



EXAMINER'S REPORT MAY 2021

LOGISTICS AND MULTI MODAL TRANSPORT

Question 1:

Question 1

- a) Answers should elaborate on the following reasons for buying larger ships, together with the problems which may be encountered

Reason for buying larger ships

- Reducing unit costs per container carried
- Staying competitive with other lines which have already bought larger ships
- Catering for trade growth

Problems encountered

- There are few trades on which ship of this size can be employed, bearing in mind trade volumes, and port/terminal infrastructure
- Where they cannot be deployed in suitable trades, they finish up in trades for which they are not really suited
- When there are problems in filling these ships, there is a need to call at more ports and/or use more feeding of cargo, which increases costs
- Few ports/terminals can handle these ships, so there is a risk of congestion at those ports

- b) Students can argue for or against the statement that it is likely that ships larger than 24,000 teu will be ordered. What is important is that reasoned arguments are given, and a good answer should consider arguments on both sides before reaching a conclusion.

Potential arguments in favour of larger ships

- Trade will continue to grow
- The cost economies from operating even bigger ships will give lines which order them a competitive advantage
- More ports will invest to be able to handle big ships

Potential arguments against larger ships

- Ships of larger size can only be deployed in a very few trades (possible only the Asia/N Europe trade), which are already dominated by large ships

- Cost economies of scale diminish with increasing size, so additional cost economies from a further increase in vessel size may be small
- More problems of congestion in ports/terminals, with a larger peak of boxes to discharge/load
- It may be unwise to be the first line to invest in bigger ships, and therefore, be the first to deal with problems caused by the larger size

Question 2:

For each term or abbreviation, the student should cover the following:

- The meaning of the term/abbreviation
- Its context/origin
- A detailed description of what it represents
- Its significance in multimodal transport and the supply chain

The following are specific points to which the student should refer for each of the six parts of the question:

(a) Landbridge

Definition – a multimodal route which includes an extensive overland sector

Landbridge routes compete with all water routes

Examples (e.g. USWC/USEC, Silk Road China/North Europe)

Reasons for their development (usually to trade off higher costs for faster transit with a shorter route than all water)

Possible future landbridge routes to be developed

Importance in providing supply chain route choices for users of multi-modal transport services

(b) Himalaya Clause

- A clause in a B/L – explain that its purpose to give protection to servants of the carrier (including employees and agents)
- Explain the origin/name of the clause, and reference to the legal case (SS Himalaya – Adler vs Dickson - 1954)
- Its importance under different cargo liability conventions (not covered in Hague Rules)
- Used in multimodal Bills of lading – protection for agents and subcontractors as well as ship's crew

(c) Hague-Visby Rules

- Brief explanation of the purpose of a cargo liability convention (for carriers and shippers)
- Why Hague-Visby Rules evolved from Hague Rules
- Key provisions of the rules particularly the changes from Hague Rules and the reasons for those changes
- Date of adoption/entry into force (including SDR Protocol)
- The convention is presently used for the majority of multimodal movements by sea

(d) Port-centric Logistics

- Logistics and distribution services based in or close to the port of import, usually including warehousing and efficient inland transport links
- An alternative to inland depots and centrally located national distribution centres.
- Store shipments at the port and decrease the number of handling events in the storage and distribution process
- Can save costs, time and environmental impact for multimodal transport users
- However may not be the optimal solution for specific supply chains – alternative of one centrally located distribution centre, or several located closer to the point of consumption

(e) ISPS

- International Ship and Port Facility Security Code
- Amendment to SOLAS – came into force in 2004
- Developed as a response to terrorist attacks in 2001
- Also relevant for piracy and stowaways
- Describe the scope of the code, covering ports and ships
- Roles of the different parties – ships, shipping companies, ports and governments
- Different security levels
- Role of Recognised Security Organisations (RSOs)
- Security of ships and terminals – importance for multimodal shipments, particularly to avoid delays

(f) IMO 2020

- Regulation covering sulphur emissions from ships (SOx)
- Part of Marpol Convention (Annex VI)
- Limits on sulphur content of bunkers – from 1.1.20 global limit 0.5%, ECA limit 0.1%
- Explain the role of ECAs with current examples
- Alternative routes to compliance e.g. scrubbers
- LNG as alternative fuel
- Role in improving the environmental performance of the supply chain

Question 3:

It is important that students' answers cover east-west, north-south and short sea trade routes, explaining the differences between the three types of trade route, with reference to the trade characteristics listed in the question. Examples should be given of each type of trade route, and it is vital that a number of trade routes are clearly marked on the map provided.

