

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY



FACULTY OF COMMERCE

DEPARTMENT OF BUSINESS MANAGEMENT

OPERATIONS MANAGEMENT – CBU 2108

First Semester Examination Paper
December 2014

This examination paper consists of 8 pages

Time Allowed: 3 hours 15 minutes

Total Marks: 100

Examiner's Name: Mr M Nyathi

INSTRUCTIONS TO CANDIDATES

1. Answer question **One** and any other **Three** questions from Section B.

INFORMATION TO CANDIDATES

1. All questions in Section B carry **25 marks**.
2. Questions may be answered in any order.
3. Credit will be given for the use of appropriate examples.
4. This paper contains seven questions.

MARK ALLOCATION

QUESTION	MARKS
1.	25
2.	25
3.	25
4.	25
5.	25
6.	25
7.	25

Question 1

Case: Apple's strategy

On low-end devices, Apple CEO Tim Cook told *Bloomberg Businessweek* in an interview last year, "We never had an objective to sell a low-cost phone. Our primary objective is to sell a great phone and provide a great experience, and we figured out a way to do it at a lower cost."

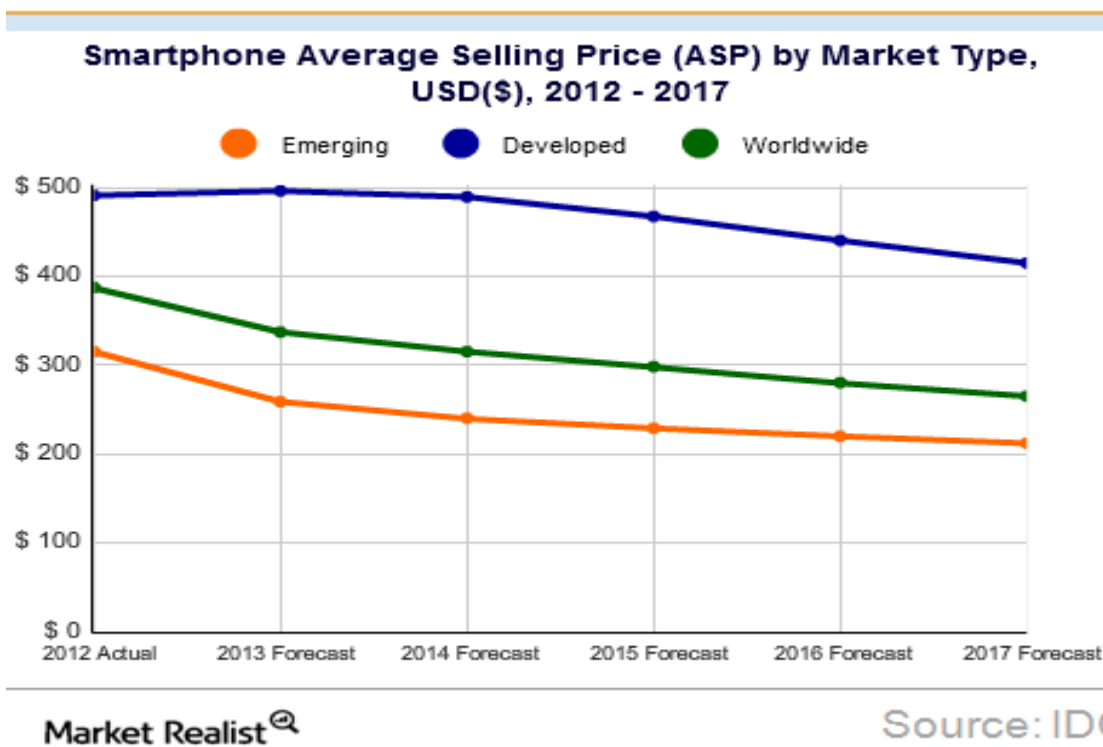
Cook's thoughts echoed those of his predecessor, Steve Jobs, whose strategy for Apple had four pillars:

Offer a small number of products.

Focus on the high end

Give priority to profits over market share

Create a halo effect that makes people starve for new Apple products



Differentiation

Apple attempts to increase market demand for its products through differentiation, which entails making its products unique and attractive to consumers. The company's products have always been designed to be ahead of the curve compared to its peers. Despite high competition, Apple has succeeded in creating demand for its products, giving the company

power over prices through product differentiation, innovative advertising, ensured brand loyalty, and hype around the launch of new products. By focusing on customers willing to pay more and maintaining a premium price at the cost of unit volume, Apple also set up an artificial entry barrier to competitors.

Apple sells its products and resells third-party products in most of its major markets directly to consumers and Small and Medium sized Businesses (SMBs) through its retail and online stores and its direct sales force. The company also employs a variety of indirect distribution channels, such as third-party cellular network carriers, wholesalers, retailers, and value-added resellers.

Apple uses a retail strategy called “minimum advertised price” (or MAP). Minimum advertised pricing policies prohibit resellers or dealers from advertising a manufacturer’s products below a certain minimum price. MAP is usually enforced through marketing subsidies offered by a manufacturer to its resellers.

According to a piece in Macworld, Apple maintains the popularity of its high-priced products by only offering retailers such as Wal-Mart or Best Buy a marginal wholesale discount. This small percentage in savings isn’t enough of a profit margin for retailers to offer big discounts on Apple’s products, which means customers end up paying a price close to the manufacturer suggested retail price (or MSRP). However, a retailer could give up this small profit margin and offer products at a discount to attract more customers. Apple prevents this scenario by offering monetary incentives to retailers to sell goods at the MAPs fixed by the company.

