



**CII Institute of Logistics**  
PGDSCM & Certificate Programs  
Semester-end Examination – June 2009

**Logistics Technology and e- Business**

Time : Three Hours

Marks : 100

Part A

Answer all questions (20 x 1 = 20 Marks)

1. Which of the following is the direct result of applying supply chain strategies?
  - a) Reduced cost and least time
  - b) Lower wages to employees
  - c) Increased production
  - d) Excess inventory in anticipation of orders
2. \_\_\_\_\_ strategy is a hybrid of low cost and differentiation strategies
  - a) Low cost strategy
  - b) Broad differentiation strategy
  - c) Best cost provider strategy
  - d) Focus strategy
3. Taking an example of how companies used IT to implement a competitive strategy, \_\_\_\_\_ company implemented online Package tracking and freight management as Innovation strategy to gain market leadership.
  - a) Dell
  - b) ICICI
  - c) Rediff.com
  - d) Federal Express
  - e) Franch express
4. \_\_\_\_\_ is the exchange of information in voice, data, text, image, audio or video forms over computer based networks.
  - a) Communication
  - b) Telecommunication
  - c) Email
  - d) Chatting
5. Choose the correct comment on the statements below with respect to single entity information systems.
  - ☞ They capture and process limited amount of data
  - ☞ They are suitable for businesses with small volume transactions
  - ☞ They cannot facilitate critical decision making process
  - ☞ a) All the above statements are true
  - ☞ b) Only the first statement is true
  - ☞ c) Only the last two statements are true
  - ☞ d) None of the statements are true

6. \_\_\_\_\_ is a network of facilities and network options that performs the functions of procurement of materials, transformation of these materials into intermediate and finished products and distribution of these finished products to customers.
  - a) CRM
  - b) MRP
  - c) Supply chain
  - d) ERP
7. \_\_\_\_\_ methods determine the location of production, stocking and sourcing facilities and paths the product takes through them.
  - a) Network design methods in SCM
  - b) "Rough Cut" methods in SCM
  - c) Simulation based methods in SCM
  - d) None of the above
8. EDI stands for
  - a) Enterprise Data Integration
  - b) External Data interchange
  - c) Electronic Data Integration
  - d) Electronic Data Interchange
9. Which of the following is a structural pattern of eBusiness ?
  - a) e-Channel pattern
  - b) Click and Brick pattern
  - c) e-Portal
  - d) None of the above
  - e) All of the above
10. State which of the following is not a characteristic of digital goods market?
  - a) Distribution infrastructure enabling digital products to be delivered quickly, easily and at lower cost to anywhere and on any device
  - b) The market is built on Click and Brick pattern
  - c) The market allows delivery of products before receiving payment
  - d) None of the above
11. \_\_\_\_\_ layer of ERP systems architecture implements business rules, functions, logic, and programs acting on data received/transferred from/to database servers
  - a) Presentation
  - b) Database
  - c) Application
  - d) Web server
12. \_\_\_\_\_ is the hidden cost of ERP implementation that occurs when the ERP software cannot handle one of the business processes and you decide to mess with the software to make it do what you want.
  - a) Training
  - b) Integration and testing
  - c) Data Analysis
  - d) Customization

13. \_\_\_\_\_ is the hidden cost of ERP implementation that occurs to move corporate information from old systems to ERP
- a) Data Conversion                      b) Customization  
c) Training                                d) Integration and testing

14. State if the statement below is True or False  
“Employees and stake holders are part of eBusiness architecture”

- a) False  
b) True  
c) Only Stake holders re part of eBusiness architecture  
d) Only employees of eBusiness architecture
15. \_\_\_\_\_ applications of eSNM integrate planning functions, such as demand forecasting, inventory simulation, and manufacturing planning and scheduling
- a) eSNP   b) eSNE   c) eSCM   d) None of the above

16. Which of the following is a module in eSNP?
- a) Order commitment                      b) Transportation planning  
c) Advanced scheduling                      d) demand planning  
e) All of the above                              f) None of the above

17. Which of the following is not part of core CRM process?
- a) Core selling  
b) Direct marketing and order fulfillment  
c) Managing payment from customers  
d) Retention management
18. \_\_\_\_\_ application of selling chain infrastructure provide an intuitive, professional layout to customers requiring complex queries
- a) Internet relationship management  
b) Sales configuration systems  
c) Product catalog and marketing encyclopedia  
d) Proposal/Quote generation systems

19. Which of the following is not part of knowledge management applications?
- a) Group memory systems                      b) Ecommerce and Click stream analysis  
c) eCRM    d) Business Intelligence

20. \_\_\_\_\_ in BI architecture include the ability to extract, cleanse and aggregate data from multiple operational systems into a separate data mart or warehouse.
- a) Core Technologies                      b) Enabling Technologies  
c) BI solutions                                d) None of the above

**Part B**

Answer any FOUR    Marks: 4 x 10 =40

1. Discuss any four distinct competitive strategy approaches
2. Discuss software and data resources in information systems
3. Compare ERP and XRP architectures
4. Discuss the popular approaches to formulate eBusiness strategic plan
5. Discuss briefly the five components to manage carefully in eBusiness execution
6. Write short notes on the use of RFID technology in product tracking in supply chain management.

