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The role of logistics performance index for developing port's hinterland: A case study for Bangladesh

Dr. Razon Chandra Saha

Head of Research and Innovation

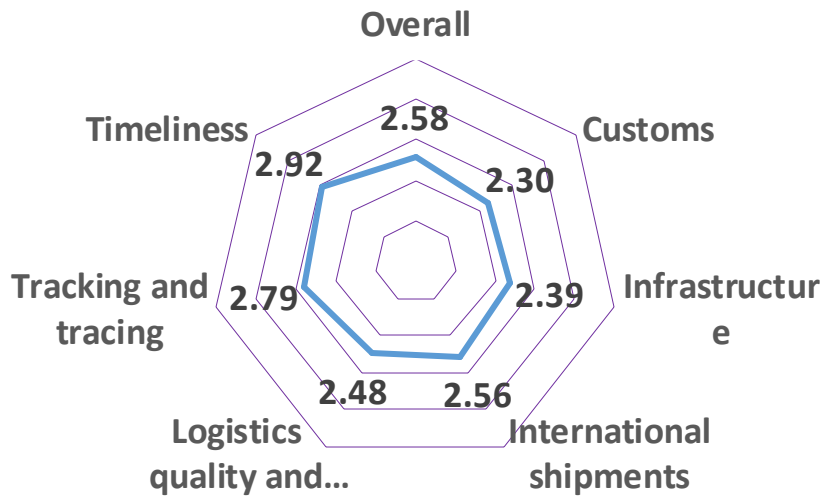
Saif Powertec Limited, Bangladesh

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Introduction



- ❖ Bangladesh is growing its maritime activities significantly.
- ❖ The container port throughput is reached 3 million TEUs by handling its own containerized cargo only.

- ❖ A lucrative geographical position of principal seaport Chittagong in the Bay of Bengal is inspired Bangladesh to do maritime transport business in South Asia.
- ❖ The Logistics Performance Index-LPI of Bangladesh is poor and scored 2.58 in 2018 that is 3rd place in South Asia and 100th in the world.
- ❖ This paper aims to explore possible ways to improve the LPI score of Bangladesh in all six dimensions created by the World Bank.
- ❖ It will help to serve the hinterland efficiently and play a vital role in the regional development in South Asia.

What is Logistics Performance Index-LPI?

The LPI

That is made for trade logistics,

A benchmarking tool that created by World Bank,

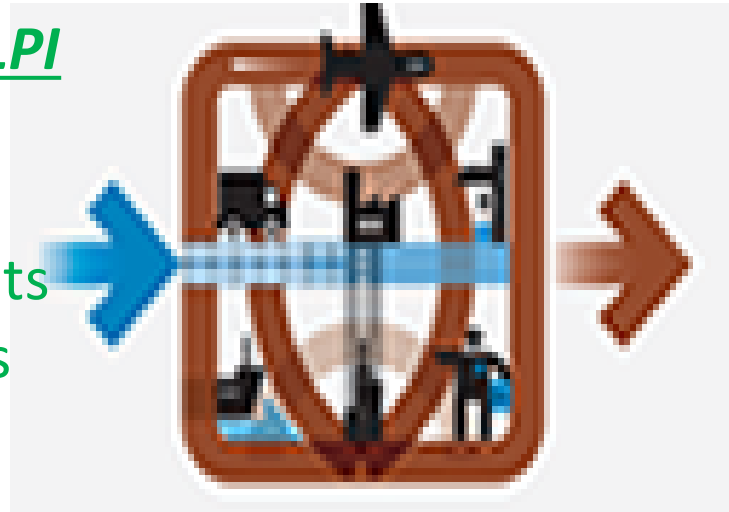
It will assist to improve trade performance continuously,

Understanding country's performance in logistics management,

To help countries to identify the challenges and opportunities they face in doing trade globally.

