

Logistics in India: Challenges and Scope

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Abstract

Logistics management is increasingly becoming a topic of interest among academicians and practitioners, since it may lead to reduced operational costs, improved delivery performance and increased customer satisfaction levels. The global logistics industry is estimated to be worth USD 300 billion. Though most of the large service providers are headquartered in Europe, the biggest market is the US, which captures about one-third of the world market. The global logistics industry is characterized by high costs of operations, low margins, shortage of talent, infrastructural bottlenecks, demand from clients for investing in technology and providing one-stop solutions to all their needs, and consolidation through acquisitions, mergers and alliances. The logistics industry in India is evolving rapidly and it is the interplay of infrastructure, technology and new types of service providers that will define whether the industry is able to help its customers reduce their logistics costs and provide effective services (which are also growing). Changing government policies on taxation and regulation of service providers are going to play an important role in this process. Coordination across various government agencies requires approval from multiple ministries and is a road block for multi modal transport in India. At the firm level, the logistics focus is moving towards reducing cycle times in order to add value to their customers. Consequently, better tools and strategies are being sought by firms in order to enhance their decision making. In this paper, we provide a perspective on these issues, outline some of the key challenges with the help of secondary information, and describe some interesting initiatives that some are required to compete through excellence in managing their logistics.

Keywords: *Global scenario, Indian situation, Challenges, Infrastructure, Tax structure, Storage, Impact, Future trends, Way forward.*

1. Introduction

Logistics management is an area of research that has been getting increasing attention from academicians and practitioners over the last two decades since it may lead to reduced operational costs, improved delivery performance and increased customer satisfaction levels, thereby making an organization more competitive in terms of cost, quality, delivery and flexibility. The importance of logistics is increasing also due to globalization as more and more multi-national companies (MNC) are sourcing, manufacturing and distributing on a global scale, making their supply chains very complex to manage.

However, outsourcing logistics activities to experienced logistics service providers (LSP), also known as third-party logistics (3PL) providers, may enable companies get very efficient and customized logistical support while themselves focusing on the core organizational activities. Today, there are many large multi-national LSPs that offer complete supply chain solutions across many diverse countries in terms of their socio-economic and political environments. Apart from core logistical activities such as transportation and warehousing, LSPs also offer value-added services such as customs clearance, freight forwarding, import/export management, inventory management, assembly/installation, packaging and labelling, distribution, after sales support, reverse logistics and so on. By outsourcing logistics, companies can leverage the expertise of LSPs while concentrating on their core competencies.

2. Overview

2.1 Global Scenario

Logistics is one of the most important basic industries for any economic growth as it is the management of the flow of products from the place of their origin to the place of their consumption, thus the industry also involves the integration of material handling, warehousing, packaging, transportation, shipping security, inventory management, supply chain management, procurement, and customs service.

The global logistics industry mainly comprises a complex range of freight and cargo related transportation sectors, such as shipping, warehousing, courier, and road/rail/air freight. According the report from C and M Research, the total global logistics market reached a value of about \$4 trillion in 2013, representing an almost 10% of global GDP. The global transportation services market is fastest growing sector with more 7% year on year growth since 2011, now it is expected to generate revenue of 3.8% trillion in 2016. The US currently accounts for more than a 42% of global transportation services sector.

Over the next few years the global logistics market will see the growth in demand away from traditional Western economies to the emerging markets of China, India, other Asian

economies, the Middle East and Latin America. However the size of the US and European logistics industries will still remain strong.

2.1.1 Some Major Market Segments of Global Logistics Industry

The global air transportation services industry has been experiencing a decline in growth rate since 2012, while the airline market is expected to reach £137 billion by 2017.

After generated around \$194 billion in 2011, the global rail freight industry will have an annually growth rate of more than 6% until 2015, and the industry growth will increase to a yearly rate of 8%, reaching \$286 billion by 2016, predicted by Market Line. The industry consumption volumes have remained the growth of 4% year on year.

Road freight industry is so far the leading segment in the global logistics industry, representing over 74% of the overall industry in terms of value. The global road freight market is expected to top £2.2 trillion in 2015, which is a 28% increase over 5 years period since 2010. The US represents for 56% of the world road freight sector in terms of value.

