



TECHNICAL UNIVERSITY OF MOMBASA

SCHOOL OF BUSINESS

MANAGEMENT SCIENCE DEPARTMENT

COURSE/CLASS: DIPLOMA IN BUSINESS MANAGEMENT, DIPLOMA IN BUSINESS ADMINISTRATION

UNIT CODE: BMG 2212

UNIT NAME: OPERATIONS MANAGEMENT

SERIES: DECEMBER, 2016

PAPER DURATION: 2 HOURS

NO OF STUDENTS: 60

INSTRUCTIONS TO CANDIDATES:

Answer question ONE (Compulsory) and any other TWO questions.

QUESTION ONE:

Case study

Boeing brings its customers on board

Arguably the most innovative new passenger aircraft to enter service over the last few years was the Boeing 777, a new twin-engined aircraft, in the 300-plus seats category, to compete with established models from McDonnell and Airbus. The existence of established competitor products is important. When Boeing developed the 747 'Jumbo' jet aircraft, it had no direct competitors. The company's customers either wanted the product or they didn't. Not so for the 777; Boeing knew that it must consider its customers' requirements. The company had to take a new course – to understand its customers' needs and then to transform that knowledge into an aircraft that could best meet those needs.

Boeing has always maintained close involvement with its customers, but this project called for a new depth of listening and understanding. Initially, eight large potential customers (including British Airways, Japan Airlines and Qantas) were invited to participate in creating the design concepts. It soon became clear that the customers did have important requirements, the most vital of which was that the aircraft should be around 25 per cent wider than the 767. In fact Boeing had originally hoped to lengthen the 767 fuselage to give the extra capacity, so avoiding some of the costs involved in a completely new fuselage. The customers also wanted much more flexibility in the configuration of the passenger space. Conventionally, cabin space had been divided up into sections, separated by fixed galleys and toilets at predetermined positions, fixing the ratio of passenger capacities of each class. Boeing did meet its customers' requirements and even improved upon them in some ways. They achieved this by using design/build teams, and by a particularly powerful computer-aided design (CAD) system. Customers were closely involved right from the start of the design. They even came up with some good suggestions. For example, one airline suggested a new layout for the rear galley which allowed an extra 12 seats to be included in the aircraft.

Expanding its marketing share through innovation in products and packaging

- Regularly updating its product portfolio

Production

Despite manufacturing its goods in large quantities, Cadbury Schweppes uses batch rather than flow production methods.

The company must ensure the products are of high quality. Not only are there strict laws about how foodstuff is made, but also Cadbury Schweppes would not want to damage its reputation by allowing inferior products to be sold.

Cadbury Schweppes undertakes extensive research and development (R&D) to develop new products and to find ways of manufacturing existing brands more efficiently. Cadbury Schweppes uses the ser

Answer the following questions:

a) What problems do you think might be associated with bringing customers together in the way that Boeing did? **(20 Marks)**

(b) Why do you think that Boeing's customers wanted the flexibility to configure passenger space?

(10 Marks)

QUESTION TWO:

(a) Discuss quality under the following sub headings

- (i) Quality control
- (ii) Quality assurance
- (iii) Multi dimensions of quality
- (iv) Quality cost

(20 marks)

QUESTION THREE:

1. (a) Define ISO Certification

(3 marks)

(b) Outline **SEVEN** benefits of ISO Certification

(7 marks)

2. (a) Define strategic capacity management and any **THREE** types of capacity

(10 marks)

QUESTION FOUR:

1. (a) During winding of production a plant produce 83 units of a product. Its historic highest all the best utilization recorded was one unit per week. What is the plant's capacity utilization rate?

(5 marks)

(b) Discuss capacity planning concept

(5 marks)

2. Using a well labelled and illustrated diagram, discuss the learning / experience curve and manufacturing improvement curve

(10 marks)

QUESTION FIVE:

(a) What do you understand by the word operations consulting and re-engineering, citing examples

(10 marks)

(b) Outline different characteristics of an operations management consultancy **(10 marks)**