector. The demand for specialized services is expected to further drive the growth in the market. Several initiatives have been taken by the Government towards the development of warehousing sector. The introduction of Goods & Services Tax (GST) regime and Warehousing Act 2007, investments in logistics parks and Free Trade Warehousing Zones (FTWZs) have aided in the development of infrastructural facilities. The change in tax policy has had significant impact on investments by the logistics providers in warehousing segment and has opened the gates for largescale investments. There is tremendous competition between major private and public players in the market. The continued development of warehouse infrastructure will go a long way in providing the necessary support to the logistics industry. The infrastructure development in the

warehouse segment is expected to get further fillip with the introduction of new regulatory and development bill.

- **Transportation trends :** The air transport sector's contribution has been around 0.2 per cent of the country's GDP, while the transport sector's contribution to the GDP has been growing over the last couple of years.India's air cargo is predicted to grow at over CAGR of 11.5 per cent in the next few years.
    - The contribution of the marine transport sector is also around 0.2 per cent to the country's GDP. The sector's contribution to the GDP has been increasing mostly because of the growing economic developments in the country. The role of the shipping industry in the growth of Indian economy has been very significant. Major ports in India together have handled around 500 million tonnes of cargo in the past two years and this figure is growing significantly.
    - The Indian Railways has realised the necessity to improve the infrastructure provide better service. The plan to develop logistics parks or hubs has the potential to streamline and optimize the supply chain and reduce the costs. Currently around 80 per cent of the goods in India move by road, the railways has to essentially devise plans to divert this traffic to the rail.
    - India's logistics sector attracted huge investments, leaving behind some of the major sectors including aviation, metals and consumer durables. The growths in the retail and manufacturing industry, commodity markets and development of SEZs have been key factors in the growth of Indian logistics industry. Recent studies have indicated that the logistics industry is expected to grow annually at the rate of 15 to 20 per cent. A number of infrastructural projects involving warehouse and logistics parks are being undertaken are expected to be operational in the next 2-3 years.
    - The setting up Special Economic Zones (SEZs) has led to increased logistics activities around them. Several logistics parks have come up at locations like Mumbai, Kolkata, Chennai and Hyderabad because of their excellent port, rail and road connectivity and are witnessing significant investment in infrastructure. Many of the large logistics players are in the process of setting up warehouses, container freight stations (CFS), inland container depots (ICD), logistics parks, distribution centres and other facilities to leverage the abundant opportunities. Increase in foreign trade is expected to further accelerate the demand for logistics services.

- **Cloud-Based Systems Adoption:** One of the biggest transport industry trends is cloud-based systems adoption, since the platforms in the cloud force a software-as-a-service (SaaS) model which opens unlimited opportunities for company's scalability and innovative digital resources usage. It allows reaching higher profitability and exceeding the common returns of on premise systems' capabilities. SaaS supports introduces efficiencies and cost-savings across all business functions, including sales and marketing, finance, legal, and more. The necessity to make travel more smooth and hassle-free is mostly manifested through the rise of mobility-as-a-service (MaaS).

  However, the number of key transportation trends in the industry, combined and aimed at minimal stoppages or checkpoints result in this one key drift to integrated travel and transportation. The minor tendencies are optimization of the infrastructure, creation of the mobility hubs for multimodal transportation, building platforms for ticketless travel, and introduction of the innovations in micromobility and last-mile connections.

- **Visibility and Anti-Theft GPS:** Today E-Commerce, retail, and logistic companies are getting focused on the increased visibility, thus, tracking technologies adoption and adjustment for increased traceability are among the major driving trends in the transportation industry this year. Anti-Theft GPS, for instance, is a means to receive near real-time locations for entire fleets and separate items in transit. The extra security protocols will also help avoid losses across the board.

- **Self-Driving Trucks:** The technology for self-driving trucks is still under perfecting and it has to overcome certain obstacles, such as improving driverless software to make it able to efficiently operate on urban roads with heavy traffic. However, it's one of the transportation future trends. In the long-term perspective, transportation businesses should prepare for upcoming technology changes in transportation and start equipping their trucks with self-navigating management systems that can «learn» from real drivers.

  Due to artificial intelligence (AI) and myriad sensors, an AI-enabled vehicle can correctly evaluate road conditions and learn from how truck drivers behave under «unusual» conditions on the road. Through vehicle-to-vehicle (V2V) communication, trucks can share the learned information and make other vehicles smarter. Besides, the 5G technology spreading will catalyse the adoption of self-driving fleets. In the long-term, these vehicles can potentially become better drivers than human operators.

  In fact, this future is even closer than it can seem. Tesla's electric Semi truck have autopilot features which can greatly facilitate the driving process. Walmart, along with many other corporations, such as Pepsi, ASKO, and Loblaw confirmed having ordered Tesla Semi trucks for their commercial needs.

- **Regulation Compliance:** It will be more correct to say that regulatory compliance is a must rather than one of the latest trends in transportation. Commercial and public transport companies should stay up-to-date on recent requirements and regulations adopted, changed, or removed by any local, state, or federal government. Whether they are regulations regarding electronic logbooks, overtime, or safety rules, timely monitoring regulations will always be a trend.

- **Block chain in Logistics:** Block chain is one of those transformative technology trends in distribution and transportation, that shape mobility and beyond. One of the perspective use cases for blockchain technology in trucking trends is ensuring the accuracy of performance history records. When a truck gets sold for the second time, potential customers may have questions about how this vehicle was used. Since blockchain transactions are immutable and transparent, all parties involved in a transaction can be sure that the information about the truck is trustworthy. Another perspective use of blockchain in transportation is capacity monitoring. The cost of transportation depends on cargo volume. The use of Internet-of-things (IoT) sensors can help determine the amount of space a particular cargo occupies. This data can be used to calculate the shipment cost. Storing this information into a blockchain-based system signed with a smart contract will allow self-executing payments on a base of the amount of space taken by the freight.

CONCLUSIONS: With the digitization of the logistics industry, there will be more changes in the coming years. Logistic companies are going to leverage technologies like artificial intelligence, cloud, automation, robotics, block chain, big data, and IOT to provide smart and innovative logistics solutions to their customers. Even logistics companies will have to also rethink their business strategies to survive in the rapidly evolving logistics market. While uncertainty continues to be a major concern, integrating innovative technologies and being adaptable to the changing environment will be the key for today's leaders to navigate the challenges. Supply chain and logistics leaders will continue to develop better strategies to reduce risk due to the vulnerability in the logistics industry space. They will need to anticipate the disturbance and plan effective strategies in advance forsuccessful logistics.

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