**Part C**

Answer all FOUR    Marks: 4 x 10 =40

Case Study -1

***Pantaloons – Information Technology in Supply Chain***

Pantaloons (retail) India Ltd (PRIL) was set up as Manz Wear Private Limited on October 12, 1987. On September 25, 1992 Manz Wear Private Limited became Pantaloon Fashions (India) Ltd and in July 1999 the name was changed to PRIL. In the initial years, till mid 1990s, PRIL focused on developing its own clothing brands like ‘Pantaloon trouser’, ‘Bare Jeans’ and the ‘John Miller’ range of shirts. The distribution of these branded garments took place through multi-branded retail outlets. This changed in 1994 when PRIL introduced the ‘Pantallon Shoppe’, the franchise shops for men’s wear.

PRIL was the first retail chain in India to experiment with different retail formats after the management’s decision in early 1990s to follow an aggressive expansion strategy. PRIL launched the first ‘family store’ in Kolkatta in 1997. PRIL entered in retail sector in big way in 200-02, when it decided to setup hypermarkets under the name Big Bazaar selling general merchandise for middle class consumers. PRIL also entered the grocery retailing through supermarkets Food Bazaar in 2001-02. It also setup Gold jewelry stores called Gold Bazaar (2003), seamless malls known as

Central (2004), and Fashion Stations (2005). In 2005 PRIL had 18 Pantaloon stores, 24 Big Bazaars, 36 Food Bazaars, 3 Central Malls 2 Fashion Stations and 1 MeLa store (home textile and furnishing outlet) operational across India. Its turnover in 2004-05 was about 11 billion. PRIL had a total operational floor space of 3.5 million sq. km in 2005.

PRIL earlier used the traditional supply chain as in most Indian outlets. But it became necessary for it to develop a more cost effective supply chain as a result of its aggressive expansion strategy. Besides, expansion of stores and new retail formats made the traceability of goods in the supply chain more and more difficult. The management perceived that this lack of coordination was beginning to hamper PRIL's operational planning and Inventory management. In 2004, PRIL modified its expansion strategy shifted from purely aggressive expansion strategy to expansion along with an increase in operational efficiency.

As part of this modified expansion strategy, PRIL strengthened its back-end supply chain and sourcing capabilities to reduce costs and enhance operational efficiency through a huge investment in Information Technology solutions. In May 2005, PRIL announced its IT strategy for the next three years. A decision to invest Rs. 1 billion in hardware, software and business connectivity infrastructure was made. Earlier PRIL had used IT solutions like Virtual Private Network (VPN) to handle heavy traffic of data, voice and video. Most of these IT solutions were developed in-house and were not enough to support the company's changing requirements. In 2005, PRIL entered into an alliance with SAP to implement mySAP business suite. SAP Advanced Planning Tools (for merchandise planning) and SAP Apparel and Footwear Solutions. According to Deshpande, "our strategic partnership with SAP, a world leader in business software solutions provider, is the first step in realizing our IT vision. Surely, the cutting-edge IT infrastructure will help in serving our customers better, give us improved customer insights and add value to the business as a whole". During the same period PRIL also decided to implement RFID to deliver higher operational efficiency and customer satisfaction. In Radio Frequency Identification (RFID) technology, a Chip is attached to the Product tag. This chip helps the company to keep track of the product through the entire supply chain. The RFID application was developed by Wipro Infotech and was first implemented at PRIL's central warehouse and manufacturing facility at Tarapur as pilot project costing Rs. 3 million. Each RFID tag could hold 5 KB of memory. This application was tailored to fit into PRIL's existing IT infrastructure and business processes. The RFID pilot project resulted in an improvement in accuracy of merchandise movement and helped save time.

PRIL plans to extend the RFID implementation to other retail outlets in the years to come. The overall time frame for the implementation is likely to be one and half to two years. PRIL also has to modify its business strategy to some extent when the RFID technology is implemented throughout the supply chain. Chiner Deshpande, CIO of PRIL, said, "Today pantaloons Retail is in an explosive growth path and the leading retailer in the country. To support this growth and maintain our competitive edge, a robust and futuristic IT infrastructure has been planned for the next three years over Rs. 100 crores (1 billion)".

