



The supply chain race 2022

logistic and supply chain (International University - VNU-HCM)



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Q1. Choose the most accurate answer with the actual situation. The current huge limitation of port system is:

- A. The road connecting to the port has a low tonnage, which is not convenient for transshipment of goods by car
- B. There are limitations on maritime infrastructure in key areas
- C. Traffic planing around the port is very difficult, because of the dense population, difficult to clear and expand
- D. Inland ports and inland clearance points in the North are still small in scale (mainly under 10ha)

Q2. Which of the following is TRUE?

A. Strategies such as compression and lean supply chains take the same amount of work to achieve in the global environment as in the domestic environment

B. Reduced order cycle time has become an important part of supply chain management since it can lead to lower inventory levels for customers, improved cash flow, lower current asserts, and accounts receivable

C. The Regional Trade Agreements, the establishment of the General Agreement on Tariffs and Trade (GATT), and its 1995 successor, the World Trade Organization (WTO) have together led to multilateral trade promotion and lowered barriers to international business transactions.

D. The central theme behind the theory of Comparative Advantage is that if one country has an advantage (lower cost) in the productionn of two products, they should focus on the production of both so that thay gain the greatest advantage and trade when compared to other countries that may have a lesser advantage.

Q3. Another driving influence for supply chain reexamination has been the desire of organizations to change their supply chain focus from a ____ to an “investment” centre.

A. cost centre

B. logistics – oriented system

C. warehouse system

D. value neutral

Q4. What is the MRP’s most significant output?

A. Bill of materials

B. Distribution requirements plan

C. Planned order releases

D. Aggregate production plan

Q5. Which statement(s) below is/are INCORRECT about transportation management?

1. When a delivery truck isn’t full, the per-item delivery cost is reduced (F)

2. Containerization has transformed global trade in manufactured good as much as jets have changed the way people travel. (T)
3. International air transport has become a strong competitor with water transport for transoceanic carriage. (T)
4. Items with a higher value density usually merit shipping by a slower method (F)
5. Packaging does not have significant cost implications the supply chains (F)

A. 1,2,4

B.2,3

C.1,4,5

D.1,2,5

Q6. Which factor have contributed most to the fact that customers now drive the business environment?

- A. None of the above
- B. Lower prices
- C. Competition of the global marketplace
- D. Changing needs of customers

Q7. How is global economic inflation affecting manufacturing business?

- A. Raw material prices are high
- B. Product quatity declines
- C. Goods are not circulated
- D. Labor force shortage

Q8. The shortage of infant formula in US for the past several months has been so serious that the White House considers it a national priority and mobilize the millitary to solve it, with 40% of baby formula supplies out of stock according to a report from Datasembly. So, which of the following is not one of the reasons that led to the US baby formula shortage?

- A. The imbalance between supply and demand due to the impact of Covid 19
- B. There are only a few manufacturers but control majority of the infant formula production
- C. Abbott Laboratories, maker of popular baby formulas, closed a manufacturing facility in Sturgis, Michigan
- D. Countries that the US imports infant formula restrict exports to ensure domestic supply and prices

Q9. The SCRace corporation own a retail chain has eight stores in region supplied from four supply sources. Trucks have a capacity of 60,000 units and cost \$1,200 per load plus \$100 per delivery. Thus, a truck making two deliveries charges \$1,400. The cost of holding one unit in inventory at retail for a year is \$0.20. The vice-president of supply chain decides to use direct shipping from suppliers to retail stores. What total annual cost of direct network if annual sales for each product at each retail store are 1440,000 units?

- A. \$1,390,400
- B. \$1,490,400
- C. \$1,190,400
- D. \$1,290,400

Q10. When a specific point in time, or level of product, is chosen and costs are developed for various logistics cost centers, it is called:

- A. Cost center analysis
- B. Link node analysis
- C. None of these above
- D. Long-run analysis

Q11. The economic order quantity (EOQ) model's primary goal is to:

- A. Maximize the customer service level
- B. Calculate the optimum safety stock level
- C. Improve order lead time
- D. None of the above

Q12. Which of the following statement are TRUE?

1. World-class organizations can improve performance along multiple dimensions without making extensive performance tradeoffs or sacrifices (T)
 2. The "bullwhip" effect occurs when forecast errors are magnified and demand variability increases as orders move upstream from retailers to distributors to producers. (T)
 3. The materials requirement plan (MRP) is a long-range materials plan that converts information regarding end-items in the MPS into the set of time-phased component and part requirements. (F)
 4. Offshoring is a term that means relocating an activity to a contract manufacturer in another country (T)
 5. routing flexibility is a term used in connection with how spare parts move through the supply chain (F)
- A. 1-2-4
 - B. 2-3-4
 - C. 1-4-5
 - D. 1-3-5

Q13. Which of the following is TRUE regarding optimization models?

