MT 2005 AY 2017 Semester 2 Suggested answers

Question 1a → Dr. Lam's Lecture on Port competitiveness and competition

Port Selection - shippers

- Perspective from shippers
- Important factors determining port choice:

- Commodities involved

- Port charges

- Transport cost

- Distance

- Inland transit time

Level of connectivity

Level of efficiency

- Turnaround time on cargo

- Adequacy of infrastructure

Schedule and service reliability

Cargo safety and security

Viable alternative routings

Concern	Explanation
Cost-driven	Fundamental consideration Higher proportion of freight in overall cost equation means more emphasis on this by shippers
Time to market	Time in transit incurs inventory cost Inippers of high-value and time-sensitive cargoes value speed May be cheaper to ship in small quantities frequently even if freight cost is greater
Reliability	Growing importance of "just in time" inventory control systems Shippers may be prepared to pay more for guaranteed service level
Security	Loss or damage in transit is insurable risk but raises many difficulties for shipper Shipper may be prepared to pay more for secure transportation without risk of damage

11

M.

1. The different factors would be the 4 concerns - cost driven nature, Time to Market, Reliability, Security.

- 2. Explain each of the 4 concerns in terms of the important factors given.
- 3. Substantiate the ideas rather than just quoting → How does each factor come under the concern? Eg: High port charges means that the total cost incurred by shipper is higher and their total pricing of the commodities from the consignee is higher, leading to lower price competitiveness (something that shippers would want to avoid).

Some points may have different explanations. For example, Distance may be understood to cause longer time to market due to longer transit paths OR (higher costs due to longer transport time and fuel cost of vehicles). The factors that I wrote during the paper was slightly different from these 4 factors, but the approach was the same and cost/time was mentioned as well.

Question 1b → Must make reference to your 1a answer (The 4 concerns) and be clear of the major players involved AND in the context of Singapore

Approach

- 1. Must present two sided arguments whenever possible
- 2. This requires much background reading about Singapore's port and understanding what distinguishes it from other ports such as Tanjong Pelapas/ Port klang etc
 - Example: High degree of automation/well equipped human resource/efficient shipping traffic lanes/high cargo generating potential etc etc

3. Cost driven

- (+) Yes, Singapore has high port charges due to our economic structure (high wages, high operating cost etc) and competitor transhipment ports like Port of Tanjong pelapas actually cost much lesser.
- (-) The ultimate factor is generalised cost which is the aggregate of all costs and represents how competitive a port is relative to another. We need to also consider other competitive edge like automation/ high efficiency/ great track record and reliability/ updated technology. Cost driven concern may not be representative as users choose based on generalised cost rather than charges alone.

Time to market

(+) Highly indicative because it allows for shippers and consignees can capitalise on Just in Time concept which is on the rise. Very important for transhipment ports which are supposed to value add

Reliability

(+) A major component of generalised cost and highly indicative of a port's competitiveness. High reliability can have much implications such as smooth loading unloading, minimal delays and shipping companies can better adhere to schedules. We can link it to the Liner shipping which requires for fixed schedules and timetables

Security

(+) highly indicative because the fundamental purpose to shipping to transport cargoes from one place to another. Transhipment has security concerns (eg. Loading and unloading of containers and accidents causing container damage/falling into the sea). Poor security in the forms of damage/loss of cargo defeats the purpose of shipping and has more implications (delays in production—)losses) and high security translates into lower generalised cost for port users.

Question 2 → Mr Benson Chiu's lecture on Port administration

I believe that reading the question properly is the most important here because of how it is phrased and that the content is quite straightforward.

Approach:

- 1. Pros and cons of the two types of ports and how these factors cause them to be popular/less popular.
- 2. For the next part, discuss your insights as to how applicable that statement is.
- (+) ports are increasingly taking on characteristics of private ports such as outsourcing stevedoring services and terminal operators taking over the operating aspects from governments in Public ports. Mention that many successful ports (SG, Rotterdam etc) and large percentage of them have traits of private ports.
- (-) the statement is not accurate because the transition is more of being from public ports to landlord ports such as Singapore rather than total privatisation
- (-) depends on the different agendas of governments who may still see value in having public ports

Question 3 → Mr Benson Chiu's lecture on shipping dynamics and port logistics (just need to filter out the relevant parts)

(a) Bigger vessel size

Higher LOA, Wider beam, deeper water draft, higher air draft; In order

- → berthing arrangement/ berth size/ QC deployment
- →larger QCs with longer reach/ berthing arrangement
- →Dredging and depth alongside requirement, berthing arrangement
- →QC specs,

(b) Build dry port to expand its capacity beyond the coastal port

Link the pros of dry ports with regards to the limitation in size of coastal area, showing how dry ports may alleviate the issue of insufficient land to expand the actual seaport.

Question 4 → Port productivity and efficiency

Major difference: operational level is more concerned with time as a limiting factor whereas terminal handling capacity level is concerned about efficiency where resources are limiting factor

*I'm not sure about the intermediate explanations, but answers must be linked to revenue & profits as stated in the question

Operational (explain them as stated in the slides)

- 1. Port rate → high port rate= more containers handled per unit time = higher profit
- 2. QC rate → High QC rate= more containers handled per unit time = higher profit
- RTG rate → High RTG rate more containers handled per unit time = higher profit
- 4. Primemover turnaround time → Faster turnaround time = more containers handled in a day = more profits for trucking company

Terminal handling Capacity level

- Quayside → Higher QC utilisation and berth utilisation = generally more efficient and higher profitability
- 2. Landside → Higher stacking capacity= more containers stacked = can handle the unloading and transhipment containers of bigger vessels and in bigger volumes = greater profits
- 3. Equipment → better equipment / optimised to support higher volumes (esp Peak) = higher profits
- **4.** Gatehouse → manage and accommodate higher traffic flow and volume = higher capacity = higher profits.

Done by: Lee Ying Kun