The following notes provide some general guidance, but answers need detailed descriptions of individual trades

East-West Trades

- Generally the largest trades (e.g Asia - Europe, Asia- Middle East, Transpacific)
- Several trades are heavily imbalanced

- Dominated by Alliances, and the main global lines, though a few smaller niche operators have recently started services
- Hub and spoke services are used extensively to widen geographic coverage
- Largest vessels operated on these trades (up to 24,000 teu)
- Consumer goods ex Asia; low value/raw materials/scrap etc. in return direction

North-South Trades

- Geographic description of north south trades (i.e. Asia/Europe/North America to Africa/Oceania/Latin America)
- Generally smaller volumes than east west trades
- Southbound - consumer goods (particularly ex Asia)
- Northbound: agricultural commodities/raw materials, also reefer cargoes from Latin America and Oceania
- Strong seasonality in some trades, particularly northbound
- Lines operate in trade specific Vessel Sharing Agreements – these trades are not covered by Alliances
- Fewer lines operate in these trades, and there are specialist niche carriers in some north south trades (give examples)
- Vessel sizes up to 15,000 teu, but in general they are much smaller than this, due to lower volumes and port limitations (important to give examples of vessel sizes in individual trades)

Short Sea Trades

- Provide a geographic description of short sea trades with examples (e.g. Intra-Asia)
- Generally these have smaller volumes, but Intra-Asia one of the largest trades globally
- Often there are smaller specialist short sea operators, although some global carriers also operate short sea services (e.g. Maersk uses Sealand as its short sea brand)
- Small vessels, to achieve frequency and fast turnaround in ports
- Lo-lo and ro-ro services; also compete with overland services in some areas (e.g. Europe)
- Wide range of commodities, but will include consumer goods, foodstuffs, reefer, semi-finished goods/parts

Question 4:

The following aspects of a container terminal operation should be covered in the answer:

- Ship to Shore Interface
- Yard Operation (full and empty)
- Landside Operation (road interface, rail sidings, barge berths)

For each part of the terminal operation, a brief description of the operation involved, and what is needed to complete the operation (e.g. physical area/infrastructure required, equipment, control systems)

The second part of the question covers where delays are likely to occur between the ship and the inland transport, and asks students to suggest solutions to remove/reduce these delays.

Delays may occur in a number of parts of the operation, including problems on the landside interface due to peaks in volumes, insufficient road lanes/rail sidings etc. which should be

mentioned with solutions involving additional equipment/infrastructure as well as road booking systems, re-timing trains etc.

Delays on the ship to shore operation may be due to slow movement between crane and stack, lack of equipment, poor ship planning (all container moves bunched in a single part of the ship). Solutions to these problems should be proposed

Question 5:

The student needs to show an understanding of the different ways in which fuel is used by operators, and the factors/choices which drive the costs incurred in a multimodal transport movement. The answer should include an explanation of how savings can be made, and what impact the savings may have on the service to customers. Note that the question refers to transport by both sea and land.

The following are examples of steps which might be taken, but there will be other valid ways to reduce fuel costs.

