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FACULTY OF BUSINESS

FINAL EXAMINATION

Student ID (in Figures) :	
Student ID (in Words) :	

Course Code & Name	:	**MGT2223 Supply Chain Management**
Semester & Year	:	May – August 2022
Lecturer/Examiner	:	Wan Ahmad Asrar Nik @ Wan Yahya
Duration	:	3 Hours

<u>INSTRUCTIONS TO CANDIDATES</u>

1. **This question paper consists of 2 parts:**
   PART A (40 marks) : FOUR (4) case study questions. Answers are to be written in the Answer Booklet provided.
   PART B (60 marks) : SEVEN (7) structured-type essay questions. Answers are to be written in the Answer Booklet provided.
2. **Candidates are not allowed to bring any unauthorized materials except writing equipment into the Examination Hall. Electronic dictionaries are strictly prohibited.**
3. **This question paper must be submitted along with all used and/or unused rough papers and/or graph paper (if any). Candidates are NOT allowed to take any examination materials out of the examination hall.**
4. **Only ballpoint pens are allowed to be used in answering the questions, with the exception of multiple-choice questions, where 2B pencils are to be used.**

<u>WARNING:</u> The University Examination Board (UEB) of BERJAYA University College regards cheating as a most serious offence and will not hesitate to mete out the appropriate punitive actions according to the severity of the offence committed, and in accordance with the clauses stipulated in the Students' Handbook, up to and including expulsion from BERJAYA University College.

Total Number of pages = 6 (Including the cover page)

PART A : **CASE STUDY QUESTIONS (40 MARKS)**
INSTRUCTION (S) : Answer all **FOUR (4)** case study questions.
Write your answers in the Answer Booklet (s) provided.

Case Study: Blue Nile and Diamond Retailing

A customer walks into your jewelry store with printouts of diamond selections from Blue Nile, a company that is the largest retailer of diamonds online. The list price for the customer's desired diamond is only $100 above your total cost for a stone of the same characteristics. Do you let the customer walk or come down in price to compete?2 This is a dilemma that has faced many jewelers. Some argue that jewelers should lower prices on stones to keep the customer. Future sales and add-on sales such as custom designs, mountings, and repairs can then be used to make additional margins. Others argue that cutting prices to compete sends a negative signal to loyal customers from the past who may be upset by the fact that they were not given the best price. As the economy tightened during the holiday season of 2007, the differences in performance between Blue Nile and bricks-and-mortar retailers were startling. In January 2008, Blue Nile reported a 24 percent jump in sales during its fourth quarter. For the same quarter, Tiffany posted a 2 percent drop in domestic same-store sales, and Zales reported a 9 percent drop. The chief operating officer of Blue Nile, Diane Irvine, stated, "This business is all about taking market share. We look at this type of environment as one of opportunity."

The Diamond Retailing Industry in 2008

For both wholesalers and retailers in the diamond industry, 2008 was turning into a very difficult year. It was so bad at the supply end that the dealers' trade association, the World Federation of Diamond Bourses, issued an appeal for the diamond producers to reduce the supply of new gems entering the market in an effort to reduce supply. However, the world's largest producer, De Beers, appeared unmoved, refusing to give any commitment to curtail production. The company had recently opened the Voorspoed mine in South Africa, which, when fully operational, could add 800,000 carats a year into an already oversupplied market. Historically, De Beers had exerted tremendous control over the supply of diamonds, going so far as to purchase large quantities of rough diamonds from other producers. In 2005, the European Commission forced De Beers to phase out its agreement to buy diamonds from ALROSA, the world's second largest diamond producer, which accounted for most of the diamond production in Russia. Russia was the second largest producer of diamonds in the world after Botswana.