- A. Optimization models will guarantee increased profits
- B. Optimization models are based on precise mathematical procedures that are guaranteed to find the "best" solution for the problem under evaluation.
- C. Optimization models are able to accommodate broad problem definitions, rather than provide an optimum solution
- D. The grid technique is powerful optimization model

Q14. How many of the following are true?

1. Activity Based Costing (ABC) allocates costs to activities based on fixed predetermined measure (F)
 2. Firms today are beginning to use techniques such as activity-based costing to more accurately allocate costs to customers based on the specific costs servicing a customer's orders relative to how, how much, what, and when a customer orders. (T)
 3. With the proper information on how a customer's interaction with the shipper drives the firm's costs, the firm can then segment its customers by profitability (T)
 4. Activity-based costing works well in warehouse-type environments but does not work for customer service applications (F)
 5. A driving force behind the attention to OTC cycle variability is safety stock. The absolute length of the order cycle will influence demand inventory (T)
- A. 2
B. 4
C. 5
D. **3**

Q15. Which statement(s) below is/are CORRECT about inventory management?

1. Customer service requirements play very little role in setting inventory policy (F)
 2. Placing an order for replenishment inventory early can create the potential for a very large overstock (T)
 3. Item inventory management, rather than aggregate inventory management, is used in short-term operational decision making (T)
 4. A company that divides its inventory into three categories and counts the items in each category on different schedule is engaged in the type of inventory audit called periodic review. (F)
 5. A goal of aggregate inventory management is to balance customer service, operations efficiency, and inventory investment cost objectives (T)
- A. **2,3,5**
B. 2,3,4
C. 1,2,5
D. 1,2

Q16. Which statement(s) below is/are INCORRECT about Customer relationship management (CRM)?

1. The primary reason organizations need to implement CRM is to help ensure competitive survival. (T)
 2. Contacting customers who have posted a negative complain on the internet can often result in the customers taking an action that is positive for the brand.
 3. Components of CRM include enterprise business systems (EBS), marketing, service and analytics, advertising, partner relationship management (PRM), and promotion.
 4. CRM does not figure into product life cycle management until the introduction phase.
 5. In product life cycle, maintaining brand image is a major CRM activity during the maturity phase
- A. **3,4**
B. 1,3,4

- C. 1,2
- D. 2,3,4

Q17. Which of the following modes of cargo transport can be characterized as being the most inexpensive and very low, yet good for transporting very heavy goods a long distance?

- A. Air Carriers
- B. Rail Carriers
- C. **Water Carriers**
- D. Motor Carriers

Q18. How many of the following are TRUE?

1. Materials management and physical supply are terms that cannot be used interchangeably. (F)
 2. Demand management might be defined as focused efforts to estimate and manage customers' demand, with the intention of using this information to shape operating decisions. (T)
 3. The essence of demand management is to estimate and manage customer demand so that demand and supply are balanced to the point where there are zero stockouts and zero safety stocks. (F)
 4. A sales and operations planning process (S&OP) can produce a forecast internally that all functional areas agree upon and can execute. (T)
 5. Mean Absolute Deviation (MAD) is a good metric of forecast accuracy because it shows whether a forecast is above or below actual demand. (T)
- A. 2
 - B. 1
 - C. 4
 - D. **3**

Q19. The SCRace corporation own a retail chain has eight stores in a region supplied from four supply sources. Trucks have a capacity of 60,000 units and cost \$1,200 per load and \$100 per delivery. Thus, a truck making two deliveries changes \$1,400. The cost of holding one unit in inventory at retail for year is \$0.20. The vice president of supply chain decides to use run milk to retail stores. What total annual cost of runs network if annual sales for each product at each retail store are 1440,000 units? Assume that suppliers running milk runs to two stores onn each truck.

- A. 2,160,000\$
- B. 2,180,000\$
- C. **1,170,000\$**
- D. 1,190,000\$

Q20. Which of the following is not one of the primary objectives of transportation?

