

An Analytical Study on the Challenges faced by the Indian Logistics Companies and Smart Solutions to Overcome *(with special reference to Tamilnadu)*

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ABSTRACT

The backbone of the Indian economy is Logistics Sector, providing efficient and effective flow of goods services on which another sector depends. The logistics industry in India is growing rapidly, it is the combination of infrastructure and technology updating, which defines whether the logistic industry is able to help its customers reduce their cost and risk in logistics sector and provide efficient services. Here in this paper Various companies like Truck operators, freight shipping companies, multimodal companies, Courier shipping and supply chain solutions are taken as samples (118 respondents) where challenges faced by those companies in Indian Logistics Industry is assessed using statistical tools like simple percentage, Henry Garrette Ranking, Chi-square method and smart solutions to overcome challenges are given.

1. Introduction

The backbone of the Indian economy is Logistics Sector, providing efficient and effective flow of goods services on which another sector depends. The logistics industry in India is growing rapidly, it is the combination of infrastructure and technology updating, which defines whether the logistic industry is able to help its customers reduce their cost and risk in logistics sector and provide efficient services.

The logistics industry continues to witness growth due to the growth in retail, eCommerce and manufacturing sectors. The **Global Logistics sector was expected to grow by 13-15% in the period 2018-19**. The Logistics industry will be expected to reach over \$4 Bn by 2020. In India, around 10 to 15% of product cost can be attributed to logistics, which is comparatively significant from other economies like USA or China. Logistics companies in India are fast evolving, but this progress does not come without challenges. So in this article let us take a look at a few hindrances faced by businesses in the industry.

2. Objective

1. To understand the components of Indian Logistics Industry.
2. To identify the top challenges faced by the Indian Logistics Industry.
3. To define solutions for the challenges faced by the Indian Logistics Industry.

3. Components of the Indian Logistics Industry

The logistics industry is vast. It covers a wide range of services that all have an impact on how a product gets from the maker to the recipient. No matter where your business fits in the production and shipment line, it's always a good idea to get a feel for how a product gets from Point A to Point B.

Warehousing Services

Before a product is shipped, it is typically held at a warehouse or transported between a series of warehouses. While some companies choose to have their own independent warehouses, many work with third party logistics providers where they receive, store, and ship out items on their client's behalf, eliminating the need to pay for a complete warehouse on their own.

Warehousing is a very flexible part of the field. The storage needs will determine how much space is required for the products, how long the space is needed, how easily accessible the products need to be, and more. For instance, a company selling Christmas trees may require long-term storage for their products during the first half of the year, followed by quick inventory changes as it gets closer to Christmas.

Freight Shipping

Large orders and large items are often shipped through freight services. This may involve a combination of vehicles – trucks, trains, cargo ships, and more. Freight shipping may also require drayage services, which transport an order from a port to a warehouse for storage. Much like warehousing, freight shipping is a complex and ever-changing field with constant fluctuations in demand, labour shortages, shipping times, etc

Courier Shipping

Courier shipping is what most people think of when they picture a "shipping company" (FedEx, UPS, and other local couriers). Courier shipping is reserved for small orders or those that require a high level of care. Courier shipping is faster than freight shipping because it focuses on small orders, not large sets of items, but it is also more expensive if you are trying to ship large, freight-worthy inventory. Most retailers reserve courier shipping for the very last step in logistics, where the product goes directly from the warehouse to the buyer.

Third Party Logistics Provider

Third Party Logistics Provider ensure that all of these services and others associated with logistics seamlessly flow together. This requires a great deal of coordination, organization, and time management, but it is something that they have perfected over the years.