While discount retailers such as Wal-Mart and Costco continued to thrive, the situation was difficult for traditional jewelry retailers. Friedman's filed for Chapter 11 bankruptcy protection in January 2008, followed by Chicago-based Whitehall in June. When it filed for bankruptcy, Friedman was the third largest jewelry chain in North America with 455 stores, while Whitehall ranked fifth with 375 stores in April 2008. In February 2008, Zales announced a plan to close more than 100 stores in 2008. This shakeup offered an opportunity for other players to move in and try to gain market share. With the weakening economy, the third and fourth quarters of 2008 were particularly hard on diamond retailers. Even historically successful players like Blue Nile, Tiffany, and Zales saw a decline in sales and a significant drop in their share price. As customers tightened their belts and cut back on discretionary spending, high-cost purchases such as diamond jewelry were often the first to be postponed. The situation worsened as competition for the shrinking number of customers became fiercer. In such a difficult environment, it was hard to judge which factors could best help different jewelry retailers succeed.

Blue Nile

In December 1998, Mark Vadon, a young consultant, was shopping for an engagement ring and stumbled across a company called Internet Diamonds, run by Seattle jeweler Doug Williams. Vadon not only bought a ring but also went into business with Williams in early 1999. The company changed its name to Blue Nile by the end of 1999 because the new name “sounded elegant and upscale,” according to Vadon. On its Web site, Blue Nile articulated its philosophy as follows: “Offer high-quality diamonds and fine jewelry at outstanding prices. When you visit our Web site, you’ll find extraordinary jewelry, useful guidance, and easy-to-understand jewelry education that’s perfect for your occasion.” Many customers (especially men) liked the low-pressure selling tactics that focused on education. Besides explaining the four Cs—cut, color, clarity, and carat—Blue Nile allowed customers to “build your own ring.” Starting with the cut they preferred, customers could determine ranges along each of the four Cs and price. Blue Nile then displayed all stones in inventory that fit the customer’s desired profile.

Customers selected the stone of their choice, followed by the setting they liked best. Blue Nile also allowed customers to have their questions resolved on the phone by sales reps who did not work on commission. This low-pressure selling approach had great appeal to a segment of the population. In a BusinessWeek article3 in 2008, Web entrepreneur Jason Calacanis was quoted as saying that shopping for his engagement ring (for which he spent “tens of thousands of dollars”) on Blue Nile “was the best shopping experience he never had.”

The company focused on providing good value to its customers. Whereas retail jewelers routinely marked up diamonds by up to 50 percent, Blue Nile kept a lower markup of 20 to 30 percent. Blue Nile believed that it could afford the lower markup because of lower inventory and warehousing expense. Unlike jewelry retailers who maintained stores in high-priced areas, Blue Nile had a single warehouse in the United States where it stocked its entire inventory.

The company strategy was not without hurdles because some customers did not care as much about underpricing the competition. For example, some customers preferred “a piece of fine jewelry in a robin’s egg blue box with Tiffany on it”4 to getting a price discount. Also, it was not entirely clear that customers would be willing to spend thousands of dollars on an item they had not seen or touched. To counter this issue, Blue Nile offered a 30-day money back guarantee on items in original condition.

In 2007, the company launched Web sites in Canada and the United Kingdom and opened an office in Dublin with local customer service and fulfillment operations. The Dublin office offered free shipping to several countries in Western Europe. The U.S. facility handled international shipping to some countries in the Asia Pacific region. International sales had increased from $17 million in 2007 to more than $33 million in 2009 despite poor economic conditions.

By 2007, Blue Nile had sold more than 70,000 rings larger than a carat with 25 orders totaling more than $100,000. In June 2007, the company sold a single diamond for $1.5 million. Forbes called it perhaps “the largest consumer purchase in Web history—and also the most unlikely.”5 The stone, larger than 10 carats, had a diameter roughly the size of a penny.

Blue Nile did not have the stone in inventory, but its network of suppliers quickly located one on a plane enroute from a dealer in New York to a retailer in Italy. The stone was rerouted to Blue Nile headquarters in Seattle and transported in a Brinks armored carrier to the buyer. The whole process took only three days!