- A. To carry goods and materials between supply chain partners
- B. **To minimize the cost of transportation**
- C. To optimize time and money spent
- D. To minimize environmental degradation

Q21. A basic capacity management strategy is:

- A. Differentiation strategy
- B. Focus strategy
- C. **Level demand strategy** (Chase demand strategy)
- D. Queue management strategy

Q22. The 5-Ss refer to:

- A. Overspending habits
- B. Keiretsu relationships
- C. **Industrial housekeeping**
- D. Robust evaluation techniques

Q23. Which benefit of supplier certification is more of a benefit for suppliers than for customers?

- A. Helps with selection and ongoing performance evaluation
- B. Helps safeguard consumers and users of products and services
- C. **Helps market existing capabilities**
- D. Helps build trust and share information

Q24. Which of the following is NOT a current trend governing site selection?

- A. Aside from a general trend toward the elimination of many wholesaler/ distributor operations. Companies are moving to greater use of "customer-direct" delivery from manufacturing and other upstream supply chain locations.
- B. **Greater use of providers of third-party-logistics services, who may assume part or all of the responsibility for moving a firm's products to its customers, and/or moving its inbound parts and materials to its manufacturing process.**
- C. Strategic positions of inventories, such that fast-moving, profitable items may be located at "market-facing" logistics facilities. Faster-moving, more profitable items may be located at more regional, or national, facilities.
- D. Due diligence for location and site selection decisions is placing great emphasis on access to major airports and/or ocean ports for import and export shipments.

Q25. What is a method of disposal of a hazardous waste that may require no transportation but does require special equipment and proof of compliance?

- A. General landfill
- B. Indefinite storage
- C. **Incineration**
- D. Waste exchange

Q26. The SCRace companies provides the following demand pattern and system costs. What is the total ordering cost when the company uses an economic order quantity (EOQ) lot-sizing policy?

Ordering cost = 300\$

Holding cost = 2\$ per unit per year

Week number	1	2	3	4	5	6	7	8	9	10	11
requirements	100	200	130	150	140	170	210	120	200	160	90

- A. 2600\$
- B. 2700\$
- C. 2800\$
- D. 2900\$

Q27. Which of the following is NOT one of the Seven Wastes?

- A. Excess inventory
- B. Environmental waste
- C. Waiting
- D. Scrap and rework

Q28. There are four types of products and services that are purchased with varying degrees of importance. Distinctive is describe as:

- A. High-risk, high-value items that give the final product a competitive advantage in the marketplace.
- B. High-risk, low-value items and services such as engineering items, parts that are available from only a limited number of suppliers, or items that have a long lead time.
- C. Low-risk, low-value items and services that typically do not enter the final product
- D. Items or services that are low in risk but high in value

Q29. SCRace company is using order policy EOQ of 150. The company has to pay a fixed cost of \$1000 each time it places an order. The supplier charges the company \$200 per unit. The company's annual holding cost is 10% of a product's value and the opportunity cost of capital is 20% per year. Calculate the company demand.

- A. 673 units
- B. 674 units
- C. 675 units
- D. 676 units

Q30. Which items in a bill of materials are independent demand items?

- A. Level 3
- B. Level 2
- C. Level 1
- D. Level 10

Q31. The below figure is Bill Of Material for F450 Drone Using KK 2.2

Q32. What has the potential to create a beneficial use for hazardous waste rather than having to pay for its disposal?

- A. Waste classification

- B. Responsible landfill
- C. Waste exchange
- D. Waste recovery

Q33. What happens to EOQ when demand increase by 30%?

- A. Reduce by 30%
- B. Increase by 30%
- C. Reduce less by 30%
- D. Increase less by 30%

Q34. Typical warehouse functions in stock-holding warehouse follow:

- A. Receiving -> reserve storage -> order picking -> collation and added value services ->Marshalling and dispatch
- B. Receiving -> reserve storage -> order picking -> Marshalling and dispatch -> collation and added value services
- C. Receiving -> reserve storage -> Marshalling and dispatch -> order picking -> collation and added value services

Q35. The SCRace company owns a factory that produces modern lamps

It provides lamps for three big stores in Hanoi. The factory operates two shifts per day in which total time per shift is 480 minutes per day. There are two 15-minute rest breaks and 30-minute lunch break per shift. Daily demand of each store is given the following:

Store	Daily Demand
A	15 units
B	25 units
C	40 units

Given the following information, compute the takt time:

- A. 9.5 minutes per cycle
- B. 11 minutes per cycle
- C. 10.5 minutes per cycle
- D. 8.5 minutes per cycle

Q36. Strategy alliances offer all of the following benefits except

- A. Strengthening operations
- B. Building organizational skills
- C. Increasing organizational expertise
- D. Easy control over important issue such as product quality

Q37. SCRace company has a stable demand of 250 units per month. The company operates 250 days per year. It takes SCRace's supplier 3 working days to fulfill company order. Calculate SCRace reorder point.

