

Preferred Set

DM&IB, 2016-2018
Procurement Management

<Subject Code> DM-445/IB-417

Trimester – I / IV, End-Term Examination: September 2017

Time allowed: 2 Hrs 30 Min
Max Marks: 50

Roll No: _____

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means**. All other instructions on the reverse of Admit Card should be followed meticulously.

Sections	No. of Questions to attempt	Marks	Marks
A	3 out of 5 (Short Questions)	5 Marks each	3*5 = 15
B	2 out of 3 (Long Questions)	10 Marks each	2*10 = 20
C	Compulsory Case Study	15 Marks	15
		Total Marks	50

Section A

- Find the ordering pattern and total cost using Wagner-Whitin algorithm provided that ordering cost is \$50 per order and holding cost is \$0.5 per unit per week. (5)

Week	1	2	3	4
Demand	100	75	175	200

- A company can either make a part in house or buy it from a supplier. Company needs 100000 of this part each year. Consider the following cost data:

Source	Fixed cost	Unit variable cost
Make	15500	14.75
Buy	0	16.85

Should the company make or buy the part?

At what quantity will company be indifferent towards making or buying the part? (5)

- What are strategic items? How inventory and supplier selection for strategic items in different than the rest of items? (5)

- Write the formulation for single period, multi-item and multi supplier procurement considering following notations

PCij- Unit purchasing cost of i^{th} item from j^{th} supplier

OCij- Ordering cost of i^{th} item from j^{th} supplier

HCi - holding cost of i^{th} item

SCij- Supplier capacity of i^{th} item with j^{th} supplier (5)

- What criteria are important while selecting suppliers for a manufacturing firm? What are different methods for supply base optimization and supplier selection? (5)

Section B

- Aleda Maruchek has received the following quote from a supplier for replacement of ink cartridges used in laser jet printers.

Quantity	Unit Price (\$)
1	23

2	19
5	17
10	13
13	12

Is there anything unusual about this quote? What pattern is being followed in the discount offered? What must a buyer consider when determining what quantity to purchase?(10)

7. Explain the importance of ABC Analysis for inventory control. What are the steps involved? What is the strategy followed for each category? (10)
8. 25 wafers are inspected each containing 100 chips. The observed number of defects are given below. Which chart should be used for quality control and why? State whether the process is in control or out of control? (10)

Wafer Number	Number of Defects	Wafer Number	Number of Defects
1	16	14	16
2	14	15	15
3	28	16	13
4	16	17	14
5	12	18	16
6	20	19	11
7	10	20	20
8	12	21	11
9	10	22	19
10	17	23	16
11	19	24	31
12	17	25	13
13	14		

Section C

As Attached

SOURCING AND COMMODITY/PURCHASE FAMILY STRATEGY DEVELOPMENT

Emily Smith sat in her office thinking, looking out the window. As director of corporate procurement for United Express, a company specializing in overnight package delivery, she was responsible for all supply management strategies and issues that affected the company. Emily had just left a staff meeting with Bernie Nickels, the vice president of supply chain management.

Bernie opened the meeting by comparing the supply management group to the marketing group, a comparison that did not evoke a pleasant response among the supply managers present. He said that he had just spent an entire day with the vice president of marketing in a strategy alignment meeting. During this meeting, it became evident how seriously and creatively marketing took its responsibility for developing customer-focused marketing strategies. Bernie said it was "embarrassing" when it was his turn to outline current and future sourcing strategies, which he said paled in comparison to the marketing department's strategies. The staff assembled at this meeting soon realized that Bernie was not about to suffer this embarrassment alone. In the words of one staff member, "Bernie really read us the riot act."

Bernie argued that the sourcing strategies developed at United Express were inconsistent and sometimes conflicting. For example, he said that while one group wants a partnership with a supplier, another group is out "beating suppliers over the head for a lower price." Meanwhile another group wants a single source contract at the same time a second group insists on maintaining more than one supplier for every purchased item. An animated discussion of long versus short-term contracting finally sent Bernie looking for aspirin. Bernie concluded the meeting by saying:

"The bottom line is that we need to get our act together. Each supply group is off doing its own thing while reinventing the wheel every time we have a purchase requirement. We are not consistent. We are not developing strategies that align with what this company must do to be successful. We operate in our own little world, and from where I sit, that world doesn't command much respect around this corporation. Emily, I want you and your people to address these issues right away."

Emily was troubled by Bernie's comments, particularly his concern that United Express pursued widely divergent sourcing strategies. While admitting to herself that sourcing groups sometimes developed strategies that appeared inconsistent, wasn't it possible that some of these groups were responding rationally to the demands placed on them by each sourcing decision? As she thought about this question, however, it became evident that United Express would benefit from a purchasing/commodity strategy development process or framework that would guide the strategy development groups. This process must be robust enough so that all sourcing groups could use it. It was also evident to Emily that United Express required a tool or approach

for segmenting purchase requirements. She felt that segmenting purchase requirements would require each group to develop a strategy that was a reasonable response to that purchase requirement. Should United Express really be buying low-dollar office supplies the same way it buys high-dollar aircraft parts?

Assignment

1. Develop a multi-step strategy development process or framework that provides consistency and structure to the development of United Express's purchasing/sourcing strategies.
2. Develop and discuss a portfolio matrix approach that requires users to segment purchase requirements according to variables that you determine are important. Be sure to identify where this segmentation tool fits within the strategy development framework.