The 6 Components of Int'l LPI

1. Customs
2. Infrastructure
3. Ease of arranging shipments
4. Quality of logistics services
5. Tracking and tracing
6. Timeliness

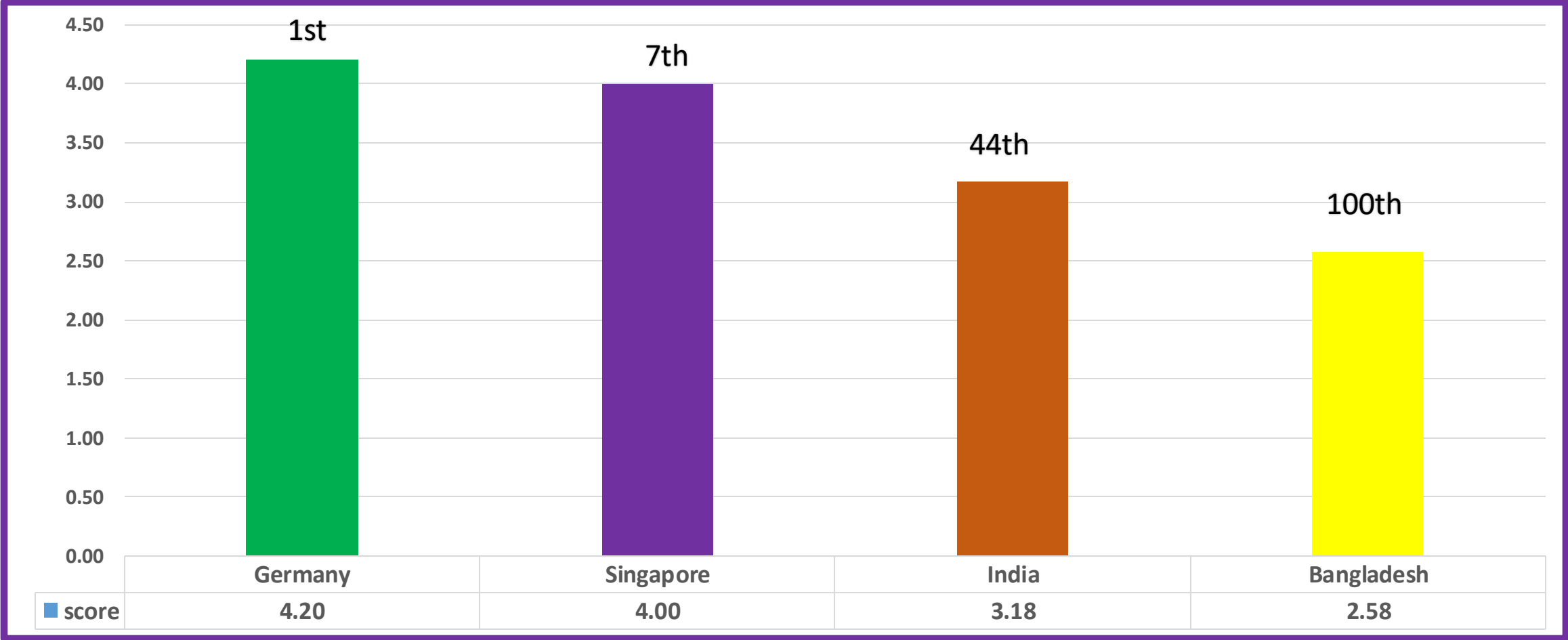


The 4 Components of Domestic LPI

1. Infrastructure
2. Services
3. Border procedures and time
4. Supply chain reliability

Bangladesh is in International LPI (Except 2012) and yet not entered into the Domestic LPI ranking