Sea leg

- Reduce service speed (slow steaming); the answer needs to cover how this may impact on capacity (which can be mitigated by introducing an extra vessel on a loop) and the impact on transit time
- Larger vessels bring economies of scale, which can reduce fuel cost per unit carried
- Improve vessel utilisation – this can be achieved in a number of ways, and reduces fuel cost per unit carried; however higher vessel utilisation may result in less choice of sailing for customers and/or roll over of cargo

Land leg

- Switch from road to rail or barge (more energy efficient mode) – may be slower, though rail/barge can be more reliable
- Reduce deadheading of vehicles – better planning/load matching – no negative impact on customers, though load matching might involve some rescheduling of jobs
- Smart route planning (avoid congestion)
- Improved maintenance of vehicles can reduce fuel costs

Multi-modal

- Plan container stocks, so as to minimise the movement of empty containers (reduces fuel costs of moving empties)
- Improve supply chain efficiency – optimise routes, consolidate loads etc.

All modes

- Invest in new technology for ships/vehicles etc. – more fuel efficient, alternative fuels etc.

Question 6:

The answer to this question requires detailed descriptions, showing an in depth knowledge of how E Commerce works in logistics and multi modal transport, and the specific products which are offered by providers.

While there are many general developments which have changed how business is carried out, e.g. email, internet, use of websites, it is important that the answer is focuses on changes specific to logistics services.

Part (a)

This should provide an overview of how ecommerce has changed how logistics business is conducted, and should include references to

- shared/transparent information
- real time/global information availability
- 24/7 access
- speed/accuracy of transfer of data
- smart systems - ability to test multiple alternative solutions to logistics challenges.

Part (b)

The student should provide **two** examples of specific products. Products can be wide ranging through the logistics industry – for example

- On line/automated booking or rate-quoting systems
- On line/automated shipping instructions
- Remote printing of B/Ls and invoices
- Track and Trace access for individual consignments
- Exception reports against an agreed delivery plan
- Stock control systems/logistics planning systems etc.

Answers should include a thorough description of the product, and information on how both parties (providers and users) have benefited from both parties using the product.

Part (c)

This part asks for a proposal for a specific E Commerce product which a logistics provider might develop – the student could either propose a product which is already being explored by some providers or a brand new product.

What is important is that it should relate to the logistics business with a description of how the product would function, and the benefits for the provider and the user.

Question 7:

The main distinguishing factors between the four types of terms needed to be described:

- E term (ex works), where the seller makes the goods available at its factory or premises
- F terms, where the seller must deliver the goods to a carrier named by the buyer, at a handover point before the main leg (a named transfer point, alongside the vessel, or on board the vessel)
- C terms, where the seller has to arrange the carriage to a named destination, but without bearing the risk for loss or damage after dispatch/shipment; note the requirement for the seller to procure insurance for the benefit of the buyer under two of the four C terms
- D terms, where the seller bears all the costs and risks needed to deliver the goods to a named point in the country of destination

These explanations should be supplemented with a detailed description of a selected INCOTERM in each category.

Some students used diagrams to supplement their descriptions of the responsibility for cost, and for the passing of risk. As long as these are legible and clearly marked these can help to demonstrate that the candidate has a correct understanding of each chosen INCOTERM.

Question 8:

This question can be approached in a number of different ways. However it is important that the following factors are considered when going through the process of deciding what price to quote:

- Establish the physical requirements for the cargo (e.g. container type, loading/unloading requirements)
- Route from origin to destination (including exit/entry port, mode of transport, and any transshipment required)
- Identifying who is the carrier for the various legs (an NVOCC may use its own transport for inland legs, or contract with the carrier, or with a third party)
- Establish costs for each leg (need to know validity and whether subject to surcharges etc.)
- Consider competitors' quotes and service parameters in comparison to your own
- Decide on final quote, based on above, and including contractual terms (e.g. period of validity, notice period for changes, volume guarantee or volume rebate etc.)

There are a number of different alternatives which could be offered in the quote to the customer:

- Using different carriers
- Using different types of equipment
- Using different modes for inland leg
- Using different entry/exit ports and/or route
- Offering value added services (documentation, customs clearance, cargo insurance etc.)

The question emphasised the need for the student to illustrate the answer with reference to a chosen cargo and trade route, and in order to obtain good marks, it was essential that these were included in the answer.