

A Study of Logistics Performance Index for the Indian Logistics Providers

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Abstract

Despite to growing economy and becoming fifth rank in the term of GDP in all the nation, India has shown the growth in all the sectors of industry, no matter it is tourism industry, manufacturing, trading, and so on. Also, India has strategically developed into one of the world logistical centre. Moreover, the most important assessment tool that demonstrated the comparative situation of countries is Logistics Performance Index (LPI) created by World Bank. This index which has been prepared as a questionnaire consists of six dimensions. These dimensions are Customs: The efficiency of clearance process, Infrastructure: Quality of trade and transport related infrastructure, International Transportation: Capability of arranging competitively priced shipments, Logistics Competence: Competence and quality of Logistics Services, Tracking and Tracing: ability to track and trace your consignments, Timeliness: Carrying out the transports at scheduled time. In this research the author takes a closer look in the reason India lagging in the quality performance of the logistical sector. In doing so, the author will use interviews and case study benchmarking technique to determine the solution for the logistical industry of India. The most important contribution of this research is that it allows evaluating logistics performance over the top as to increase the size of a country's global competitiveness index.

Keywords: Logistics, India, Logistics performance index, Benchmarking

1.Introduction

Today's competitive market craves a clear view so that companies can withstand the competition. When we talk about the competition, logistics service providers (LSPs) play an exigent role to maintain the value of first companies in the market. Manufacturing companies can focus on the production of products and enhancement of the quality of the product, and they do not need to foresee the logistics part, as there are several LSPs in the market. LSPs can be of different types, amongst which third-party LSPs (3PLs) and fourth-party LSPs (4PLs) are in the mainstream nowadays. 3PL handles the logistics division of manufacturing or primary companies. They include storing and shipping, and some of the 3PLs helve the entire supply chain. (Lynch, 2000; Tommelein, Ballard, & Kaminsky, 2009)

In this research, we will foresee the logistics Indian subcontinent. We will understand the logistical system and structure of the Indian logistics, in this research we will also focus on the essential factor of benchmarking of Qualitative Management

and compare the Indian Logistics with the benchmarked countries. If we would be able to find some reasons or some factors which would be affecting the Indian logistics to reach the benchmarked level, those will be identified in this research and also will be summarised to make the Indian logistics industry as prominent as the benchmarked country for this research.

As we see from the report of the "World Bank" report and the LPI (Logistics Performance Index) score and rank in the world of 2007,2010,2012,2014,2016 and finally 2018, the fluctuation in India's ranking and the LPI score can be seen clearly (Table 1.1) (Atlas & Growth Rates. Washington).

Table-1.1 Logistics performance Index score and rank of India

Year	LPI Score	LPI Rank
2007	3.07	39
2010	3.12	47
2012	3.08	46
2014	3.08	54
2016	3.42	35
2018	3.18	44

Source: World Bank (2018)

As we can see from the above table, India's LPI score and LPI Rank have been the best in the year 2016. However, since then, the score and rank have been gradually decreasing. There might consider some factors and some reasons affecting them. This would also affect the business of 3PL in the country. If countries want to be more competitive, they should encourage the development of third-party logistics functions, including those in the service sectors. To ensure that services are efficient and competitive, governments will need to make long-term policy changes that improve and maintain the competitiveness of services, including logistics services that allow their countries to join global supply chains. A country's competitiveness based on low labour costs or abundant natural resources, for example, can be easily lost through inefficient logistics (Atlas & Growth Rates. Washington).

However, if we compare the same number of "World Bank" report with the Benchmarked countries we can see the difference between the numbers and the consistency of those countries with the Logistics industry of their country.

Table-1.2 Logistics performance Index score and rank of Germany

Year	LPI Score (Germany)	LPI Rank (Germany)
2007	4.10	3
2010	4.11	1
2012	4.03	4
2014	4.12	1
2016	4.23	1
2018	4.20	1

Source: World Bank (2018)

As we can see from this data about Germany, we can see the consistency of the German Logistics industry as the structure of the German Logistics industry is totally different. We would see further and compare the logistics industry structure of Germany with the Indian logistics industry.

However, Germany is a country with lesser population than India. Also, the diversity of Indian service or manufacturing industry is different. However, we might compare with Germany logistics structure with Indian logistics industry as the logistics system or structure could be very similar to each other.

