

UNIVERSITY OF BOLTON

BUSINESS & CREATIVE TECHNOLOGIES

BUSINESS LOGISTICS & INFORMATION SYSTEMS

SEMESTER TWO EXAMINATIONS 2010/2011

PHYSICAL SUPPLY CHAIN MANAGEMENT

MODULE NO: EBU4009

Date: 6th June 2011

Time: 10.00-1.00pm

INSTRUCTIONS TO CANDIDATES:

There are **SIX** questions on this paper.

Answer **ANY FOUR** questions.

All questions carry equal marks.

Business & Creative Technologies
Business Logistics & Information Systems
Semester Two Examination 2010/2011
Physical Supply Chain Management
Module No. EBU4009

Question 1

Various frameworks and tools have been developed over the last few decades such as Balanced Scorecard, Lean Manufacturing, Value Stream Mapping, Kaisen, Six Sigma, Total Quality Management and the SCOR Model. These frameworks have been developed to improve operational performance, reduce operating costs and improve product quality. Critically evaluate the above tools and discuss their roles in reducing waste for an organisation selling perishable goods via its retail outlets. You can make assumptions if necessary to support your answer.

Total 25 Marks

Question 2

As Assistant Manager of a regional distribution centre which stores and delivers clothing and fashion goods to a number of retail outlets within a 50 mile radius of the warehouse, you have been asked by the Distribution Centre Manager to review the KPI's used to measure day-to-day, monthly and annual performance. You were recently introduced to the Balanced Scorecard concept as devised by Kaplan and Norton and believe this could provide a robust answer to the business.

Describe how this approach might be used to improve performance in addition to providing a periodic view of operational activities.

(8 Marks)

You should also identify specific areas of the business where you believe more specific KPI's might be more appropriate and describe how these might work.

(8 Marks)

Within the measure you propose you should identify those that measure efficiency and those that measure how effective the operations are, explaining why it is importance to differentiate between these.

(9 Marks)

Total 25 Marks

Question 3

Green Supply Chain Management is an initiative that aims to incorporate environmental factors into traditional supply chain management. It aims to reduce carbon emissions and reduce an operation's impact on the environment in general. Identify the goals of green supply chain management and discuss the approaches and initiatives that an organisation can undertake to become more environmentally friendly.

Total 25 Marks

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Question 4

As a supplier of short shelf life products to the retail sector you are becoming increasingly concerned by the amount of time which is being lost due to the need to stop receipts and deliveries during the time required to carry out the annual stock checks required by your auditors.

Explain the Pareto Principle and how this might be used to both improve inventory accuracy and remove the need for annual stock checks and allow true 24/7 operations.

(10 Marks)

Explore how this same principle might be used to in an initiative to reduce the stock held within the warehouse and describe how your suggestions might work and the anticipated benefits.

(15 marks)

Total 25 marks

Question 5

You have been asked to develop a new component and raw material inventory management system for the manufacturing company you work for. (You can make your own assumption as to the industry type)

Describe how a number of inventory replenishment systems work, giving examples of the circumstances where these might be effective and where they might not.

(15 marks)

Describe the logic behind MRP as an inventory control method, detailing the elements that are essential to its operation. Support your answer with a diagram.

(10 Marks)

Total 25 Marks

Question 6

The Forrester, or Bullwhip Effect is a common influence on multi-tier supply chains. Describe how this effect influences the various levels in a four tier supply chain speculating on some of the most common causes.

(8 marks)

How does this effect manifest itself within organisations and how does it influence stock holding and service levels.

(7 marks)

Identify and describe how this effect could be minimised.

(10 marks)

Total 25 Marks

END OF QUESTIONS