The global shipping industry is expected to surpass 730 million TEUs by 2017, according to Global Industry Analysts. Shipping containers is currently the major way of global trading, the market performance is boosted by the increasing demand of trade, investments in port terminal facilities, and the rising of global maritime transport networks. Over the next few years, the global shipping sector is expected to grow mainly due to the rising demand for oil and liquefied gas in Asian countries.

<http://www.businessvibes.com/blog/report-global-logistics-industry-outlook#.dpuf>

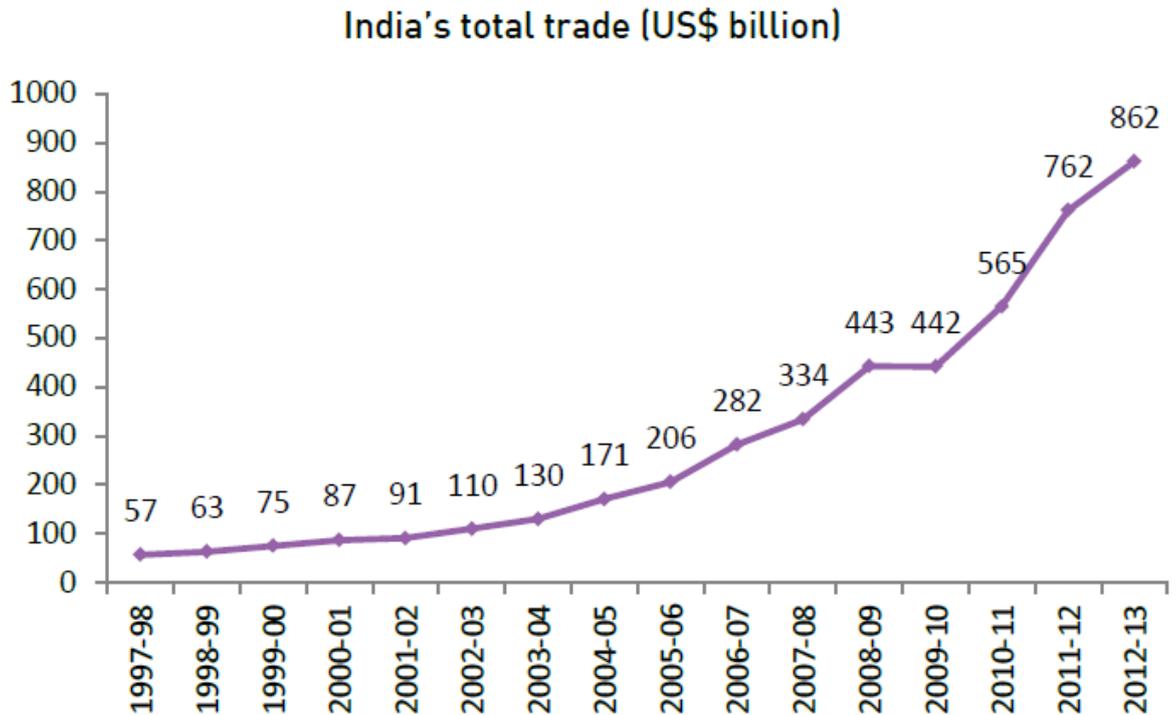
2.2. Indian Scenario

The Logistics sector in INDIA has today become an area of priority. One prime reason for the same stems from the reason that years of high growth in the Indian economy have resulted in a significant rise in the volume of freight traffic moved. The large volume of traffic has provided for growth opportunities in all facets of logistics including transportation, warehousing, freight forwarding, express cargo delivery, container services, shipping services etc. The growth path also suggests that increase demand is being placed on the sector to provide the solutions required for supporting future growth. Strength of the logistic sector is likely to be one of the key determinants of the pace of the future growth of the economy.

The market size of the logistics sector in INDIA is estimated to be between USD 90-125 billion. Given that the Indian economy has grown to over USD 1.73 trillion, these estimates may already be well below the actual size of the industry. Sources estimates that the industry employs over 45 million people and is going at the rate of 15% with sub-sector growing at even 30-40% per annum. Due to these reasons the Indian logistics sector is viewed as one of the most attractive in the world. Recent policies by the government attract a strong growth area for logistics in the future. Despite holding promise the logistics sector in India remains

mired in several complexities which have the potential of holding it back. These includes significant inefficiencies in transportation, poor condition of storage infrastructure, complex tax structure, low rate of technology adoption, and poor skills of logistics professionals.