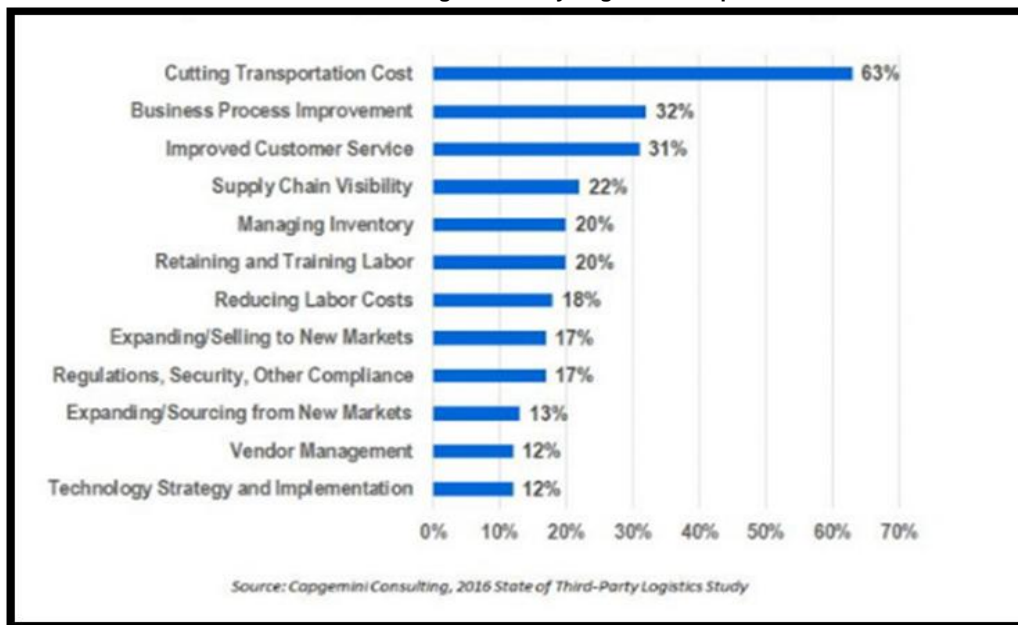
4. Challenges faced by the Indian Logistics Industry.

1. **Fuel Costs.** One of the highest costs contributing to the ‘cutting transportation cost’ concern is fuel prices. Higher fuel prices are likely to increase transportation costs for US shippers this year by pushing up fuel surcharges. Rising US diesel fuel prices are escalating surcharges added to freight rates, which is reversing a two-year trend that cut into the revenue and earnings of truckers as fuel prices plummeted.
2. **Business Process Improvement.** Notwithstanding the need for new technology, which we discuss in number eight on this list, it has become an increasing challenge for the logistics industry to stay on top of new advances in business processes. Taking advantage of these new opportunities sounds enticing but adoption and on boarding can be overwhelming.
3. **Improved Customer Service.** Customers want full transparency into where their delivery is at all times. These days, the location of a package is as interconnected as your social network. In fact, as customer expectations have increased, their

willingness to pay for fast shipping has decreased with just about 64 percent of consumers unwilling to pay anything extra for less than two-day shipping.

4. **Economy.** With high fuel prices comes a greater credit crisis and rising inflationary demands that take a greater toll on the US economy. This industry is then pressured by increasing compliance regulations, declining demand, additional capacity with additional increases in key cost centers.
5. **Driver Shortage & Retention.** Hiring and retention remain an issue despite the lower demand mentioned above.
6. **Government Regulations.** Carriers face significant compliance regulations imposed by federal, state and local authorities.
7. **Environmental Issues.** The anti-idling and other emission reduction regulations brought about by state and local governments has created concern that the compliance costs could exceed benefits.
8. **Technology Strategy & Implementation.** While the industry understands and supports many of the benefits of these technologies, some questions remain as to how they will pay for it and who will help implement the improvements.

Exhibit:1 Challenges faced by Logistics Companies



5. Improving logistics efficiency by adapting best practices

- 1) **Enlarge Storage** : By simply evaluating and implementing warehouse procedures, companies can effectively store, ship and move products. This requires competent and well-trained warehouse staff, strategic sequencing and use of vertical storage to fully utilize feasible space. Carefully analyzing order patterns to ensure quick delivery of products, effective space utilization also plays a very important role.

- 2) **Optimize Transportation** : As transportation and costs are proportional factors to each other, the rising cost of transportation affecting logistics industry directly. To minimize transportation cost, every logistics company should analyze every factor that might increase or decrease cost. Planning of every load and delivery route ensures trucks are always carrying full load. At the end, determining and utilizing the most cost-effective packaging and shipping methods for products.

