



MACHAKOS UNIVERSITY

University Examinations for 2020/2021 Academic Year

SCHOOL OF BUSINESS AND ECONOMICS

DEPARTMENT OF BUSINESS ADMINISTRATION

THIRD YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF COMMERCE (PROCUREMENT)

BMS 317: PRINCIPLE OF SUPPLY CHAIN MANAGEMENT

DATE: 9/8/2021

TIME: 8.30-10.30 AM

INSTRUCTIONS:

Answer question one and any other two questions.

QUESTION ONE: (30 MARKS)

FMCG INDUSTRY

FMCG industry is typically the products sold to customers at a low cost and will be completely consumed within 1 year. The nature of this industry is the short product life cycle, low profit margin, high competition and demand fluctuation. This section will present the case studies of P&G, Unilever and Coca-Cola respectively. Forecasting and new product introduction has always been the issues for many FMCG companies, P&G is no exception. To cope with this, P&G conducts a merchandise testing at the pilot stores to determine the customer's response to new product before the launch. The result is that the forecast accuracy is improved because a demand planner has an additional source data to make a better decision. Moreover, products can be shipped to stores in-time then lost sales is minimal.

Unilever also feels that the competition in FMCG industry has significantly increased. They have to launch the new products on regular basis but the forecasting of new product is difficult. So, they create a better classification of new products (base, relaunch, repack, new) using a regression model to identify potential forecast errors for each type of new product. Coca-Cola doesn't really have many stocks keep units when compared with other companies in the same industry. However, products go to over 2.4 million delivery points through over 430 distribution centers. Managing transportation at this scale is the absolute challenge.

In order to streamline the delivery, Coca-Cola implemented a vehicle routing software. The reason is that is the software vendor has a very good relationship with Coca-Cola's legacy ERP software vendor. Moreover, the vendor has a solid connection with the university who can help to develop the algorithm that fits in with the business' needs. The result is that transportation planners at each distribution center can use the new tool to reduce travelling time/distance on daily basis.

Required:

- a) Coca-Cola implemented a vehicle routing software to solve the challenge of transportation. Explain the benefits that would accrue to the company from this move. (10 marks)
- b) In reference to the case, demand forecasting has always been an issue for many FMCG companies. Explain FIVE ways in which forecast errors can be minimised. (10 marks)
- c) At Coca cola, products go to over 2.4 million delivery points through over 430 distribution centers. Propose the strategies that can be adopted to ensure supply chain optimisation. (10 marks)

QUESTION TWO (20 MARKS)

- a) Supply chain decisions are made at different phases. Describe the attributes of supply chain decisions made at the strategic level. (10 marks)
- b) Some organisations find it necessary to adopt both push and pull systems to manage demand in supply chain. Explain FIVE reasons that may make it necessary for a firm to adopt the two approaches. (10 marks)

QUESTION THREE (20 MARKS)

- a) Supply chain vulnerability is a challenge that managers cannot overlook in the current business world. Discuss five supply chain risks that organisations have been exposed to due to the Covid- 19 Pandemic. (10 marks)
- b) Discuss how the decision to outsource manufacturing may create a competitive advantage for an organisation. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Explain FIVE ways in which a manufacturer of agricultural equipment can leverage on Post sales services for a competitive advantage. (10 marks)
- b) The use of drones is a recent development in the quest for automation of supply chains. Explain FIVE benefits that would accrue to an organisation that makes use of such technology. (10 marks)

QUESTION FIVE (20 MARKS)

- a) Your organisation is contemplating to vertically integrate its supply chain. Explain FIVE factors to consider when choosing whether to have it integrated forward or backward. (10 marks)
- b) Discuss the advantages of supply chain performance measurement to an organisation. (10 marks)