Figure: 1



Source: Directorate General of Foreign Trade; IMaCS analysis

2.2.1 India-Emergence of Global Manufacturing Hub

The demand for FMCG and electronic products in India has been growing at the very fast pace. Several MNCs from diverse industries have shown growing interest in setting up world class manufacturing facilities in India to cater to the domestic market as well as for the export market.

Establishing manufacturing facilities in India has been a strategic move to reduce their manufacturing costs and cater to the expanding Indian market. The Indian automotive industry is well on its way to become one of the world's major automobile manufacturing hubs. Since the deregulation and opening up of the automotive industry, the industry has witnessed tremendous changes and experienced a great boom.

2.2.2 Indian Logistics Industry: Current Scenario and Future Outlook

Logistic is the backbone of the economy, providing the efficient, cost effective flow of goods on which other commercial sectors depends. The logistics industry in India is evolving rapidly and it is the interplay of infrastructure, technology, and new types of service providers

that will define whether the industry is able to help its customers reduce their logistics costs and provide efficient services.

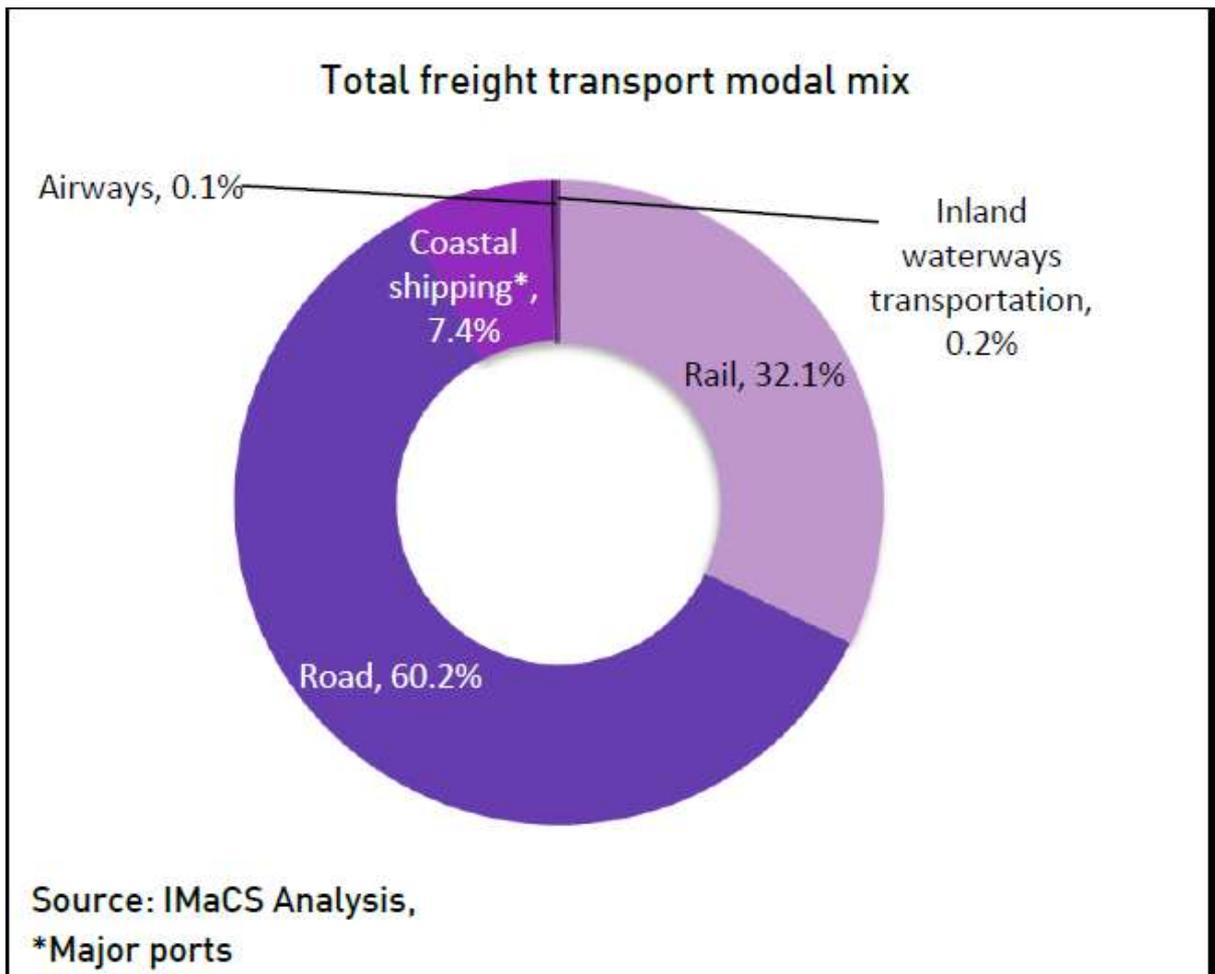
Despite weak economic sentiments, the logistics and warehousing industry continued to witness growth largely due to growth in detail, E-commerce and manufacturing sectors. The logistics sector is expected to grow at around 10-15% in the period 2014-2015. With this forward looking attitude and promise of growth and improvements, the service oriented logistics is all set to expand beyond the horizons in the later half of this decade, utilizing this fiscal year as its launch pad.