As we know the similarity between China and India in terms of population, the FDI's, the diversity in the Manufacturing and service industry is one we can compare to and that can also this research to compare the logistical industry of two countries and finding the gap between China's logistics industry and India's Logistics industry.

Table-1.3 Logistics performance Index score and rank of China

Year	LPI Score (China)	LPI Rank (China)
2007	3.32	30
2010	3.49	27
2012	3.52	26
2014	3.53	28
2016	3.66	27
2018	3.61	26

Source: World Bank (2018)

1.2 Research Objectives

The main aim of this research is to identify the main reason for India's current LPI score and how can India Improve its LPI by taking reference from Germany and China. As we already know what fundamental factors or variables on which the LPI score is given, so I will use those Dimensions of LPI score and variables to track the problem of Indian logistics and will come with some solutions for this problems.

I will be intended to find these research questions mentioned below:

1. What are the main reasons for Germany being in Top rank of the LPI score from the World Bank? How can India reach the level of Logistics same as Germany?
2. Having the same demographic and topographic similarities of China and India, Why is China's LPI score higher than India?

2.Literature Review

The most significant work exhibiting the near circumstance of the world logistics area among nations is the Logistics Performance Index (LPE). This index is sorted out by the World Bank and comprises of six measurements. LPE is a far-reaching poll study directed with universal forwarders and express transporters over the world. This poll assesses the participants' performances in the field of logistics, such as the traditions procedures of their nations and the nations where they direct conveying, their administration quality and their infrastructure. The Trade and Carriage branch of the World Bank plans and executes the LPE poll with commitments from the Turku School of Financial matters of Finland. Different universal transport affiliations and establishments bolster the World Bank in getting ready and executing this Survey (Ojala & Celebi, 2015).

The most significant markers that inform us regarding a nation's advancement level are nation's monetary markets. If

these pointers are a positive way, this influences nation decidedly monetarily, socially, socially and mentally. The most significant factor in the changing of financial markers is logistics. In the ongoing years, logistics has picked up significance because of the way that nations' outside trade volume have expanded and due to the issues experienced in foreign trade. Hence, nations must have a maintainable local what more, remote trade framework is, and this trade must be upheld by logistics techniques to guarantee the progression of request to rank nations as per their serious quality (WEF, 2013). The World Financial Discussion bases nations' seriousness positioning as per the Worldwide Rivalry Index (KRE). While being very extensive, this index examinations national seriousness as far as macroeconomics. The Worldwide Rivalry.

Index (KRE)(Lydon & Wasik, 2008) comprises of 12 measurements. The World Financial Gathering utilizes two sorts of information in this examination. These are the global computerized markers and the Chief's Conclusion Poll. The global computerized pointers comprise of information, for example, open obligation, spending deficiency and future, which taken from global companies, for example, the IMF, UNESCO and the World Wellbeing Association (WHO). The Supervisor's

Feeling Survey, then again, utilizes personal information (WEF, 2013). This examination is an oddity in writing as no examination showing the relationship of these two indexes as far as measurements led beforehand. The most significant commitment of this investigation is that it has guaranteed the assessment of a nation's as a priority at the top positions in the global rivalry index over its logistics performance measurements.

3.Research Methodology

In this chapter the author discusses about the use of research method, the method used for data collection, method used to analyse the collected data, and the design of interview question.

3.1 Research method:

In this research, the author has incorporated the utilization of Qualitative research method. Qualitative research is an investigative method used in many different fields and other contexts. Qualitative research aims to gain an in-depth, profound understanding and knowledge of human behaviour and what are the reason can affect it. Qualitative methods investigate why and how to make a decision, not only answer questions of “what”, “where”, “when” (Denzin, 2005). Qualitative research described as a comparative approach for research that centres on securing data through the open-end and verbal trade (Dudovskiy, 2018).

According to (McNamara, 1999), interview method in qualitative research is more effective and informative in getting the participant's story. Using interview to develop the in-depth information, it will be functional and helpful for the participant's response or somehow explore and investigate new further aspects from that issue. Qualitative research brings out wide-ranging and inclusive information on the specific features of the social environment. Social life is counted as a series of interconnected events that need to be fully described to point toward real life. Qualitative method allows discovering essential and innovative findings that researchers may not have mentioned before. The theoretical reason for the need for qualitative research is that it helps in-depth study of human reactions and therefore can better understand human reactions than it does through technology Quantitative research. Moreover, qualitative techniques, especially "one-on-one" interviewing techniques, can help sociologists study different sets of attitudes that lead to the same action, decision.