- 3) **Automate logistics operation** : ERP software communicates between the warehouse and accounting departments, similarly they allow customers to access their shipment tracking and approval management. Automation streamlines the entire process, which minimizes staffing effort and maximize productivity, profitability and overall customer satisfaction.
- 4) **Encourage feedback** :The success of all organization depends on their customer experience, To achieve success carefully consider and analyze all the well wishing feedback's and suggestions from your customers that could further improves logistics efficiency. Logistics management is very complicated and challenging process, by implementing the above discussed strategies can help you to improvise and

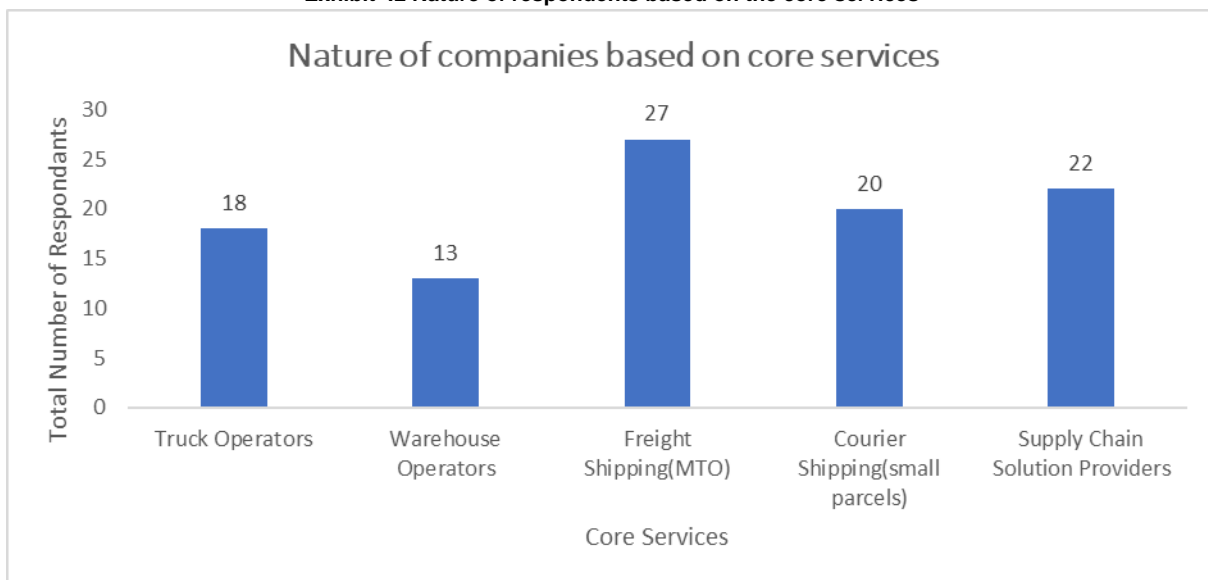
streamline all your logistics process. The improvement in logistics planning will directly lead to better productivity, more customer satisfaction and ultimately growth in company revenue.

6. Data Analysis and Interpretation

Nature of respondents based on the core services

Data is collected from various components of Indian Logistics Industry like Truck companies, Warehouse operators, Freight Shipping (MTO), Courier Shipping , Supply Chain Solution Providers based on the convenience of researcher from Various parts of Tamil Nadu. Initially 125 samples were collected using questionnaire through , few samples were rejected as they were improper/incomplete. Finally 118 samples were taken for consideration and analysis is done.

Exhibit :2 Nature of respondents based on the core services



Source: Primary data

From the above chart it is found that 27% of the respondents were Multi Modal transport operators, 22% of the respondents were supply chain solution providers, 20% of the respondents offer courier shipping services , 18% were trucking companies and least 13% were warehouse operators.

Challenges faced by the respondents in Indian Logistics Industry

Henry Garratte Ranking was applied to various challenges like : Fuel costs, Business process improvement, improves customer service, economy, driver shortage / retention, government regulations, environmental issues and technology strategy and implementation.

Table 1 : Challenges faced by the respondents in Indian Logistics Industry

FACTORS	1	2	3	4	5	6	7	8
Driver shortage	26	17	18	16	12	7	6	6
Improve customer service	18	17	16	20	26	8	6	7
Government regulations	16	12	17	26	12	12	7	16
Economy	26	10	17	26	8	4	7	20
Fuel costs	8	17	26	24	12	14	7	10
Environmental issues	10	7	14	24	26	12	17	8
Business process improvement	17	16	20	18	26	8	6	7
Technology implementation	16	12	17	12	12	26	16	7

Source: Primary data

Table 2: Garret value for each % position value

Rank	% position value	Garret value
1	6.25	80
2	18.75	67
3	31.25	60
4	43.75	53
5	56.25	47
6	68.75	40
7	81.25	33
8	93.75	20