3. Challenges Faced by Logistics Industry in India

3.1 Transport Related Challenges

In India road has become predominant mode of transportation of freight cargo. Estimate of the modal movement of cargo highlights that in India nearly 60.2% of the cargo is moved by road, 32.1% by rail, and rest by the coastal shipping, airways and inland waterways. Pipelines constitute a very minor proportion.

Figure: 2



It is recognized that movement of long haul bulk traffic by road is less efficient than by rail. But road is still preferred over rail because:

1. Important rail networks are over saturated- There has been little improvement in the track infrastructure since independence. While route kilometer has grown only at a CAGR of 3%, incorporating additional lines on existing routes has not fared much better growing at a low CAGR of 6.6%. During the same period freight and passenger traffic has grown at a CAGR of nearly 55%. This had led to most high density corridors becoming oversaturated.
2. Rail freight tariffs are high- Indian railways follows a policy of subsidizing passenger tariff by freight tariff. This has resulted in sharply rising trend in railway freight rate over the years compare to little increase in passenger tariff rate. The result of this has been that Indian rail freight rates have already become one of the highest in the world.
3. Transit times are long and uncertain- Freight traffic is frequently subordinated to passenger traffic on the railway network. This results in a freight train taking as much as 6-8 days for a journey of 2000kms. Also there is no guarantee on the transit time for freight trains.
4. Rail terminal quality is poor- Most rail terminals (goods shed) used for loading/unloading of freight are antiquated. They also suffer from issues of access and evacuation of traffic.
5. Less flexibility in carrying different types of products- Special wagons are not easily available for carrying specialized products. For eg- Special types of steel required for automobile production have to be carried by trucks as the existing wagons do not offer the kind of protection that these high value products require.
6. Railway carriage not easy for industry which cannot provide full train loads- Railways have a preference for customers who can provide full train load as unlike in some other countries, railways in India no longer run mixed trains which can carry different types of cargo due to operational inefficiencies.

While Road movement is preferred to rail, road movement has its own set of challenges. They are:

1. Road network coverage- Freight movement in India is dependent on national highways. While NH constitutes only about 2% of the road network of India, they carry 40% of total traffic. As a result most of these highways are severely congested resulting in freight travelling only a third of the distance compared to developed countries.
2. Poor road quality- The road quality in India, on the NHs as well as the roads is improving but is still poor in many locations. Estimates suggest that motor able roads are still less than 10% of the total road network.
3. Expressway network will take time to develop- In many developed countries expressway s have been developed to facilitate high speed freight movement through linking of important cities, ports and industrial centers. In India the expressway network is still largely at a

planning stage with a target of development of around 15000Kms of expressway only by the end of 13th plan period.