Logistic Performance Index –Bangladesh and Others

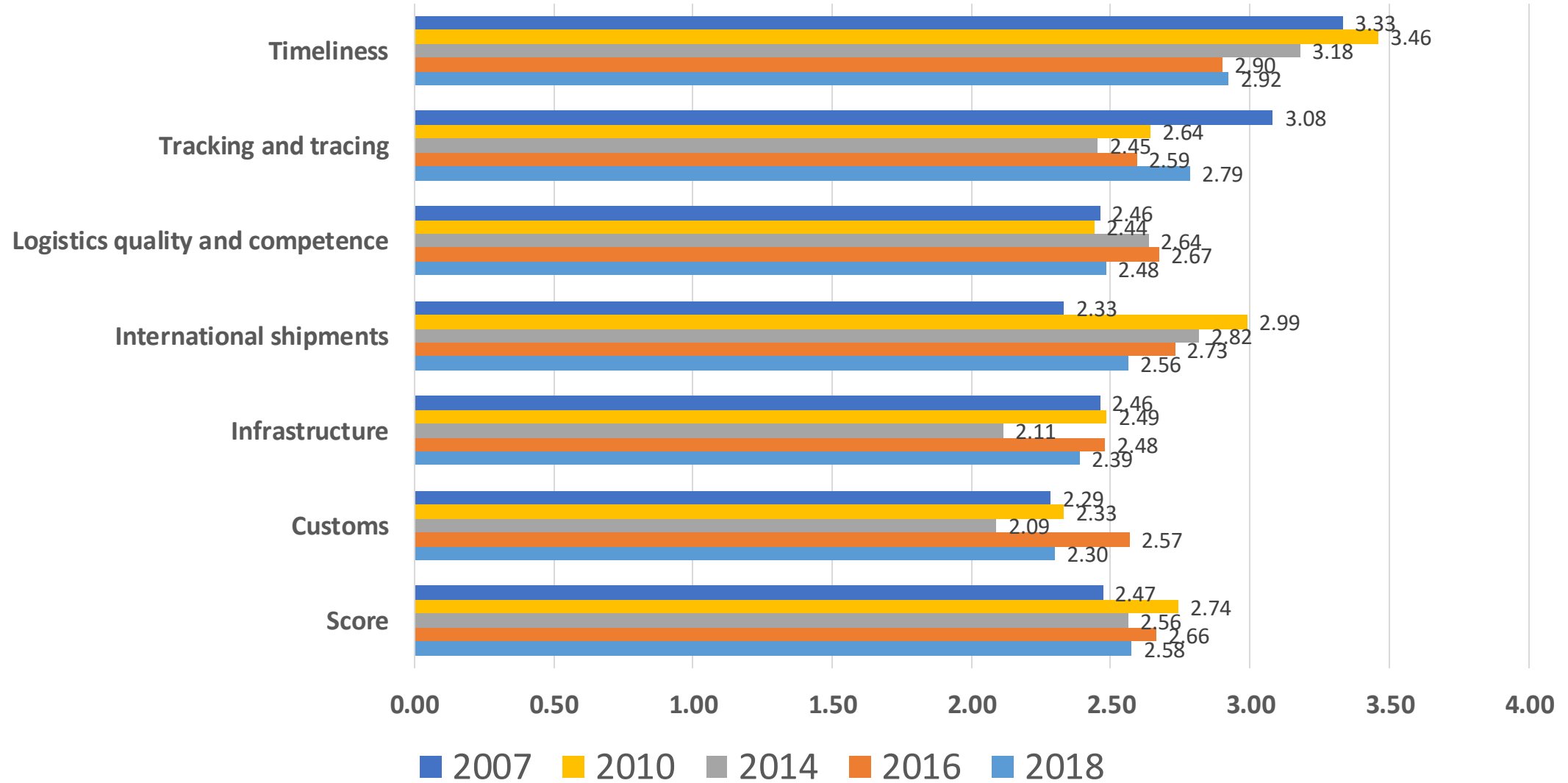


LPI score comparison in World, Asia, South Asia and Bangladesh

Source. LPI,Worldbank, 2018



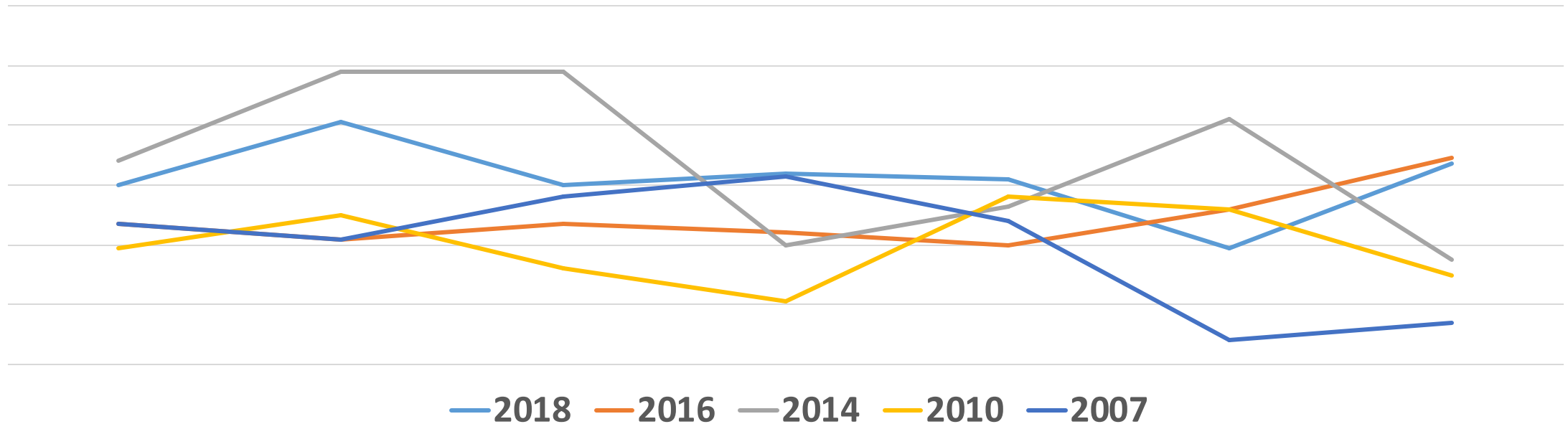
LPI in Score for Bangladesh (2007-2018)



