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Port Performance Measurement: An Overview

by

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Performance – a relative concept!!

\[
\text{Output Performance} = \frac{\text{Output}}{\text{Input}}
\]
Why measuring performance?

- To monitor activity
- To compare present with past performance
- To compare present with target performance
- To compare with competitors' performance
- To adjust targets
- To promote the business
- To check efficiency, productivity, effectiveness
- ???

Issues in Port Performance Measurement

- What to be measured?
- What data to be included?
- How to measure?
§ What to be measured?

- Productivity
- Efficiency
- Effectiveness
- Logistics and supply chain aspect?

§ What data to be included?

- Cargo type – dry bulk, liquid bulk, container, roro
- Vessel type
- Port/terminal type
Issues in Port Performance Measurement

§ What data to be included?

- Collection method
- Consistency
- Comparability
- Measurability / Quantifiability

Table 1.1 A list of possible port inputs and outputs

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land (Area/length)</td>
<td>Throughput (Volume)</td>
</tr>
<tr>
<td>Labour (Number of employees)</td>
<td>Profit</td>
</tr>
<tr>
<td>Capital (Value of port infrastructure)</td>
<td>Customer Satisfaction</td>
</tr>
<tr>
<td>Equipment (Number/type of cranes)</td>
<td>Ship turnaround time</td>
</tr>
<tr>
<td>Port charges</td>
<td>Berth utilization rate</td>
</tr>
</tbody>
</table>

Source: UNCTAD Secretariat
How to measure?

- “Hard” (Quantitative) vs. “Soft” (Qualitative) measures

- Hard measures include single (or partial) factor productivity, TFP, SFA, DEA …

- Soft measures include perceptual (e.g. satisfaction, keeping promises) aspects.