4. High level of fragmentation of the trucking industry- The trucking industry in India is largely fragmented and in the hand of small truck operators. Estimates suggest that nearly 70% of the truck owners in India own between 1-5 trucks. Due to this there is fierce competition amongst operators leading to truck owners resorting to overloading to recover investments.

5. Multiple checkpoints- Trucks in India have to pass through multiple check points in their journey. Trucks have to stop at state borders, for payment of toll taxes, for RTO inspections etc.

3.2 Issues of Port Sector

1. High turnaround times- Data from Indian ports association shows that ports in India suffer from high turnaround times for ships. JNPT, the premiere port in India, has more than two times the turnaround time of Colombo and Singapore ports because of congestion on berths and slow evacuation of cargos unloaded at berths.

2. Inadequate depth at ports- The depth at many ports in India is not enough and dredging tenders take a long time in getting awarded. As a result with the existing dates many ports are unable to attract very large vessels.

3. Coastal shipping has not taken off- Coastal shipping in India is hampered by inadequate port and land side infrastructure which hampers large scale use of it for freight movements.

3.3 Storage Infrastructures Related Challenges

In addition to the poor transportation infrastructure the storage infrastructure in India also needs significant improvement. Main reasons for this are:

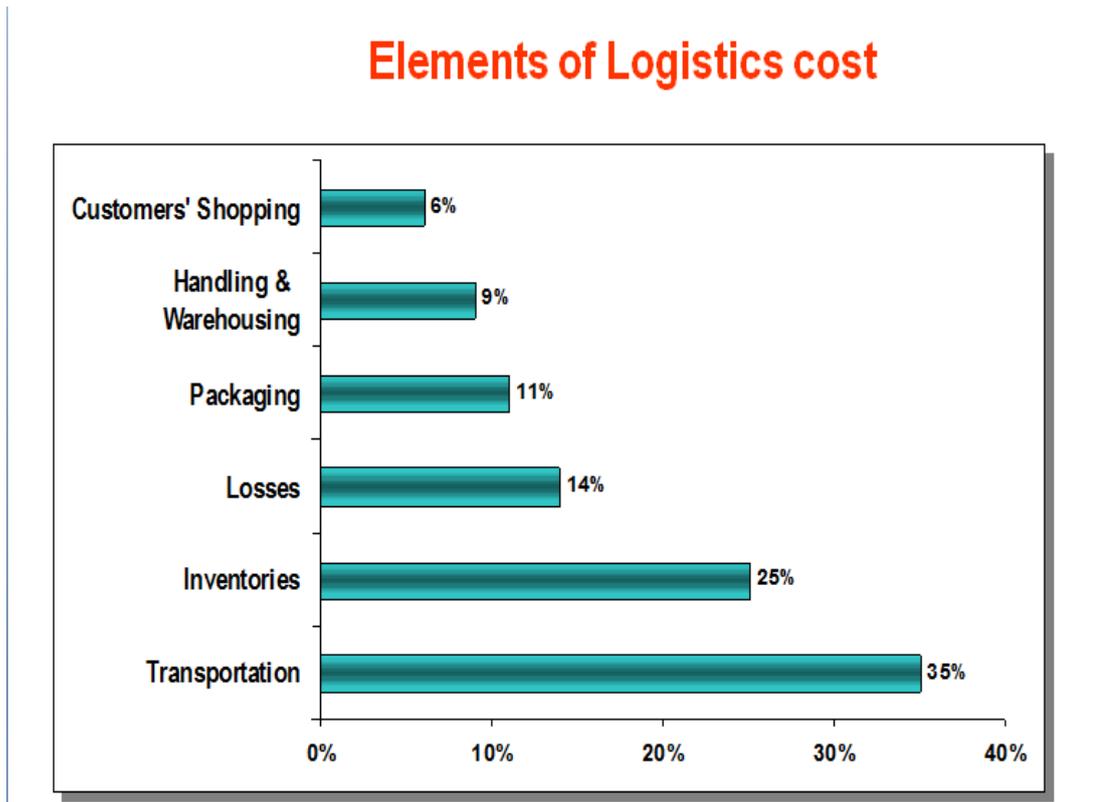
1. State of ICD/CFS is poor- The ICD/CFS infrastructure available for EXIM trade is inadequate. The land requirement for setting up ICD/CFS at an appropriate place is difficult to come by as several hurdles have to be cleared in the consolidation of land. As a result many logistics companies with an interest in setting up ICD/CFS eventually fail to do so. While it is difficult to set up a facility, at the same time the existing facilities are plagued with several issues:

- Many of the older facilities today are located within city boundaries restricting day movement of trucks.
- The approach roads to the facilities are poor making evacuation of cargo difficult.
- Most facilities have issues of inadequate parking, lack of available land for expansion etc.