Answer any TWO questions from the following

2 x 10 = 20

1. Describe Pantaloon's initiative towards the implementation of IT in order to streamline its supply chain.
2. "To support this growth and maintain our competitive edge, a robust and futuristic IT infrastructure has been planned for the next three years over Rs. 100 crores (1 billion)"
3. What benefits would the retailer stand to gain in the future with such huge investment, especially with the probable entry of foreign retailers?
4. What are the likely problems that may crop up in an ambitious IT implementation plan for Rs. 100 crores by Pantaloon?

## Case Study – 2

### *Nike – Failure in Demand Forecasting*

Established in 1964, Nike Inc (Nike), is one of the world's leading designer, marketer and distributor of athletic footwear, apparel, equipment and accessories for sports and other fitness activities. The wholly-owned subsidiaries of Nike include Converse Inc, Baur Ince, Cole Haan, Hurley International LLC, and Exeter Brands Group LLC. In January 2006, Fortune magazine listed Nike as one of the 100 best companies to work for the US. 2005 was the record year for sales and profitability for Nike. The company's revenues grew to 13.740 billion from 9.489 billion in 2001 and 12.253 billion in 2004. Footwear revenues were up by 11%, whereas apparel and equipment revenues grew up by 10% and 15% respectively. Accurate demand forecasting was cited as one of the primary reasons for this success. But the situation was quite different in 2001. That year Nike spent \$40 million on a demand projection model developed by i2 Technologies Inc (i2), but its profits for spring (Jan-Mar 2001) were around 48 million below forecasts, at \$97 million.

Nike had a well-set demand forecasting system that had been performing quite well throughout the 1980s. In this system orders from retailers were placed six months ahead of delivery. Once these orders were placed, Nike would pass them to their contract manufacturers in Far East. The system was running fine until Nike made the transition from being the 12<sup>th</sup> largest manufacturer (in 1984) to the undisputed leader in the footwear industry (in mid 1990s). As a result of this transition its manufacturing schedule became more complex. The company's manufacturing schedule became busier and shipping dates tighter as the number of customers increased considerably. With 27 order management systems around the globe in 1998, Nike's supply chain began to fragment. It became extremely difficult for Nike to make demand forecasts using its existing system.

Nike then decided to implement a new demand forecasting and supply chain management system provided by i2. The software solution was supposed to reduce the inventory for rubber, canvas and other materials that Nike required to manufacture shoes. Also i2's solution was expected to help Nike align production to focus on its more popular selling brands. Thought the problem started to manifest within the very first few months of the implementation of the demand forecasting system, Nike and i2 tracked the problem down and tried to develop ways around them. The i2 software technicians tried to overcome the problem by changing operational procedures or by writing new software. But, by the time modifications were made, the inventory problem had already started. Nike was over-manufacturing some products while struggling to meet the customer demand on other products. On account of Nike's excessive reliance on automated projections, it ended up ordering \$90 million worth of shoes, which were selling very poorly, from suppliers across the globe. On the other hand, there was also a shortfall of \$80 to \$100 million on popular models like Air Force One.

To control the damage, Nike filled the back orders that had not been supplied and made moves to dispose of the excess inventory through discount distribution channels like Nike outlet stores. It even had to dump the excess shoes at 'bargain basement prices'. It took around 6 to 9 months for Nike to overcome the problem of incorrect proportions in its inventory and more than two years to make up the financial loss. The inaccurate forecasts and the losses they entailed resulted in a sharp fall in Nike's shoe prices, and the company's images as an innovative user of technology was tarnished. It cost Nike more than \$100 million in lost sales, lowered its stock prices by about 20% and led to a series of legal battles.

Experts across the globe analysed the reason for the huge mismatch between demand and supply. According to Karen Peterson, a Gartner Inc analyst, "i2's relative inexperience in delivering supply-chain systems for the apparel and footwear industry and Nike's demands put the project at risk from the get-go. This probably led to the software solutions inappropriate demand forecasting. But most of the analysts had a different perspective. They opined that Nike was too busy with other costly projects like ERP and SAP at that point of time. Further, since Nike was going through the boom, the increase in sales and the volume of work coupled with the added burden of a new software, and hence a new mode of demand forecasting, led to the failure of the system altogether.

Nike gradually shifted its demand planning to SAP and ERP systems, which depended more on order and invoices than predictive algorithms. Learning from experience, Nike combined the earlier demand forecasting techniques that were chiefly based on intuition with modern integrated computerized systems so that a reasonable logical result could be obtained. The company also decided to give more importance to the opinions of retailers for demand forecasting. Nike also converted its supply chain from make-to-stock to make-to-order. These continuous efforts of Nike to mend the damage bore results and the company regained its image and posted record sales in 2005.

1. What was the forecasting approach practiced at Nike before implementation of i2's demand forecasting and supply chain management system? What reasons prompted Nike to change the demand forecasting techniques?
2. What were the likely reasons that resulted in such a huge gap between demand and supply at Nike?
3. What in your opinion could have been done to avoid the huge gap between the demand and supply at Nike through implementation of i2' software solutions?

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