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PRESIDENCY UNIVERSITY BENGALURU

 **SET-B**

SCHOOL OF MANAGEMENT

**END TERM EXAMINATION – MAY/JUNE 2024**

**Semester:** Semester IV - 2022

**Course Code:** BBA3047

**Course Name:**  Supply Chain Modeling and Design

**Program:** BBA

**Date:** June 12, 2024

**Time:** 9:30 AM - 12:30 PM

**Max Marks:** 100

**Weightage:** 50%

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Question paper consists of 3 parts.*
3. *Scientific and non-programmable calculator are permitted.*
4. *Do not write any information on the question paper other than Roll Number.*

**PART - A**

**ANSWER ANY 5 QUESTIONS 5 X 2 = 10**

* 1. How can supply chain software leverage emerging technologies such as block chain, Internet of Things (IoT), and artificial intelligence (AI) to optimize processes and create competitive advantages?

(CO1) [Knowledge]

* 1. How do supply chain software solutions enable companies to adapt to changing market conditions, disruptions, and uncertainties, and what role does agility play in selecting and deploying these solutions?

(CO2) [Knowledge]

* 1. List out the importance for adaptation of QR policies and procedures in inventory management system.

(CO3) [Knowledge]

* 1. With advancements in technologies like block chain and microgrids, how can DRP leverage these to create a more decentralized and resilient distribution network, potentially reducing reliance on traditional centralized generation?
	2. Write notes on Ware House Management Software.
	3. Write notes on role of DSS in Supply Chain Management.

(CO4) [Knowledge] (CO5) [Knowledge]

(CO1) [Knowledge]

* 1. How do supply chain software advancements impact the balance between automation and human decision-making in the supply chain process?

(CO2) [Knowledge]

**PART - B**

**ANSWER ANY 5 QUESTIONS 5 X 10 = 50**

* 1. How can companies effectively model and mitigate risks associated with supply chain disruptions, such as natural disasters, geopolitical conflicts, or global pandemics?

(CO1) [Comprehension]

* 1. Why most of the companies are thinking to invest in supply chain softwares. What are some of the constraints and problems in choosing an right supply chain software for the organization?

(CO2) [Comprehension]

* 1. A restaurant which is located near a college finds an increase in number of customer visits day by day. So the restaurant wishes to increase its productivity by deploying more man-power and making extra investment by purchasing furniture and procuring additional raw materials than usual production. Now, explain how Bull-Whip effect can happen in this restaurant

(CO3) [Comprehension]

* 1. LAVA International Ltd., established in 2009, is one of the fastest growing mobile handset companies in India, LAVA has a wide product portfolio that encompasses tablets, feature phones and smart phones having various models in bar and touch forms at multiple price points to suit all categories of consumers. Like most Indian vendors LAVA too imported its parts from China because of low prices. Research and Development and designing of its handsets were done at Bengaluru (India) and Shenzen (China).

Recently, LAVA decided to start the domestic production which was seen encouraged by the Government of India’s “Make in India” campaign. LAVA will setup its plant in north India where it will perform the backward integration and assembly operations. Decision of locating the plant in India got several reasons behind it. Changing government policies and increasing labor costs in China is one of the reasons. The major factor behind locating plant in India is cheaper labor cost. While the average monthly labor cost in India is around Rs 10,000, the same in China stands around Rs 25,000. Domestic location has other advantage too.

* + 1. What are the main reasons which encourage organizations to look for manufacturing location?
		2. Is the cheap labor cost enough reason for relocating manufacturing base?

(CO4) [Comprehension]

* 1. How can companies overcome organizational silos and foster cross-functional collaboration to effectively implement supply chain network optimization initiatives, considering the diverse interests and objectives of different departments such as logistics, procurement, and operations?

(CO5) [Comprehension]

* 1. ABC Company wants to automate its supply chain process. Right at sourcing from perfect supplier and reaching out to the prospective customer. So, explain briefly about the benefits of supply chain modelling in automating the complete system? Also, explain the process of adaptation of Supply Chain Modelling Systems in an organization.

(CO1) [Comprehension]

* 1. How adopting a right supply chain model system helps a firm to achieve its accurate demand forecasting for its products and services in the future? Explain in context of OLA cabs model.

(CO2) [Comprehension]

**PART - C**

**ANSWER ANY 2 QUESTIONS 2 X 20 = 40**

* 1. Transworld INC. operates in a competitive market characterized by rapid demand fluctuations, complex logistics networks, and evolving customer preferences. To stay ahead of the competition and address operational challenges, Transworld INC. recognized the importance of adopting a data-driven approach to supply chain management. Supply chain modeling emerged as a strategic tool to analyze, optimize, and simulate various scenarios to improve decision-making and enhance performance.

**Challenges Faced by Transworld INC.**:

* + 1. **Demand Variability:** Fluctuating customer demand across different product lines and regions posed challenges in inventory management and production planning.
		2. **Inventory Optimization**: Transworld INC. struggled to balance inventory levels across its network of warehouses and distribution centers, leading to excess inventory or stockouts.
		3. **Transportation Constraints:** Inefficient transportation routes, long lead times, and rising freight costs impacted the company's ability to deliver products to customers in a timely and cost- effective manner.
		4. **Service Level Enhancement:** Maintaining high service levels and meeting customer expectations while minimizing costs and maximizing efficiency remained a priority for for the organization.
			1. Suggest, how by adopting Supply Chain Modelling software these issues can be overcomed? and
			2. What strategy the company can adopt to overcome this issues?

(CO1) [Application]

* 1. Jimmy Manufacturing Company operates in the automotive industry, producing components for leading automobile manufacturers worldwide. With a complex global supply chain spanning multiple regions, suppliers, and distribution channels, the company faced challenges in optimizing inventory management, forecasting demand, and ensuring timely deliveries to meet customer demands.
		1. Lack of End-to-End Visibility: Limited visibility into inventory levels, production processes, and logistics operations hindered proactive decision-making and led to inefficiencies.
		2. Inefficient Demand Forecasting: Manual forecasting processes were error-prone and failed to capture changing market dynamics, resulting in overstocking or stockouts.
		3. Poor Supplier Collaboration: Limited communication and collaboration with suppliers led to delays in procurement, quality issues, and disruptions in the supply chain.
		4. Complex Logistics Management: Coordinating transportation, warehouse operations, and distribution networks across geographically dispersed locations posed logistical challenges and increased costs.
1. Examine how by implementing SAP Supply Chain Software will overcome these challenges.
2. How a Supply Chain Software will benefit the organization?

(CO2) [Application]

* 1. Maruti Suzuki had problems in forecasting demand for its new variant car in economy model for Alto K10 cars in Bengaluru. As the stock production for 2022 was high and almost 30% of the cars manufactured and assembled in 2022 got hold in inventory. As a result the company gave almost Rs 50,000 discount for people who were looking to buy "True-Value Cars" or "Pre-Owned Cars" or sometime even to people who were looking to buy new cars. So if you were in this scenario:
1. Suggest what measures you will take to counter this issue.
2. Suggest some innovative strategies so that these type of problems never happen?

(CO3) [Application]