2. State of warehousing is poor- Various estimates put warehousing costs to be around 10% of the total logistics costs. Despite this the state of warehousing is largely dismal. On the warehousing front 80-85% of warehouses are traditional with sizes of less than 10,000sqft. Most of these warehouses are not leak proof, equipped with security systems, racking

facilities etc. Majority of the operators of these warehouses are also small to mid-sized entrepreneurs with limited investment capacity, The only large warehousing owners are government agencies including central warehousing corporation and state warehousing corporations, but their focus is mainly on food grain storage. There is also shortage of warehouses. This is because land availability for warehousing at an appropriate place and at an appropriate price is a concern.

Table: 1



3. State of cold storages is poor- Despite the significant requirement of cold storages from the retail sector, pharmaceutical and chemical sector and the farm sector, where it is estimated that up to 40% of the fruits and vegetables grown in India gets wasted, receptor needs to grow much faster to meet the needs.

4. Multi-modal logistic parks yet to take off- With emerging requirements of integrated logistics, provision of transportation hub, value addition etc. large logistics park were sought to be developed. However as with other areas the number of such facilities continues to remain much less than the requirement. Consolidation of large land parcels is a significant issue hampering their development. Other issues include the lack of recognition of the concept of logistic park by government.

3.4 Tax Structure Related Challenges

A complicated tax regime places several challenges on the logistics industry. Payment of multiple state and Centre taxes results in:

1. Considerable loss of time in transit for road freight in order to pay such taxes.

2. Fragmentation of warehousing space especially for low margin products thereby providing a disincentive to create a large integrated warehousing space. A uniform tax structure to be introduced through the GST is being highlighted as the panacea for the existing situation. If implemented in spirit GST will enable logistics services to be provided without consideration for ex boundaries.

3.5 Technology and Skills Related Challenges

The logistics industry is also hampered by low rates of technology adoption and poor skill levels. On the technology front the industry now seems to be paying serious attention with use of RFID, vehicle tracking technologies, warehouse management system etc. While acceptance is perhaps is not an issue anymore, the marriage between IT and domain requirement needs to be resolved. Automation in processes is still only in its infancy. Further progress is dependent on a certain level of standardization which is made more difficult by the fragmentation in the industry. This drawback needs to be tackled at the earliest.

In addition to the technology related issues the skill levels of in the logistic industry also require to be upgraded urgently. As now courses focusing on logistic industry remain few and far between. Also logistic industry is still not looked at as the industry of choice for young graduates thereby making hiring of quality professional manpower challenging.

Some of the skills required in this sector are technology skills, driving skills including safety procedures, industry understanding and multi operator's skills.

4. Impacts of Challenges Faced

The various challenges faced by the logistic industry lead to high logistics costs incurred by the Indian economy. This is despite the fact that cost of labor, one of the most significant contributors to logistics costs in developed countries, is significantly cheaper in India.

With regards to costs of spends on logistics, India's logistics sector accounts for 13% of the GDP of India. Major elements of logistics costs typically include transportation, warehousing, inventory management and other value added services such as packaging. What is worrying about the logistics costs in India is the distribution of costs across various heads. In India, as much as 31% of the logistics costs is attributable to the 'others' category, which primarily includes various types of process. The logistic costs as a percentage of total product cost in India is in the range of 4-5 times that in developed countries. This is at a time when the quality of logistic services provided is not of the highest standards. Also, worryingly, these costs have been showing a rising trend. Fuel price hike sharply increases the cost of freight transport. Ever increasing congestions at ports are resulting in high levels of ground rents required to be paid at CFS's near the port. High levels of inventories are being required to be maintained to guard against sudden disruptions in supply chain, all of which adds to the cost.

