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Total No. of Pages : 04

Total No. of Questions : 15

MBA (2014 to 2017) (Sem.–4)

SUPPLY CHAIN MANAGEMENT

Subject Code : MBA-945

Paper ID : [A2536]

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A contains SIX questions carrying FIVE marks each and students has to attempt any FOUR questions.**
2. **SECTIONS-B consists of FOUR Subsections : Units-I, II, III & IV. Each Subsection contains TWO questions each carrying EIGHT marks each and student has to attempt any ONE question from each Subsection.**
3. **SECTION-C is COMPULSORY and consists of ONE Case Study carrying EIGHT marks.**

SECTION-A

Q1. Identify the trends that impact supply chain management (SCM).

Q2. Discuss various decision phases in SCM.

Q3. What are supply chain flows? Explain why there is flow in both directions and provide examples of each.

Q4. Find at least one business example of outsourcing. Explain the risks and benefits.

Q5. What is inventory management? Compare various inventory management models.

Q6. Identify ways a company can move from a *"Commodity"* position to one of a cost and/of value advantage. Is a commodity position always bad and how can companies differentiate themselves in this position?

SECTION-B

UNIT-I

Q7. Identify the ways in which supply SCM has improved the order fulfillment process. What other benefits has SCM provided to the business?

Q8. Compare and contrast the four primary functions of a distribution centre: accumulation, sortation, allocation, and assortment. Discuss primary tradeoffs that must be made between distribution and other logistics activities.

UNIT-II

Q9. Define supply chain facility planning. Explain supply chain capacity planning with the help of suitable examples.

Q10. Coordination is an essential element of supply chains. Explain with the help of suitable supply chain examples that lack of coordination and information sharing shall result into bullwhip effect.

UNIT-III

Q11. Define supply chain performance. Explain Balance Score Card in detail.

Q12. What is internal supply chain management? Explain supplier relationship management in detail.

UNIT-IV

Q13. Explain strategic cost management in supply chain with the help of suitable examples.

Q14. What is aggregate planning in supply chain? Explain predictable variability in detail.

SECTION-C

Q15. Solve the following Case Study :

Strategic Capacity Management at Indian Railways

Indian Railway (IR) plays an important role in supporting the economic activities of India. It operates one of the largest networks in the world. It achieved double-digit growth in freight volume after 2004. One of the major contributor, so called the turn-around of IR is increased in freight revenue. Capacity management, modernization and professional management practices are at the core of this achievement. Increased axle loading, reduced wagon a turn-around, and market oriented tariffs and schemes were three important pillars of operating practices to achieve this. The first two helped to achieve a jump in IRs, capacity to handle substantially of higher volume of freight on-the-wheel at a shorter time for each turn-around resulting into free capacity for the next loading. Through enhanced axle load and reduction in turn-around time of wagons by 40 percent. The IR increased the available wagon capacity per day 36%.

Increased Axle Load Capacity

Enhanced axle load increases the capacity of the same wagon. IR realised its four-decade old wagon loading norms of 203 tonnes per wagon. To scale it up by a further increase in loading limit of another 8 tons. This immediately created an extra 64 Million tons extra freight capacity per year. There were few criticisms on apprehensions of safety compromise. However, technocrats in IR believe that due to a switch over from the locomotive engine to eclectic and diesel engine an additional 25-30 % track load has been created. This is due to *"Hammer Blow"* phenomenon of a locomotive engine, which no longer exists now. Moreover, now IR is using superior 60-kg rails placed on concrete as compared to earlier 40-kg rails on wooden sleepers.

According to Railway minister freight earnings were increased through carrying increased tonnage by enhancement of loading limits. About 170 million tonnes of increased in loading capacity was achieved in three years, starting from year 2004. This resulted into an increase in about 170 million tonnes of capacity, which exceeded the total incremental loading of the 1990s by 120%.

Increased turnover time

To increase the turnover time the following operational measures were taken :

i) Faster train movement on the track

ii) High speed of; loading/unloading

iii) Increase the working hours of loading/unloading

iv) Mechanization of track work

v) Reduced no. of level crossings

vi) Dedicated freight corridors

vii) Fast train examination, etc

Freight customers were given cash incentives to unload and load faster so as to decrease the turn-around time and thus an increase in the on-the-move time available for the racks. Round -the-clock loading and unloading was facilitated, which was earlier during the day time only. Freight Operation Information System (FOIS) helped to exercise strict control on the idle wagon capacity. Average wagon turn-around time very easily increased for 7 to 5 days. Theoretically, this itself is equivalent an 30 % capacity (100*(7-5)/7).

Dedicated freight Corridors

IR is already working on its busiest route to create additional capacity by developing Dedicated Freight Corridors (DFCs). Around 1483 KM of Western DFCs is from Jawaharlal Nehru Port (JNPT) in Mumbai to Tughlakabad and Dadri near Delhi. It would support the container transport requirements between the existing and emerging ports in

Maharashtra and Gujarat and the Northern part of India. Similarly, around 1806 KM Eastern DFC is planned from Ludhiana in Punjab to Dankuni in near Kolkata. DFCs will help IR to substantially increase its capacity as DFCs can handle double-stack containers of 25 tons axle load, resulting in about 25% increase in the cargo handling capacity. It can support a 1.5 KM long train as compared to a conventional goods train of 650 m long. The speed of these high- capacity goods train can be as fast as 100KM per hour as compared to current maximum of 75 KM per hour. According to Shri Prakash, Advisor (Infrastructure) Railway Board, *"Once commissioned, DFCs will reduce transit time between Delhi and Mumbai from 60 hours to 36 hours. It will also reduce the cost of operation"*.

The learning of IRs freight capacity management is simple yet useful. Extra capacity can be created by removing inefficiencies in-build redundancies and other precautions in the existing system. Fastest speed in operations and deliver can result extra capacity without adding extra resources like mechanics, manpower, wagon, etc.

QUESTIONS:

1. Critically examine the IR turn-around story. What are then criticisms to its capacity expansion plans? How is capacity expansion is related to safety? Will DFCs help IR to achieve these objectives?

2. Explain different approaches to capacity management in IR. What are the learning lessons for the Indian manufacturing and service industry?