100th Position out of 160 in 2018



LPI in Ranking for Bangladesh (2007-2018)



	Overall	Customs	Infrastructure	International shipments	Logistics quality and competence	Tracking and tracing	Timeliness
2018	100	121	100	104	102	79	107
2016	87	82	87	84	80	92	109
2014	108	138	138	80	93	122	75
2010	79	90	72	61	96	92	70
2007	87	82	96	103	88	48	54

Note.

Source. LPI, Worldbank, 2018



Problem Statement

- **The cargo clearance process, port and customs facilities, inland transport networks are not up to the mark to arrange priced shipments competitively.**
- Moreover, seaborne cargos are in a stagnant position at port or nearby off-docks and unable to move to the final destination or vice versa.
- **The share of intermodal freight transportation is less than 5% against the container port throughput because of scanner problems at port, less utilization of waterways and low performance of rail intermodal.**
- There is no proper tracking system of cargo and container from port to consignee and reverse as manual cargo tracking and monitoring in most cases of inland transportation.
- **The Liner Shipping Connectivity Index-LSCI is also poor due to poor LPI as cargo destination diversity is not inspiring to create more shipping routes in the ocean shipping networks of global shipping**

Research Methodology

This research applied a mixed research method to investigate the possible reasons that are creating a low score LPI in Bangladesh.

The quantitative data analysis will help to get the logistics standard position of Bangladesh collected from the World Bank.

In the qualitative research survey, set 7 questions (6 for LPI Indicators and the last for suggestions to improve LPI). Fixed questions on indicators have explored the opportunities or potentiality and ways to improve LPI.

Literature Review-1

Logistics has crucial importance in national and international trade and, hence, in the development and competitiveness of a country (Kabak et al., 2019).

Logistics always affects the enterprise's efficiency and also assists to develop the economy of a country (Stepanova.2022).

LPI is the most comprehensive index to data to measure the countries' logistics performances and provided an insight for facing possible opportunities and strengths (Mustra, 2011).

To integrate global business in the age of globalization, need to emphasize the creation of international logistics systems and global supply chains on the international market (Beysenbaev and Dus, 2020).

Arvis, et al. (2018) examined that LPI indicators are focused on the transportation of manufactured cargo as high-value cargo and narrow-downed the contribution of bulk commodities which also affects the logistics performance.

Literature Review-2

To ensure the effectiveness, efficiency, and equity of haulage infrastructure decisions of a country, long-term development is essential for freight transportation (Melo et al., 2019).

Jayathilaka et al. (2022) revealed that LPI has a positive relationship with net exports and GDP growth allows to set better LPI to increase export globally.

Guner and Coskun (2012) evaluated that social indicators are more related to logistics performance than economic ones.

Earlier, LPI has been widely used by policymakers and researchers but now LP indicators are all regarded as being equally important within the complex system of logistics (Rezaei et al., 2018).

Bangladesh is an international trade-dependent country and is profoundly impacted by maritime logistics performance to boost trade and economic development (Chowdhury, 2021)

Indicator.1: Customs

REMOTE VETTING INSPECTION AND CHECKLIST



- ✓ Right time placement of Customs Officers and complete the inspection timely.
- ✓ Harassment of operating employees (Shipping agents, C&F agents and others) that result in delaying the shipment or clearing cargo from the port.
- ✓ To perform as per customs act 1969 and further SRO's that circulated for the nation.