The high level of logistics costs in the economy adversely impacts the competitiveness of the Indian economy as well as the financial well-being of the individual citizens. An addition to product costs due to inefficient logistics adds to inflation. Wastages lead to scarcity. This makes efforts for reducing logistics costs crucial goals to pursue.

The rewards of reduction in logistics costs are manifold. The decrease in Logistics costs leads to significant increase in employment opportunities in the economy. It also helps in increasing the trade flows in a country by increasing the inherent competitiveness of the economy. It will lead to decrease in poverty levels in the country through increasing earnings for the poor. So stringent and Coordinated efforts are needed to be made for logistics costs reduction.

5. Estimated Future Growth

The Indian Logistics sector growth depends on the growth of its soft infrastructure like education, training and policy framework as much as the hard infrastructure. To support India's fast paced economy growth of logistics industry is very essential. It is estimated that the Indian logistics sector will continue to show robust growth of 10-15% annually, leading the pace of growth of the economy at large.

5.1 Main Demand Drivers

In 2014 the Global economic outlook and indeed that of India is expected to significantly improve as India Inc. begins to tackle the economic downturn. With a new government set in place in 2014, many policies are expected to be implemented which will give a fresh impetus to India's growth engine particularly in the corporate and SME sector which in turn will expand demand for the logistics sector. The biggest boost to the growth of the industry is coming from the increasing consumer demand, particularly in the Tier 2 and 3 sections of the country. This is being further fueled by the revolutionary growth being seen in e-commerce which is leading to logistics companies responding with new innovations in service since logistics is the most critical ingredient in the success of an online business.

6. Logistics-Future Trends in India

India has become the prime destination for logistics service providers all over the world. The demand for logistics services in India has being largely driven by the growth of the economy. The growth is projected at 7-9% in next few years, with the Compounded Annual Growth Rate (CAGR) expected to grow at rate of 7-8%. This growth is expected to gain greater momentum due to exponential growth of the Indian economy.

India is also experiencing a big retail boom as the buying capacity of the middle and upper middle segment of the population have scaled new heights. Many large MNCs 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 compliances and limited adoption and utilization of technology, which has resulted in increased paper work 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 sectors. 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 adopting themselves and making optimal utilization of technologies.

7. The Way Forward

The Growth in the Indian economy in coming decade is likely to be driven by the increased activity in the manufacturing and retail sectors. To enable these sectors to contribute effectively to India's growth the logistics sector will have to step up to provide value-enabling solutions for these sectors. This would require actions on three fronts:

1. Creating an environment for graduating the Indian logistics market to provide value propositions in logistics solutions.
2. Increasing the capability of the Indian Logistics Industry to provide such solutions.
3. Requiring Government and other regulatory mechanisms in the country to provide an enabling environment for value propositions in logistics services. Due to decades of growth and increasing globalization of the Indian economy Indian entrepreneurs become active participants in business strategy issues which can take their business forward and make them competitive. However old habits die hard. Therefore we still see numerous instances where little premium is put on service delivery, quality and transparency in logistics services. Demand for logistics solutions still gets conditioned by an undemanding, quality-neutral client used to a non-standard product and service deliveries. Large logistics departments have come up within companies to manage this 'chaos' and lowest price frequently becomes the watch word for many companies rather than quality of the solution provided.

For instance, dust-proofing at a storage place still does not command the kind of premium in India that it should, and as a result, the logistics service provider does not invest in such provisions. After-sales services get lost in a retail logistics maze, and the client finds local suboptimal solutions. This is routine today. Some changes in certain specific product ranges do seem to be happening, but at a very high price. Once such value addition begins to get recognized and priced in value term, the logic of the Logistics Industry will undergo a sea-change.

The Logistics Industry assesses client needs in partial terms. Most logistics companies do not have the financial wherewithal to put in world class facilities upfront and wait for the returns to be realized at a later date through an 'education' of the customer. Therefore a logistics service provider today gives exactly the service that is demanded of him. This is perpetuated by the fact that today a logistics company can set up business, offer base level service and make money, albeit with low margins because there is limited differentiation. Capabilities and skills are neither available nor do the customers currently demand them. The vicious circle of inadequately and competence in supply chain streaking out of its orbit, but the risk perception in such ventures is high and generally discouraging.

