



BACHELOR OF SCIENCE IN SUPPLY CHAIN AND OPERATIONS MANAGEMENT
END OF SEMESTER EXAMINATION

SCM 1104: SUPPLY CHAIN MANAGEMENT OVERVIEW

Date: Tuesday, 18th August 2020

Time: 3 Hours

Instructions

Question one is compulsory

Answer any other two questions

The only point of reference for this exam is your own class notes written in your exercise books. Refrain from referring to the slides and other materials.

QUESTION ONE (30 MARKS)

Question One; Part A, Biddy's Bakery Case Study (22 Marks)

CASE: Biddy's Bakery (BB)

Biddy's Bakery was founded by Elizabeth McDoogle in 1984. Nicknamed "Biddy," Elizabeth started the home-style bakery in Cincinnati, Ohio as an alternative to commercially available baked goods. The mission of Biddy's Bakery was to produce a variety of baked goods with old-fashioned style and taste. The goods produced included a variety of pies and cakes, and were sold to the general public and local restaurants. The operation was initially started as a hobby by Elizabeth and a group of her friends. Many of the recipes they used had been passed down for generations in their families. The small production and sales facility was housed in a mixed commercial and residential area on the first floor of "Biddy's" home. Elizabeth ("Biddy") and three of her friends worked in the facility from 6 AM to 2 PM making and selling the pies. The operation was arranged as a job-shop with work stations set up to perform a variety of tasks as needed. Most of the customers placed advanced orders and Biddy's Bakery took pride in accepting special requests. The Bakery's Specialty was the McDoogle Pie, a rich chocolate confection in a cookie crust.

Meeting Capacity Needs

Initially sales were slow and there were periods when the business operated at a loss. However, after a few years Biddy's Bakery began to attract a loyal customer following.

Sales continued to grow slowly but steadily. In 1994, a first floor storage area was expanded to accommodate the growing business. However, Biddy's Bakery quickly outgrew its current capacity. In May of 2000, Elizabeth decided to purchase the adjacent building and move the

entire operation into the much larger facility. The new facility had considerably more capacity than needed, but the expectation was that business would continue to grow. Unfortunately, by the end of 2000, Elizabeth found that her sales expectations had not been met and she was paying for a facility with unused space.

Getting Management Advice

Elizabeth knew that her operations methods, though traditional, were sound. A few years ago she had called upon a team of business students from a local university for advice, as part of their course project. They had offered some suggestions, but were most impressed with the efficient manner with which she ran her operation. Recalling this experience she decided to contact the same university for another team of business students to help her with her predicament.

After considerable analysis, the team of business students came up with their plan: Bidly's Bakery should primarily focus on production of the McDoogle Pie in large volumes, with major sales to go to a local grocery store. The team of business students discussed this option with a local grocery store chain that was pleased with the prospect. Under the agreement Bidly's Bakery would focus its production on the McDoogle Pie, which would be delivered in set quantities to one store location twice a week. The volume of pies required would use up all of the current excess capacity and take away most of capacity from production of other pies. Elizabeth was confused. The alternative being offered would solve her capacity problems, but it seemed that the business would be completely different though she did not understand how or why. For the first time in managing her business she did not know what to do.

Case Questions:

- a. Explain the supply chain challenge faced by Elizabeth and considerations she should have taken before moving into a bigger space. **(5 Marks)**
- b. Do you think the suggestion made by the team of business students was of any help to Elizabeth? Give your reasons. **(5 Marks)**
- c. What was Bidly Bakery's major process operation? What type of process operation will be needed by Bidly to fit the proposal by business students? Using TWO points, point out to Elizabeth the major differences between the process operations and advice her on the best process operation to stay afloat. **(5 Marks)**
- d. Elizabeth senses that the business would be different if she accepts the proposal, but does not know how and why. Explain how it would be different. **(2 Marks)**
- e. Explain to Elizabeth on how to achieve Bidly's Bakery strategic fit. **(5 Marks)**

Question One; Part B (8 Marks)

1. A company that makes shopping carts for supermarkets recently purchased new equipment, which reduced the labor content needed to produce the carts. Information concerning the old system (before adding the new equipment) and the new system (after adding the new machines) includes:

	<u>Old System</u>	<u>New System</u>
Output/hr	80	84
Workers	5	4
Wage \$/hr	10	10
Machine \$/hr	40	50

- a) Compute labor productivity for both the Old System and the New System. **(2 Marks)**
- b) Compute AFP productivity for both the Old System and the New System. **(2 Marks)**
- c) Suppose production with old equipment was 30 units of cart A at a price of \$100 per cart, and 50 units of cart B at a price of \$120. Also suppose that production with new equipment is 50 units of cart A, at a price of \$100 per cart, and 30 units of cart B at a price of \$120. Compare all-factor productivity for the old and the new systems. **(2 Marks)**
- d) If in a given firm the design capacity equals 50 trucks per day, effective capacity equals 40 trucks per day, and the actual output is 36 units per day. Find the efficiency and utilization rate. **(2 Marks)**

QUESTION TWO (20 MARKS)

The Kenyan Public Procurement & Disposal Act of 2015 gives policies and procedures for inventory management. As a stocks controller at Strathmore University, come up with a policy outline for management of inventory for Strathmore University's inventory. **(10 Marks)**

A Multinational company whose parent company is in India is looking into opening a plant in Kenya and before it starts operations in Kenya, the company would like to acquire space for its incoming raw materials. Explain on the warehouse spaces that this company should consider.

(10 Marks)

QUESTION THREE (20 MARKS)

High Flying College would like to purchase laptops for its incoming first years. As the head of supply chain, advice High Flying College on the best procurement cycle to follow emphasizing on steps to be followed till closure of the procurement file. **(20 Marks)**

QUESTION FOUR (20 MARKS)

With uncertainties of life after COVID 19, companies are in a struggle to see that they give the best to customers and stay afloat. Cornerstone University is among those companies that has taken the challenge of remote teaching. Explain approaches to Total Quality Management and how Cornerstone University can utilize them for the post COVID world. **(10 Marks)**

Someday and sooner we will get back to our normal operations. Assuming that day comes sooner, advice Cornerstone University on the best transition strategy from remote teaching to normal teaching using the project life cycle approach in relation to supply chains. **(10 Marks)**

QUESTION FIVE (20 MARKS)

When a competitor—another company or a sister factory or division in the same company—can turn out products better, cheaper, and faster, that spells real trouble for the factory or division that is performing at a lower level. The trouble can be layoffs or even a shutdown if the managers can't turn things around. In light of this, discuss five facility layout strategies that the Strathmore University Business School can employ to stay ahead of other faculties within the University. **(10 Marks)**

Explain Service Package in light of Strathmore University. **(10 Marks)**