Example

Country's first Riverine Inland Container Terminal Pangaon is suffering severely in getting Customs people to complete assessment task for both import and Export



Way Forward

Enhancement the capacity of Customs department by training and bring digital checking procedures and follow the rules and regulations strictly and avoid corruption in Customs Clearance.

Indicator.2: Infrastructure

- ✓ Freight transport infrastructure such as Dry Port regional off-docks and standard river terminals are absent.
- ✓ Inland freight transport connectivity is poor and not integrated with the seaports from the all parts of the country.
- ✓ Government emphasized on passenger transport infrastructure and overlooked freight unexpectedly.



Way Forward

Integrate all seaports with inland and urban freight terminals and create seamless connectivity to cover the last-mile/origin of the cargo and introduce mechanized cargo handling system.



Example

Nagarbari river port is going to construct at Pabna for North Bengal freight corridor that will be connected to all seaports of Bangladesh directly through inland waterways. It will improve the regional connectivity with India, Nepal and Bhutan.

Indicator.3: Ease of Arranging Shipments



Way Forward

Government needs to locate the shipment/delivery place and arrange intermodal system to avoid multiple handlings of cargo and container.

- ✓ Reliable to Chattogram port fully and Mongla port partially (Unless any urgent requirements)
- ✓ Shipper/consignee not interested to use Dhaka rail ICD and Pangaon ICT due to road access problem and day movement in the capital city.
- ✓ Highly dependency on the off-docks of Chattogram and try to avoid inland freight transport nodes.
- ✓ Road congestion at the main Dhaka-Chattogram corridor increases the passage time and difficult to catch international shipment time.
- ✓ Mind-set of the users in sending cargo to Chattogram port's off-dock by using conventional trucks and covered van.

Indicator.4: Logistics Qualities and Competence

- ✓ Presence of all main line operators including NVOCC and providing best feeder services to the spoke ports.
- ✓ Renowned freight forwarders are working in Bangladesh and providing quality services to the customer.
- ✓ Excessive uses of old trucks and covered van that are not environmentally friendly.



Way Forward

Practice “Just-In Time” approach and ensure the quality of the transporter to provide quality logistics services to all.



Example

Saif Powertec Limited who is managing more than 60% of total port throughput and reduced vessel turnaround time significantly. Moreover, supporting Chattogram Port Authority to introduce intermodal system to the intermodal transportation system.

Indicator.5: Tracking and Tracing



Way Forward

Fully application of ICT in the freight transport sector and regular system update to the customer.

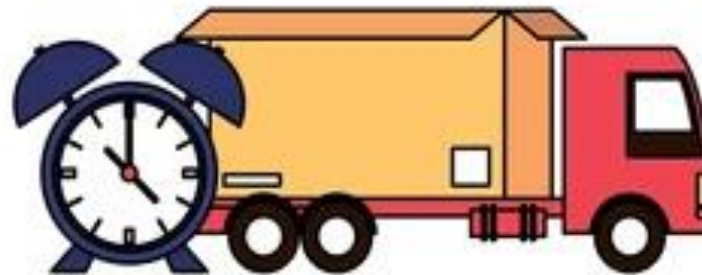
- ✓ Maximum customer is not interested in cargo tracking and allowed extra-time for international shipment.
- ✓ Shipper/consignee not in a position to invest extra money for modern cargo tracking and tracing. They are favorable to get free services from the operator or logistics company.
- ✓ Local companies are unable to develop tracking software and not concerned to update its client timely.
- ✓ Not practicing electronic cargo tracking device and not used to develop modern technology for the whole transport system.

Indicator.6: Timeliness

- ✓ Considering congestion at road passage, loading of container into train or inland vessel.
- ✓ Fix a time-table and shipped cargo timely and put extra time in inland cargo movement or transfer of container from/to seaport.
- ✓ Remove the barriers in the passage such as multiple handling, customs assessment, selection of container/vessel, inland transport procurement and placement of cargo vehicle at the spot timely.
- ✓ Put-Just-in-Time approach to manage time and save money.

Way Forward

No delays in cargo movement irrespective of inland transfer, cargo consolidation and terminal handling before receiving bill of lading or clearing cargo from the port to factory premises.