However the ray of hope is that perceptions seem to be changing. The reason behind the changing perceptions appears to be mainly that supply side pressure seems to be growing faster than the demand side in so far as logistics services are concerned. Increasing competition is forcing manufacturers and retails to increasingly differentiate their products. One of the way through which differentiation is being made is through the supply chain strategies. Today for example, mastering the rural supply chain and making company products available in every corner shop in a rural area is becoming a business imperative for most retail products. This is because the pace of growth of markets in rural areas is hardly beating those in urban centers. With such pressures the customers of logistics services are becoming ever more demanding. This is resulting in the capability and the inclination of the Indian Logistics Industry to experience a change, which might be slow but its deliberate. The Indian market will still remain extremely cost-conscious and tolerant towards logistics mishaps, even misdemeanors but positive signs are being seen.

However this change may still be nipped in the bud if no efforts are made by the government and its associated regulatory mechanism to provide an enabling environment to facilitate a paradigm shift in how logistics industry can grow unfettered. It is well recognized that government is making efforts to make improvements to correct the infrastructure deficit- be it in physical transport, warehousing and terminal infrastructure etc. However while physical capacity creation is being facilitated by, albeit slowly, there are other softer changes that are required to be made along with the capacity creation drive to realize the full impact of such changes. These include:

a. Coordination in infrastructure planning: Today there seems to be no coordination amongst the various agencies of the government in creation of infrastructure. If creation of additional port capacity for container handling is being planned little thought is given to evacuation logistics. When main network roads are developed the links remain of poor quality. To improve the situation requires a change in our planning mindset. Coordination in infrastructure planning will need to happen not only to truly bottlenecks, but also to avoid

overlap and attendant extra costs. Such resultant integration of facilities will help to reduce the high transaction costs prevalent in the economy.

Table: 2

Important projects of National Highways Development Programme

Phase 1	Golden Quadrilateral (GQ) - connecting New Delhi, Kolkata, Mumbai and Chennai
Phase 2	North South East West (NSEW) corridor connecting Srinagar, Kanyakumari, Porbandar and Silchar
Phase 3	Four laning of the two laned roads connecting state capitals and important tier-II and tier-III cities to the Golden Quadrilateral and NSEW corridor
Phase 4	Improvement of certain national highways
Phase 5	Six laning of existing four-laned national highways
Phase 6	Development of expressways
Phase 7	Ring roads, by-passes and flyovers

Source: NHAI

a. Improvements in tax regimes: Tax regimes and recovery procedures continue to be cumbersome and time consuming. There remains great uncertainty about the actual coming in of GST and the final shape in which it will come. However for improvement in logistics it is critical that tax regimes need to be simplified and reduced to a one- window/one- time levy across regions so that administrative processes do not hinder physical free flow of movement.

b. Reforms in urban planning: Urban planning today does not appear to factor in the enormous volumes of goods distribution catering to urban conglomerations in terms of road and peripheral infrastructure resulting in traffic restrictions and serious bottlenecks and logjams. This needs to be paid special attention by our planners.

c. Improving dialogue with industry: Finally the regulatory agencies do not facilitate proactive and participative dialogue with the industry. Blueprints and policy regulations today are a largely one-sided affair with some industry representations sought. This makes policies prone to avoidable trial and error events.

8. Conclusion

The future of the Indian Logistics Industry lies ultimately in value propositions for the customer. Value solutions can be engineered only if the complex strands of supply-chain mesh together seamlessly. These solutions are expected to command a premium but also come at a cost. The cost-conscious Indian market first has to be made to appreciate the value of premium services first. This would result a reduction in cost down the line, which can only happen when most of the deficiencies mentioned above are removed. Logistics companies can leverage further economies of scale when operations are expanded. This may require

industries to collaborate with logistics service providers to nurture their businesses, possibly in a way the automobile industry in India nurtured the auto-component companies. The future is bright for logistics industry in India- the expectation is that a tipping point for the industry will soon be reached which will propel it to greater heights.

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