In November 2008, Blue Nile offered more than 75,000 diamonds on its site. Of these diamonds, more than 30,000 were one carat or larger with prices up to $1.9 million. Almost 43,000 diamonds on the Blue Nile Web site were priced higher than $2,500. In 2010, the company CEO Diane Irvine was quoted saying "We're not positioned as a discounter. We are selling a very high-end product but selling it for much less."

In 2007, the company had sales of almost $320 million with a net income of more than $22 million. By November 17, 2008, however, its stock had fallen from a high of more than $100 in October 2007 to less than $23. In the third quarter of 2008, the company saw its first decline in sales with its reported sales of $65.4 million being 2.9 percent less than the same quarter in 2007. In an upbeat announcement, the company stated, "Blue Nile is well positioned to generate profitability and cash flow even in difficult market conditions. We remain confident in our ability to continue to gain market share and to emerge from this economic downturn in an even stronger competitive position"; however, 2008 turned out to be a challenging year with net sales dropping by just under 10 percent and operating income falling by more than 25 percent. In 2009, however, both sales and income had improved for Blue Nile (see Table 4-14).

Source: Adapted and modified from Chopra, S., & Meindl, P. (2019). Supply Chain Management: Strategy, Planning, and Operation. (7th ed.) Pearson Education.

Question 1
Explain its supply chain network design in-terms of facility role, facility location, capacity allocation, market allocation and supply allocation. (5 marks)

Question 2
Describe **FIVE (5)** factors influencing its network design. (15 marks)

Question 3
Describe **FIVE (5)** effects of lack of co-ordination between the company and the suppliers. (15 marks)

Question 4
Recommend **FIVE (5)** strategies to the company regarding its current supply chain. (5 marks)

END OF PART A

PART B : **STRUCTURED-TYPE ESSAY QUESTIONS (60 MARKS)**

INSTRUCTION (S) : **SEVEN (7)** structured-type essay questions. Answer **FOUR (4)** questions. Write your answers in the Answer Booklet (s) provided.

Question 1

a. Define supply chain. (1 mark)

b. Explain **FIVE (5)** stages of a detergent supply chain. (5 marks)

c. Describe **THREE (3)** categories of supply chain decision. (6 marks)

d. Provide **THREE (3)** examples of supply chain surplus. (3 marks)

[Total: 15 marks]

Question 2

a. Describe **FIVE (5)** logistical and cross-functional drivers. (10 marks)

b. Explain supply chain performance from responsiveness point of view. (5 marks)

[Total: 15 marks]

Question 3

a. Describe **FIVE (5)** types of transportation network structure. (10 marks)

b. State **THREE (3**) types of risk to consider when transporting a shipment between two nodes on the network. (3 marks)

c. Provide **TWO (2)** examples of the use of information technology (IT) applications in transportation. (2 marks)

[Total: 15 marks]

Question 4

a. Describe the followings:

   i. **THREE (3)** supply chain risks to be considered during global network design. (6 marks)

   ii. **FOUR (4)** global facility location strategies. (8 marks)

b. Provide **ONE (1**) example of regional trade agreements that can affect global supply chain. (1 mark)

[Total: 15 marks]

Question 5

a. Define economic order quantity (EOQ). (1 mark)

b. Describe the followings:

   i. **FOUR (4)** components of inventory holding cost. (8 marks)

   ii. **THREE (3)** components of ordering cost. (6 marks)

[Total: 15 marks]

Question 6

a. Define resource planning. (1 marks)

b. Describe **THREE (3**) types of materials plans. (6 marks)

c. Explain bill of materials. (5 marks)

d. Provide **THREE (3)** examples of dependent demand items. (3 marks)

[Total: 15 marks]

Question 7

a. Define safety inventory. (1 mark)

b. Describe the followings:

   i. **THREE (3)** ways to measure product availability. (6 marks)

   ii. **TWO (2)** types of replenishment policy. (4 marks)

c. State **TWO (2)** disadvantages of aggregating all inventories in one location. (2 marks)

d. Provide **TWO (2)** examples of product substitution to reduce safety inventories. (2 marks)

[Total: 15 marks]

END OF EXAM PAPER