From a viewpoint of (Rwegoshora, 2016), the qualitative research data is often uncountable, it is strings of text, video, images... meanwhile, and the data of quantitative research can be measured. Qualitative method is pushing deeper to participant's viewpoint by understanding and comprehend the essential asking question, it requires more interaction and communication between researcher and participant, that's why the answers of qualitative method are usually “open-ended”

which are not needed and required to be exactly the same respond with others responder (Denzin, 2005).

3.2 Data collection method:

3.2.1-Mixed analysis method

In this study the author have incorporate the mixed data collection method as mentioned prior:

3.2.1.1- Interviews:

Interview research is essentially a way of collecting qualitative and quantitative information by questioning a person. One key aspect to consider in interview research is the general objective (e.g., seek specific information, theory building, gather in-depth information around a topic) of the study, since this will guide decisions related to the type of interviewing to be used and the procedures for conducting the interviews. Given its nature, interviews enable the researcher to collect information regarding both verbal and non-verbal communication between participants. (FoodRisC, 2016)

3.2.1.2- Secondary data from article and internet

Secondary analysis has potentially important implications for qualitative researchers who seek to investigate sensitive topics within health, not least of which is the opportunity it offers to facilitate the training of researchers at all levels. Making existing qualitative datasets available for secondary analysis could be a way for novice researchers to gain skills in data collection, data analysis and synthesis, as well as grappling with the epistemological and ontological questions generated by the use of this methodology.

3.2.2- Interview Questions:

Semi-structured interviews combine the components of both structured and unstructured interviews. In a semi-structured interview, the interviewer prepares a set of questions to be answered by all interviewees, although additional questions may be asked during the interviews to clarify and further expand on specific issues.

The interview question asked in this study was derived for the Logistics performance index, sourced for the World Bank report.

4. Analysis and Findings

In this section the researcher has discussed about the findings from the interviews

4.1 Warehousing and Trans loading charges:

China:

In 2018, due to the investment in overseas warehouses and the large amount of investment and construction, the storage costs and Trans loading fees were relatively higher than 2012. Through overseas warehousing, in addition to being able to "front-end" and eliminate logistics risks in cross-border e-commerce trade, another role is to increase customer satisfaction and increase transaction volume.

However, everyone knows that investment has risks, of course, there are risks in choosing overseas warehouses. First of all, the goods must be best-selling, otherwise, it is easy to squeeze warehouses, resulting in increased costs.

India:

Warehousing segment constitutes only 15%-35% of the total logistics costs, its importance cannot be ignored with respect to the role it plays in the smooth functioning of a supply chain network.

The need to quantify the size of the warehousing market in India has led us to estimate the total requirement for warehousing space from the period of 2014 to 2018. Moreover, the total warehousing space requirement is expected to grow at a compounded annual growth rate (CAGR) of 9% from 919 mn.sq.ft. in 2014 to 1,439 mn.sq.ft. by 2018.

Manufacturing sector will continue to remain one of the biggest demand drivers with an annual requirement of 61 mn.sq. ft of incremental space between 2014 and 2018. The adjoining table provides a snapshot of the total warehousing space requirement in the country over the next five years.

Germany:

I suggest the tariffs and the Trade war between China and USA. Germany was/is heavily affected due to the high export rates to both of those countries.

4.2 Agent or Agency fees

China:

In addition to the "pure" freight, there are various miscellaneous fees for sea freight. Some of these fees are collected by the ship-owner, some are collected by the port of destination / destination port, and some are collected by the freight forwarder on his own behalf. Moreover, many fees do not have clear standards and are very flexible. In addition to charging the consignor, some fees will also be charged to the consignee (that is, our foreign customers). This can easily lead to two pitfalls: one is that some freight forwarders are overcharged by cleverly establishing their names, and the other is that freight forwarders adjust and transfer part of the costs between the consignee and consignor.

In 2010, the situation of unauthorized collection of Agent fees was more serious. In 2018, due to the increase in the number of Agents, the fees were collected as usual, so the Agent fees were reduced.

First of all, we must have a certain understanding of the composition of transportation and miscellaneous charges, and learn to distinguish between "regular" charging items and arbitrary charges.