- A. 35 units
- B. 38 units

- C. 37 units
- D. 36 units

Q38. Which of the following acrynyns is NOT accompanied by its correct “translation”?

- A. JIT – Just-in-Time
- B. **TLS – Third-party Logistics Services**
- C. ERP – Enterprise Resource Planning
- D. TQM – Total Quality Management

Q39. Consider monthly demand for SCR Race Corporation as shown in the table. The company forecasted demand as the table below. Evaluate the MAD, MAPE, MSE.

Month	Actual demand	Forecasted	Absolute deviation
1	98	100	2
2	120	122	2
3	142	123	19
4	123	143	20
5	99	103	4
6	100	92	8
7	132	138	6

- A. MAD=8.721, MSE=126.42, MAPE=7.13%
- B. MAD=9.721, MSE=127.42, MAPE=8.13%
- C. MAD=9.721, MSE=126.42, MAPE=8.13%
- D. MAD=8.721, MSE=127.42, MAPE=7.13%

Q40. Weekly demand for dry pasta at supermarket chain is as follows

Month	Demand
1	753
2	825
3	432
4	568
5	744
6	398
7	400
8	812
9	920
10	740
11	718
12	660

Estimate demand for the next week using a five-week moving average.

- A. 850 units
- B. 680 units
- C. **770 units**
- D. 560 units

True/ false question

1. MRP is generally practiced on items with dependent demand. (T)
2. Reduced inventory levels and faster response to market changes are both benefits of MRP. (T)
3. A dependent demand item is so called because its demand is dependent on customer preferences. (F)
4. The quantity required of a dependent demand item is computed from the demand for the final products in which the item is used. (T)
5. Which of the following statements regarding Wheeled Coach is FALSE?
Wheeled Coach's MRP system allowed the company to meet tight schedules, but caused inventory to rise.
6. Which of the following is NOT one of the four key tasks that Wheeled Coach insists are necessary for successful MRP implementation?
The process must adhere to stringent quality control standards.
7. Demand for a given item is said to be dependent if:
there is a clearly identifiable parent.
8. Dependent demand and independent demand items differ in that:
A) for any product, all components are dependent-demand items.
B) the need for independent-demand items is forecast.
C) the need for dependent-demand items is calculated.
D) All of the above are true.
E) None of the above is true.
9. Which of the following is NOT a key benefit of MRP?
Increased MRP
10. Lead times, inventory availability, and purchase orders outstanding are among the five things operations managers must know for effective use of dependent inventory models. (T)
11. "Phantom bills" are bills of material for subassemblies that do not exist in reality. (F)
12. Planning bills of material are bills of material for "kits" of inexpensive items such as washers, nuts, and bolts. (T)
13. The time-phased product structure, unlike the bill of material, adds the concept of lead times. (T)
14. X consists of one A and one B, and each A consists of one F and two Gs, then A is the "parent" component of G. (T)
15. By convention, the top level in a product structure is designated level 1. (F)
16. Effective use of MRP and other dependent demand models does not require which of the following?
cost of individual components
17. Firms making many different final products use _____ to facilitate production scheduling.
Modular Bills
18. Which of the following statements best compares modular bills and phantom bills?
Modular bills represent subassemblies that actually exist and are inventoried, while phantom bills represent subassemblies that exist only temporarily and are not inventoried.

19. A paint company mixes ten different base colors into 3,000 different color options. If production scheduling is organized around the ten different base colors, then the bills of material are classified as which of the following?
Modular
20. A grill assembly takes 20 washers. Instead of listing these washers separately, they are grouped into a single kit for production. How is the bill of material for the washers classified?
a. "pseudo"
b. Planning
c. Modular
d. Low-level
e. **A&B**
21. The minimum record accuracy required for successful MRP is approximately which of the following? 99%
22. By convention, what is the top level in a product structure?
Level 0
23. If 100 units of Q are needed and 10 are already in stock, then the gross requirement is 100 and the net requirement is 90. (T)
24. Gross material requirements do not take into account the amount of inventory on hand. (T)
25. When safety stock is deemed absolutely necessary, the usual policy is to build it into (increase) the inventory requirement of the MRP logic. (T)