Semester "Spring 2011"

" Corporate Finance (FIN622) "

Assignment No. 02 (SOLUTION) Marks: 15

Question:

SNT Company has been dealing in the business of books for five years. The company faces steady demand for the books. So, it replenishes the supply by placing an order for more books from the publisher whenever there is inventory shortage. The company is planning to buy 200,000 books over the coming year. Each order that it places costs Rs. 75 and the annual carrying cost of the inventory is Rs. 0.10 per book. The company can place either a single order or multiple orders as provided in the following table. Average inventory over the year would be half of the order size and therefore carrying costs would be calculated accordingly.

(a) Fill in the table by keeping above information into consideration. **(10)**

Order Size	Orders per year	Average Inventory	Ordering Costs	Carrying Costs	Total Costs
200,000					
100,000					
50,000					
20,000					
10,000					

(b) Which order should be placed by SNT Company according to the table and why? **(2)**
(c) Calculate *Economic Order Quantity*. Is your answer consistent with your findings in part (b)? **(2+1)**

Solution:

(a) Fill in the table by keeping above information into consideration.

Order Size	Orders per year	Average Inventory	Order Costs	Carrying Costs	Total Costs
Books per order	*Annual Purchases/Books per order*	*Order size/2*	*Rs. 75 per order*	*Rs. 0.10 per book*	*OC + CC*
200,000	1	100,000	75	10,000	10,075
100,000	2	50,000	150	5,000	5,150
50,000	4	25,000	300	2,500	2,800
20,000	10	10,000	750	1,000	1,750
10,000	20	5,000	1,500	500	2,000

(b) Which order should be placed by SNT Company according to the table and why?

The company would develop a trade-off between both ordering costs and carrying costs. According to the table, the company would opt to select the order size of 20,000 books with 10 orders per year because the total cost is minimal in this case.

(c) Calculate *Economic Order Quantity*. Is your answer consistent with your findings in part (a)?

$$EOQ = \sqrt{(2 \times S \times OC) / CC}$$

$$EOQ = \sqrt{(2 \times 200{,}000 \times 75) / 0.10}$$

$$EOQ = 17{,}321 \text{ books}$$

Yes, the findings are consistent with the results. According to the table, 20,000 books per order are suitable but the exact is 17,321 books which can be obtained by using EOQ formula.