Common miscellaneous fees includes;

1. ORC: OriginReceivingCharge starting port surcharge;
2. DDC: Destination Delivery Charge Charge at the destination port;
3. THC: TerminalHandlingCharge terminal operation (hanging cabinet) fee;
4. BAF: BunkerAdjustedFactor fuel surcharge, or FAF (FuelAdjustedFactor);
5. CAF: CurrencyAdjustmentFactor currency depreciation surcharge;
6. DOC: Document fee;
7. PSS: PeakSeasonSurcharge: peak season surcharge;
8. AMS: AmericaManifestSystem (American manifest system).

India:

Facilitation reforms, as well as lower trade volumes and shipping connectivity. ... To help reduce international maritime transport costs. ... Lower operating costs as compared to higher fixed ... the long term, however, the freight charges will have ... Container freight markets and rates.

Not resisting the "pure" cargo, there are various fees for ocean cargo. The boat proprietor gathers a portion of these fees, some are gathered by the port of goal/goal port, and the cargo forwarder gathers some for his benefit. Besides, many charges do not have clear guidelines and are truly adaptable. Notwithstanding charging the distributor, a few fees will likewise be charged to the proctor (that is, our outside clients). This can without much of a stretch lead to two traps: one is that some cargo forwarders are cheated by keenly building up their names. The other is that cargo forwarders alter and move some portion of the expenses between the proctor and distributor.

In 2010, the circumstance of an unapproved assortment of Operator fees was progressively genuine. In 2018, because of the expansion in the number of Agents, the fees were gathered not surprisingly, so the Specialist fees were diminished.

4.3 Quality of Infrastructure:

China:

As of the end of 2017, the total mileage of railway operations nationwide reached 127,000 kilometers, and the mileage of high-speed rail reached 25,000 kilometers, ranking first in the world. The "four vertical and four horizontal" high-speed rail network has been formed. A number of super projects such as the Shanghai High Speed Rail and the Qinghai-Tibet Railway shocked the world. Significant projects such as the Tongling Yangtze River Bridge with a main span of 630 meters across the Yangtze River, the Tongling Yangtze River Bridge, and the longest plateau railway tunnel in the world with a total length of 32.645 kilometers have been completed and opened to traffic. The tremendous achievements made in the development of railways vividly demonstrate the ability of China to build and manufacture in China. The world's advanced and complete railway engineering survey, design, construction, and acceptance standard system formed on this basis has made the railway engineering quality foundation more solid.

India:

The Indian government is undertaking several initiatives to upgrade its aging railway infrastructure and enhance its quality of service. The Railway Ministry has announced plans to invest yearly at Rail Budget.

- 1.1 High-speed rail
- 1.2 Semi-high-speed rail
- 1.3 Conversion to high-speed passenger and freight corridors: 2027 target of 10,000 km
- 1.4 Rolling Stock
 - 1.4.1 Modern locomotive factories
 - 1.4.2 Railway coach refurbishment
 - 1.4.3 Bio-toilets in all trains: March 2019 target
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 - 2. Infrastructure
- 2.1 Stations
 - 2.1.1 Station redevelopment
- 2.2 Tracks
 - 2.2.1 Dedicated freight corridors
 - 2.2.2 Track gauge conversion: March 2022 target
 - 2.2.3 Track renewal
 - 2.2.4 Track electrification: March 2021 target
 - 2.2.5 Doubling of tracks
- 2.3 Power and fuel
 - 2.3.1 Off-the-grid solar-powered trains: 1.13 gigawatt solar power target by March 2022
 - 2.3.2 Rooftop solar electricity
 - 2.3.3 Traintop solar electricity
 - 2.3.4 LED lighting
- 2.4 Safety
 - 2.4.1 Elimination of unmanned level crossings on broad gauge network: March 2020 target
 - 2.4.2 Automated fog pilot assistance system

- 2.4.3 Automated fire alarm system
- 2.4.4 CCTV camera on stations
- 2.4.5 CCTV camera inside trains
- 2.5 Information technology
 - 3. Services
- 3.1 Wi-fi-enabled trains and stations
- 3.2 Tickets
- 3.3 Escalators
- 3.4 Station upgrades
 - 4. Social responsibility
- 4.1 Rainwater harvesting
- 4.2 Reforestation

A road revolution is underway in India. The Ministry of Road Transport & Highways is implementing road projects at a record pace and drawing the blueprint to sustain the momentum of the development in the years to come. More than 17,000km of new roads have been awarded to road builders — and over 50% of them have already been constructed. With another 700 highway projects due to be completed in the next one year, the road revolution will go a long way in facilitating smooth movement of cargo across the country and give a big boost to the country's logistics industry.