Source : Primary data

$$\% \text{ position} = 100 (R_{ij} - 0.5) / N_j$$

R_{ij} = 1st, 2nd,8th ranks

N_j = Total ranks given by 118 respondents i.e 8

Garratte Score is obtained from the Henry Garratte Table

Table 3: Calculated Garret Rank Score, Average Score and Rank

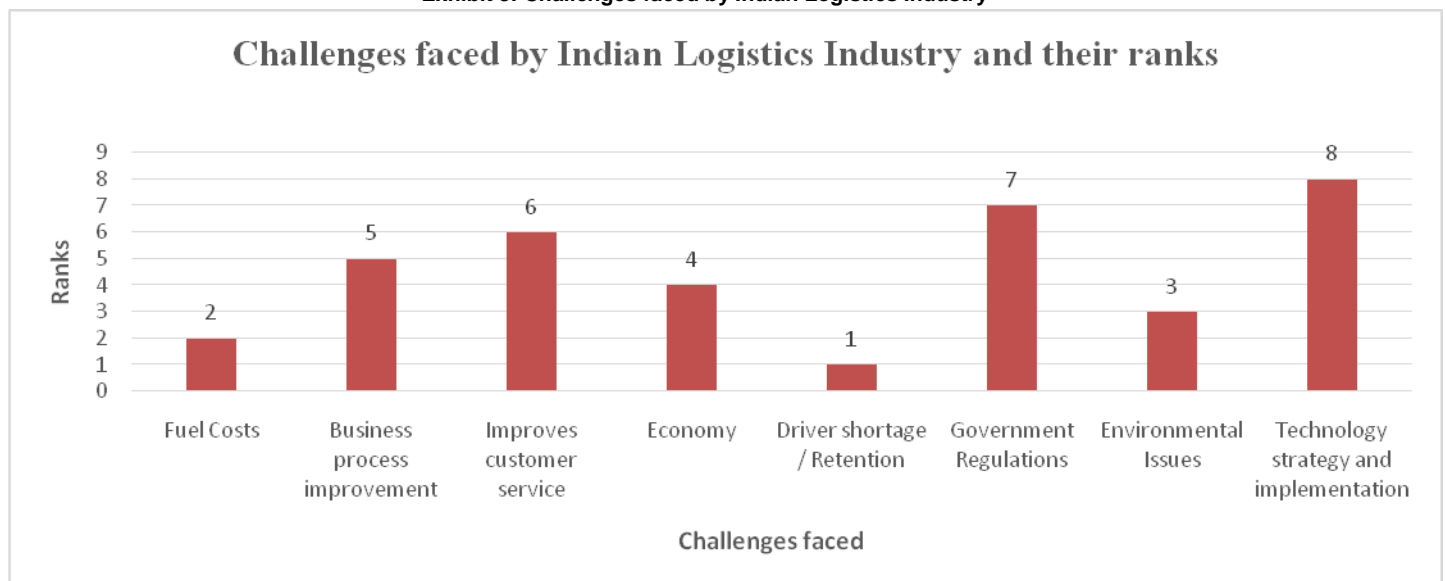
Factors	1*80	2*67	3*60	4*53	5*47	6*40	7*33	8*20	Total	Avg.Score	Rank
F1	2080	1139	1080	848	564	280	198	320	6509	55.16	2
F2	1140	1139	960	1060	1222	320	198	140	6179	52.36	5
F3	1280	804	1020	1378	564	480	231	320	6077	51.5	6
F4	2080	670	1020	1378	376	160	231	400	6315	53.51	4
F5	640	1139	1560	1272	1564	560	231	200	7166	60.72	1
F6	800	469	840	1272	1222	480	561	160	5804	49.18	7
F7	1360	1072	1200	954	1222	320	198	140	6466	54.79	3
F8	1280	804	1020	636	564	1040	528	140	5742	48.66	8

Source : Primary data

From the above table it is clear that the greatest challenge among all the factors are balancing the risk of fuel costs, followed by Driver shortage in the second place and business process improvement in the third place.

Environmental issues and technological implementation is considered to be the least challenges faced by the respondents.