This price strategy is effective insofar as it prevents retailers from competing directly with Apple’s own stores, and it also ensures that no one reseller has an advantage over another. So Apple is able to keep its distribution channels clean as well as make more money on its direct sales. The Macworld article further noted that iPhones weren’t under a strict pricing model, as they sold at a lower price with wireless contract deals, as retailers gain a commission from carriers.

Premium prices

Jobs’ vision for Apple was always to create a premier product and charge a premium price. Apple’s cheapest products are usually priced in the mid range, but they ensure a high-quality

user experience with their features. The hardware and user interface are designed to provide a lot of value for the price, which keeps profits high. However, a company can charge a premium price as long as it has a competitive advantage, and analysts believe the brand is on the way to losing its “aspirational” status. With increasing competition from Android and low-cost smartphones, as well as saturation in the developed markets, analysts feel that the company could risk becoming a high-end niche name.

According to IDC’s mobile phone forecast in 3Q 2013, a number of trends co-exist in the global smartphone market—but none have more of an effect on driving market growth than the steady decline in average selling prices (or ASPs). Android has enabled a number of new manufacturers to enter the smartphone market, supported by a variety of turnkey processing solutions. Many of these handset vendors have focused on low-cost devices as a way to build brand awareness. In 2013, IDC expects smartphone ASPs to hit \$337, down 12.8% from the \$387 recorded in 2012. This trend will continue in the years to come, and IDC expects smartphone ASPs to gradually drop to \$265 by 2017.

Required:

- (a) Identify the typology of operations at Apple and briefly state its characteristics. [5 Marks]
- (b) What competitive strategy or priority is Apple using to compete? Justify your answer. [10 Marks]
- (c) How effective is the competitive strategy in counteracting competitors? [5 Marks]
- (d) What advice would you offer Apple management to ‘outsmart’ Samsung, its key competitor? [5 Marks]

SECTION B

Question 2

- (a) Why do companies hold large quantities of inventory? [10 Marks]
- (b) Table 1 below shows the quantities of bread that TM Ascot stock orders over a period of 12 months. [10 Marks]

Table 1 Costs relating to different order quantities

Demand(D) =1000 units per year

Holding Costs (H_c) = \$1 per item per year

Order costs (O_c) = \$20 per order

Order Quantity	Holding Costs	Order Costs	Total Costs
50	-	-	-
100	-	-	-
150	-	-	-
200	-	-	-
250	-	-	-
300	-	-	-
350	-	-	-
400	-	-	-

Required.

(a) Complete the above table. [12 marks]

(b) Using the completed table graphically, show the economic order quantity. [3 marks]

Question 3

A potential foreign investor intending to establish a leather processing plant in Zimbabwe or South Africa is presented with what a local investment analyst calls three ‘best’ sets of data to consider for such an investment. Table 1 presents the cost structures of these locations; Table 2 the critical success factors of 2 countries and table 3 the output from different locations.

[25 marks]

Table 1: Cost Structures of three locations

Location	Fixed Costs	Variable Costs per unit
Bulawayo	\$30,000.00	\$75.00
Harare	\$110,000.00	\$25.00
Gweru	\$60,000.00	\$45.00

The selling price of a product = \$120.00

Expected volumes = 2,000 units

Required:

- (a) Using the Locational Break-Even Analysis, calculate the output range for which Bulawayo, Harare and Gweru are ideal locations for the potential investor. **[8 Marks]**

Table 2: Critical success factors of 2 locations and their weights

Critical Success Factor	Weight	Scores out of 100	
		South Africa	Zimbabwe
Skilled Labour Availability	0.25	60	70
Per Capita Income	0.10	85	80
Tax Structure	0.39	70	75
Unionisation of Labour	0.21	95	50
Political Risk	0.05	45	70

Required:

- (b) Using the Factor Rating Method, identify the ideal country to invest in. **[4 Marks]**

Table 3: Output from four locations

Plant Location coordinates	Projected Output (units per month)
Bulawayo (20.17S, 28.58E)	2000
Gweru (19.42S, 29.83E)	1000
Harare (17.86S, 31.03E)	2000
Mutare(18.97S, 32.63E)	1000

(c) Using the Center of Gravity Method, identify the ideal location of the plant. **[5 Marks]**

(d) Why do most service organizations occupy ground floors of buildings? **[8 Marks]**

Question 4

Discuss capacity plans or strategies used by operations managers for coping with demand fluctuations in the service sector. **[25 marks]**

Question 5

Explain any five features that distinguish Just In Time (JIT) from other approaches to improved business performance? **[25 Marks]**

Question 6

‘It is the operations part of the business which is the ultimate custodian of competitiveness. Its contribution and role is to do things better; that is, ‘make products better’ and ‘deliver services better’ than other similar operations. Elaborate. **[25 marks]**

Question 7

“Say we get an order from a European retailer to produce 10,000 garments. For this customer we might decide to buy yarn from a Korean producer but have it woven and dyed in Taiwan. So we pick the yarn and ship it to Taiwan. The Japanese have the best zippers ... so we go to YKK, a big Japanese zipper manufacturer, and we order the right zippers from their

Chinese plants. ...the best place to make the garments is Thailand. So we ship everything there. ...the customer needs quick delivery, we may divide the order across five factories in Thailand. Effectively, we are customizing the value chain to best meet the customer's needs''. (Interview: Victor Fung of Li & Fung in HBR, Sept-Oct 1998.)

Required

Identify the concept being referred to in this quote and discuss why it has become an important global business practice. **[25 Marks]**

END OF EXAMINATION