Mission

To be the premier Institute in Asia – Pacific nurturing logistics excellence in research and education

Professor (Dr.) Robert de Souza
Executive Director
tlihead@nus.edu.sg
Enabling Services: The Critical Role of Infrastructure Services in Enhancing Overall Competitiveness

Through 3 QUESTIONS

FDI  Talent

Disruptions
Question 1:

Is Logistics Capability or Infrastructure a Factor In Foreign Direct Investment Location Choice?

- To determine the importance of logistics as a factor in influencing the choice of location when establishing a company’s investments and operations
- Singapore’s performance in logistics as an example
As MNCs invest with various motives (e.g., market seeking, asset seeking) and employ different strategies (e.g., low-cost strategy, differentiation strategy), then, the World Bank index in itself may not suffice, we adapt it. Singapore ranked 1st globally, followed by Hong Kong.
Six elements in the Logistics Performance Index developed by the World Bank:

- Efficiency of the customs clearance process
- Quality of trade and transport-related infrastructure
- Ease of arranging competitively priced shipments
- Competence and quality of logistics services
- Ability to track and trace consignments
- Frequency with which shipments reach the consignee within the scheduled or expected time
A more research-oriented Logistics Capability Index (LCI) with four elements:

- Logistics Services Quality
- Infrastructure: Physical infrastructure
- ICT infrastructure
- Efficiency of import-export procedures
- Regulatory Environment

- Speediness reliability cost Project capability
- Airport Land transport Rail transport Seaport Storage
- Custom speed Documents needed Custom cost transparency
- Laws & regulations transparency Incentives manpower
- Project capability
Two new sub-indices are proposed, Responsiveness Logistics Capability (RLC) and Cost Logistics Capability (CLC):

- RLC measures the logistics capability of the host country on achieving responsiveness, i.e., logistics support for firms focusing on providing customized or unique products.

- CLC measures the logistics capability of the host country on cost control /efficiency, i.e., logistics support for firms focusing on providing low-cost standardized or commoditized products.

\[\text{LCI elements are not related to firm characteristics}\]
Importance of LCI elements: The four elements are almost equal in weight

- Weight vary from 5.15 (3PL quality), 4.88 (import-export procedure), 4.84 (regulatory environment), to 4.82 (infrastructure)

LCI elements are not related to firm characteristics such as size, origin, or investment experience

Components of RLC: custom speed, airport infrastructure, IT infrastructure, and 3PL efficiency

Components of CLC: custom cost, rail infrastructure, seaport infrastructure, and 3PL cost.
### Findings - Logistics Capabilities by Country

<table>
<thead>
<tr>
<th>Country /State</th>
<th>RLC</th>
<th>CLC</th>
<th>Overall LCI score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Singapore</td>
<td>4.90</td>
<td>4.25</td>
<td>4.74</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>4.93</td>
<td>4.25</td>
<td>4.78</td>
</tr>
</tbody>
</table>

(Raw data range is from 0 (not satisfactory) to 6 (very satisfactory); only countries with sufficient responses are included)
# Findings - Logistics Capabilities of Singapore

<table>
<thead>
<tr>
<th>Strong aspects</th>
<th>Weak aspects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong air transport infrastructure (5.19)</td>
<td>Poor rail infrastructure (3.31)</td>
</tr>
<tr>
<td>Strong seaport infrastructure (5.25)</td>
<td>High custom costs (4.42)</td>
</tr>
<tr>
<td>Strong ICT infrastructure (5.12)</td>
<td>High 3PL costs (3.91)</td>
</tr>
<tr>
<td>Custom speed &amp; transparency (5.06)</td>
<td>Weak 3PL project management capability (4.33)</td>
</tr>
<tr>
<td>Good regulatory environment (5.03)</td>
<td>High manpower cost (4.45)</td>
</tr>
</tbody>
</table>
Emergence & Sustainability Of Logistic Clusters: A Singapore Perspective

Perception of Singapore as a Logistics cluster

- Strategic Location: 7.00
- Presence of Competitors
- Macro-economic factors
- Scope of Growth for company
- Cost of doing business
- Security Measures
- Availability of Labour
- Infrastructure Quality
- Customs & Border processing
- Legal & Regulatory framework

1 - Least Favourable ↔ 7 - Most Favourable
Supply chain consideration (the logistics needs of MNC) is the top FDI motive, followed by political stability, market seeking, tangible asset seeking, and intangible asset seeking.

- MNCs often invest in Singapore for logistics needs.
- MNCs with strong supply chain consideration value RLC more but not CLC.
- MNCs with strong market seeking motive value RLC more.
- MNCs seeking for tangible assets do not value CLC more.
- MNCs seeking for intangible assets are indifferent to either RLC or CLC.
FDI performance is largely unrelated to the logistics capabilities of host countries as the performance is measured against initial expectations.

3PL quality is related to FDI performance:
- Government can help MNC improve performance
  - by improving 3PL quality (e.g., 4PL capability)
  - With access to talent
  - With robust highly connected infrastructure
Question 2:

If Logistics Capability or Infrastructure is a Critical Success Factor, how do we minimize disruptions?

Selected Information

<table>
<thead>
<tr>
<th>Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Logistics Expenditures as a Percentage of Sales Revenues</td>
</tr>
</tbody>
</table>

Main Challenges

- Supply chain disruptions affect firms’ top and bottom lines and are becoming increasingly expensive
- Supply chain disruptions come from four main areas:
  1. Natural factors
  2. IT, energy, and communication outages
  3. Business operations failures
  4. Economic and political factors

Source: 2013 Third-Party Logistics Study
Question 3:

3PL CEO’s rank talent and leadership as the most significant challenge to growth, driving innovation and managing potential supply chain disruptions.

Talent Management: Driving Success Factor

How do we develop and sustain Logistics Talent?

Source: 2013 Third-Party Logistics Study