Exhibit 3: Challenges faced by Indian Logistics Industry

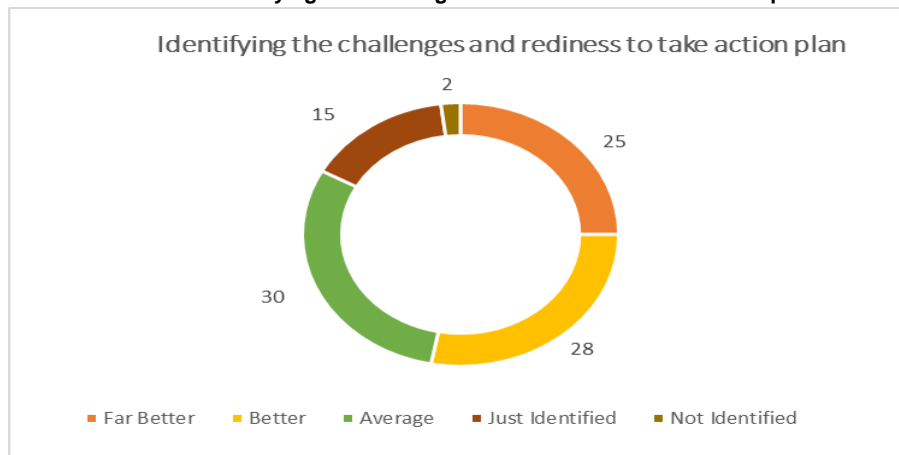


Source : Primary data

Identifying the challenges and readiness to take action plan

Every company has to identify its challenges in competing with the industry players and take action plan to overcome those challenges.

Exhibit 4: Identifying the challenges and readiness to take action plan



Source: Primary data

From the above chart it is clearly found that 25% of the respondents have far better in identifying the challenges in the industry while compared to 28% who have better identified. 30% of the respondents are found to be on average and 15% have just identified while 2% have not yet identified their challenges faced in the Indian Logistics Industry.

Relationship between number of years serving the industry and your company’s priority of readiness in investing money towards the action plan taken to overcome logistics challenges

Table 3 : Chi-square analysis

O	E	(O-E) ²	(O-E) ² / E
13	12	1	.08
12	15	9	.6
30	18	144	8
2	12	100	8.3
8	5	9	1.8
8	5	9	1.8
4	7	9	1.3
1	5	16	3.2
2	5	9	1.8
2	6	16	2.7
2	8	36	4.5
19	5	196	39.2
2	3	1	0.3
8	4	16	4
2	5	9	1.8
5	3	4	1.3
Total Calculated Value			80.63

Source: Primary data

Table 4 : Result of Chi-square

Factors	Calculated value	Table value	Degree of freedom	Level of significance
Number of years serving in the industry and readiness to take action plan for challenges	80.63	16.919	9	0.05

Since the calculated value is greater than the table value, null hypothesis(H₀) is rejected. Therefore it is proved from chi-square analysis there is significant relationship between number of years the company serves the industry and its priority towards taking action plan for the challenges faced in the Indian logistics industry.

7. Summary and Discussion

Customer service still remains the center of supply chain management and it depends on the *visibility* of information. It's necessary to be able to provide as much data as possible to the client, in order to make decisions and communicate shifts and changes in the supply chain before they cause issues.

Rising energy/fuel and freight costs, a greater number of global customers, new technology, increasing labor rates, new regulations, and rising commodity prices mean that operating costs are under extreme pressure. Technology is the greatest weapon in a supply chain's arsenal. Investment into platforms like TMS (Transportation Management System) and YMS (Yard Management Systems) can give professionals the visibility that they need, allowing them to see the parts of their supply chain that are notorious for hiding waste.

Planning & Risk Management helps us to stay as efficient and effective as possible, periodic assessments and redesigns are needed. Risks are identified and quantified in order to control and mitigate them. Creating a risk management plan for how your company will handle and overcome possible major disruptions to its supply chain will allow your operations to bounce back in no time.

Supplier/Partner Relationship Management-

The importance of supplier/buyer relationship is growing. You should aim to build a strong working relationship.

Communication and visibility are the key to maintaining a healthy relationship between buyer and supplier.

8. Conclusion

When it comes to a logistics business, continuous improvement is mandatory to facilitate robust and to sustained growth. Unexpected rising prices on expense such as energy to labour to raw material is a challenge for every company's bottom line. By adding slight improvement in logistics process, logisticians can sustain and gain profit an edge over their competitor.

To Successfully optimize your logistics operation you need to develop a plan, that will consider strategies to minimize your logistics operation cost, fully utilization of production capacity, adding appropriate technology modules and improvise entire quality of your customer experience.

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