Example

RMG industry always maintained a fixed time-table from importing raw materials further warehousing and delivery finished good in FOB terms at seaport.

Suggestions for Improvement

1. Maximum utilization of rail and river mode and reduce pressure on road mode as well as stop unhealthy old model trucks and covered vans.
2. Honest and sincere human resources to be deployed in all port and customs departments.
3. Develop a good inland infrastructure of the river port, dry port, and inland container depot.
4. Inland cargo movement to be monitored by the government by utilizing a digital platform where shipper/consignee will have common access.
5. Stop cargo pilferage at transport nodes, highways, and during delivery, during warehousing, and international shipment.

LPI and Seaport's Hinterland

- **LPI is well connected to the performance of LSCI to explore the foreland activities of a country.**
- Furthermore, it will assist to increase hinterland by getting logistics support in terms of customs facilities, adequate infrastructure, cargo tracking, and tracing and accomplish the shipment activities timely.
- **Good LPI index will attract far shipper/consignee irrespective of geographical boundary to use port facilities of a country.**
- Uninterrupted inland freight transport connectivity will attract neighboring countries to use port facilities as well as to do “Port Transport Business”.

Next Course of Action in a brief

Indicators	Details	Score/Rank	What to do in next?
Customs	The efficiency of customs and border management clearance	2.30/121	Develop easy customs procedures in import-export trade and reduce corruption in the false plea of commodity checking and testing.
Infrastructure	The quality of trade and transport infrastructure	2.39/100	Emphasize on transport infrastructure. Establish dry port, freight rail track and international standard river ports all over the country.
Ease of arranging shipments	The ease of arranging competitively priced shipments	2.56/104	Reduce transport cost and avoid multiple handlings at various nodes.
Quality of logistics services	The competence and quality of logistics services—trucking, forwarding, and customs brokerage	2.48/102	Offer best logistics solutions for inland freight transport and use modern trucks instead of conventional trucks and covered vans.
Tracking and tracing	The ability to track and trace consignments	2.79/79	Increase use of ICT in freight transport management. Utilization of electronic container seal and digital tracking of freight locally and monitoring and update shipper/consignee by using software
Timeliness	The frequency with which shipments reach consignees within scheduled or expected delivery times	2.92/107	Practice Just-in-Time approach for managing schedule of shipment and timely clearance of cargo from the seaports/CFS/Off-dock.

Overall Score. 2.58 and ranked 100th out of 160 countries of the world

Conclusion

- **Two important strategies of the perspective plan 2041 are 1) Establishment of inland container river port on a priority basis and 2) Upgrading port facilities (both cargo and passenger) as well as storage facilities and introducing mechanical equipment to handle cargo efficiently.**
- The methodology used in LPI ranking falls into some controversial subjects such as it is comprised of subjective answers of different logistics operators, it tends to be skewed and undervalues some countries with a statistically better logistics system (Beysenbaev and Dus, 2020: Raimbekov et al., 2017).
- **In addition, Guner and Coskun (2012) identified that LPI prioritized social phenomena highly rather than considering economical factors.**
- By improving LPI, logistics costs will be decreased and regional connectivity will be increased.
- **The practical impact of this study will bring the foreign investment and the intermodal network will be expanded to the hinterland and increase regional connectivity in Asia.**

Thanks a lot

Qualitative Survey Questionnaire

1. What is the role of “Customs” in supporting logistics activities in Bangladesh? How they will give better services in clearing and forwarding cargo timely? (Customs)
2. Do you feel that transport infrastructures are enough to complete international shipment and inland transportation of Bangladesh? (Infrastructure)
3. How you will expedite or make easier the process of the international shipments from /to Bangladesh? (Ease of Arranging Shipments)
4. Are you satisfied with the competence and quality of existing logistics service providers for trucking, forwarding, and customs brokerage? How competence and quality of existing logistics service providers will be increased? (Quality of Logistics Services)
5. Do you feel that cargo tracking and tracing are difficult in Bangladesh? How ICT will help us to install tracking and tracing systems? (Tracking and Tracing)
6. What are the barriers to completing international shipments timely? How we should improve it and reduce cargo clearing and shipment time? (Timeliness)
7. Any suggestions for improving the LPI for Bangladesh. Received response from 30 participants.