Germany:

Consolidating of routes, more overnight transports, decreasing bureaucracy. Infrastructure is in Germany rated as very good. The Road Transport by Truck is dominant in domestic Transportation in Germany Focusing on specific routes which are mostly used. Building HUB-Systems as close as possible to the infrastructure

4.4 Quality of competence and service delivery:

China:

(1)-1. World leading infrastructure construction technology.2. Rapid progress in equipment manufacturing technology.3. Information technology and intelligent technology are widely used.

(2)-1. Continuous improvement of the market system.2. Laws and regulations system basically formed.3. Preliminary establishment of comprehensive transportation management system.4. Promote economic and social development.5. Serve and improve people's livelihood.6. Promote the construction of ecological civilization.

India:

One if the major reason why our country has to import is dearth of energy resources specifically in the form of oil and gas. India depends on Gulf countries for majority of petrochemical products and since these products form a basis for all our trade .

Our country has scarce resources regarding crude oil, gold, refined products, defence equipment's and technology so we have to import them for our domestic consumption.

We have abundant coal reserves, aluminium, bauxite and many other natural resources but in order to protect our environment and sustainable living we mine less and import more.

Indians are non-skilled people mostly. In our colleges they teach us only theory and basically nothing practical. The roots of this problem start from there..... All the high end technology is being imported to India just because of 2 reasons....

1. We can't make it at all.

2. We can't make it at the same cost as Chinese .

Hence due to above reasons our import increase in last 8 years, improve all above agencies.

Germany:

Rail and Truck Transport are dominant in Germany. Maintaining Infrastructure and the focus on Truck Transport would be a good way. The Rail Transport is also commonly used, due to the fact that HUBS are installed near to Train stations and Airports. Also in Germany the over-night transports are a good way to sustain it.

4.6 Process import and export clearance:

China:

Basic customs clearance procedures for general import and export goods: The customs clearance procedures for import and export goods can be basically divided into four links: declaration, inspection, taxation, and release. Now all are implemented electronically, as long as you can operate online, it is very fast and convenient.

India:

Essential traditions freedom methodology for general import and fare products: The traditions leeway techniques for import and fare merchandise can be fundamentally separated into four connections: presentation, review, tax collection, and discharge. Presently all are actualized electronically, as long as you can work on the web, it is extremely quick and helpful.

Germany:

They are standardized customs processes by EU Regulations which enhance the border control and speed up the process.

5. Discussions and conclusion:

In this section, the researcher discussed the way Indian logistics can adapt the ways and technique from China and Germany to improve the quality level of Indian logistics.

There are multiple aspects of Indian logistics' lag behind China and Germany. However, most importantly, there are six elements discussed in this study, and these are discussed in this section.

5.1 Warehousing and Trans loading charges:

As found discussed in the previous section, the warehousing and trans-loading charges have been increased in China, India and Germany. However, the difference between china and India warehousing increase was that the prices in China increased due to "investment in oversea warehouses and a large amount of construction." As for India it was the "quantity increased in Indian market of commodities in the past decade". While, for Germany, it was just the trade which increased the prices or fees.

As seen from (Rodrigue & Notteboom, 2009), the warehousing facility in developed countries such as Germany works as the buffer between the terminal and the final delivery point. Due to this eliminates the use of the distribution centre and though the pricing or the fees of the warehousing.

India can incorporate the way of china and Germany to eliminate or decrease the high charges of the warehousing. Investment in warehousing overseas, building warehousing facilities near the ports (i.e. airport, seaport), could provide a proper buffer zone and eliminate the high fees for the trans-loading facilities all over the country.

5.2 Agency fees:

As seen in the findings section, the agency fees in India, China and Germany have decreased due to various reasons. However, there are few agency charges which are similar to India and China. Mainly only for this India can compare with china and include the use of Chinese logistics method to sustain the level of low charges for the agency.

As India can incorporate the understating the use of technology, Innovation empowered the ideas of wealth and reached (Evans and Wurster, 2000), implying that the upsides of centralization (productivity) and decentralization (being responsive and closer to the client) are both empowered.

Most supply chains in develop economies are along these lines as of now profoundly proficient, making it hard for organizations to contend on cost. Stock control is frequently observed as One of the last territories of the upper hand (Grant et al., 2006), as stock is regularly the most significant single interest in resources for most makers, wholesalers what are more, retailers (Stock and Lambert, 2001). Stock carrying cost is not excessively bright as a core cost in the endeavour's benefit and misfortune proclamation (Bowersox and Closs, 1996; Hurlbut, 2004), making an open door for logisticians to exhibit esteem.

Stock choices likewise convey huge hazard and have a high effect all through the supply chain (Bowersox et al., 2013). Moreover, it is at the firm level that stock control impacted and improved, which implies that those organizations that quicken their stock turnover receive benefits as a result. This prompted the development of an improvement culture for stock control to diminish logistics costs.

5.3 Infrastructure:

As mentioned in the last section, the logistical infrastructure of India has been developing significantly with the help of the government. Indian road service, Indian port (i.e. airport and seaport) services have increased the level of logistics infrastructure in India. However, still, the LPI score of India is decreasing in the past few years. The Indian government has heavily invested in railways to increase the connective of four corners of India.

Although, India lack in the infrastructure facilities similar to China and Germany, as seen for LPI, provide by world and Germany infrastructure is the benchmark of logistics world and the road connectivity of Germany has dominated their logistics industry. Moreover, for China, the Chinese government have heavily invested in the infrastructure in the country with the super-project such as high-speed rail, the tunnels all over the country to improve the logistical system possibly.

As from this Indian government can improve the road connectivity to the eastern and western main ports such as the JNPT, Nava Sheva, Mundra, and so on., as these are considered to connect India to the rest of world. The total traffic handled at major ports in 2019-20 was 704.63 million tonnes, showing an overall growth of 0.82 per cent from the previous year in the traffic handled (website: <https://www.ibef.org/industry/indian-ports-analysis-presentation>).

Also, to improve the logistics infrastructure of Indian logistics should, improve is the efficiency of the customs and border management, quality of trade, competitive price of transportation, ability to track consignment accurately.

5.4 Quality of competence and service delivery:

As addressed in the section 4, The china and Germany have their own advatages as the quality of these countries competence is higher than India's, in compared with the road system of Germany, the rail and airport service quality are increased due to the HUBS of supply chain services are installed near the ports and the rail transport facilities. As noted by the author for the china's logistic the quality of the competence services are better than India in multiple factors such as, the leaders of the construction industry, the manufacturing technology and the use of more advance technology of the in terms of information technology. As well as, continuous improvement of the market in china, the law related to logistics and the transport management system plays a vital role in improving the logistics competence quality.

The main reason of Indian currently level of competence is lac of energy in form of the oil and gas resource as India is dependent on the gulf countries for that, also the skilled labor of Indian is scares and that create an huge deficient in the quality of infrastructure. Due to this reason, Indian cannot produce the product as same cost as Chinese product and the logistical cost of the

But India can improve the quality through closely learning the system, from the information technology of Chinese and also the trucking system, the road connectivity of the German logistics. India can incorporate the use of the similar information technique and India is considered as the information technological hub of the world, with few of the biggest technological companies having the office located in India.

5.5 Process of clearance:

In this sector Indian lags behind other two countries mentioned in this study, as the Indian logistical clearance time is 17 days for export and 21 days for import. If we compare this to Germany and China the clearance time is less and the process is faster.

The all the countries export or import process are distinguished into four sections, those sections are declaration, inspection, taxation and release. In China these processes are considerably quicker than India, as the information technology discussed in section 5.4 are to be better than India. Similarly due to corporate rules of EU regulations, the import and export processes are barrier free all around EU and that makes it faster.

Indian government can incorporate these techniques, use trade deals to make the trade smoother and quicker between countries. Indian government should combine the different processes with one and make the process shorter.

5.6 Contribution of the study:

To date, many developing nations are emerging as the import and export hub due to the countries' lack of resources and poor infrastructural facilities. To thrive, the logistical sector of the nation, the government of that nation will need a logistics structure and system that can sustain the logistical structure that can be useful for developing nations' supply chain industry.

To become successful managers in the logistics industry, international business and supply chain is a vast area of study that needs to be understood, including the use of special logistical curriculum in the studies in the university and colleges can provide a better learning environment for the particular individual and helps nations logistical sector grow and sustain.

5.7 Limitation:

This research may have some limitations. First, the researcher interviewed only three interviewees due to the limited time available and the global pandemic. With participants from three different countries India, China and Germany. The findings of this study were specific to the experience of the interviewees. Second, this study mainly focused on the factors related to LPI of the case countries. Future researcher could use varied comparison of logistics of the nation.

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