



UVA WELLASSA UNIVERSITY

FACULTY OF SCIENCE AND TECHNOLOGY

COMPUTER SCIENCE & TECHNOLOGY DEGREE PROGRAM

1ST SEMESTER EXAMINATION JAN/FEB -2011

CST444-2 MANAGEMENT INFORMATION SYSTEMS

Time allowed: 2 hours

This paper has 2 parts, answer 4 questions from part A and all questions in part B.

And attach your question paper to the answer script

Part A

Q1.

An established telecommunications company is considering its future business strategy. The Finance Director (FD) believes strongly that a formal approach should be adopted, whereby business objectives are agreed before an IS strategy is formed. The FD requires that the strategy be developed using established techniques and suggests that Porter's Competitive Forces Model and Value Chain Analysis process be adopted.

The Chief Information Officer (CIO) accepts this up to a point but argues that, in many industries, IS and the emergence of new technologies can influence future ways of conducting business and that the old model of "business first, IS second" may no longer be entirely relevant.

a. Describe Porter's Competitive Forces Model and his Value Chain Analysis process and comment on the effectiveness of these for developing strategic objectives.

(12 marks)

b. Argue for and against the CIO's assertion that "business first, IS second" may no longer be relevant, giving appropriate examples to justify your arguments.

(13 marks)

Q2.

"External systems integration refers to IT-mediated transactions between independent business entities, for example, between a company and its customers, suppliers, or other business partners, such as co-producers and banks, and it is important for both economic and strategic business reasons. Today external systems integration involves many technologies and business arrangements with different pros and cons, but they can be grouped in two broad categories: one-to-one or one-to-many approaches that link an individual company with its business partners and hub-and-spoke approaches that provide the possibility of many-to-many connections. One-to-one approaches are most prevalent, though hub-and-spoke approaches may offer greatest business value in terms of cost and fit with the dynamic business environment of mergers, acquisitions, and divestitures and multi-party business arrangements,

such as business process outsourcing and supply chain facilitation. Few companies today have a systematic strategy for dealing with external systems integration. Both business issues and technical issues should be addressed in an external systems integration strategy." (Excerpted from "The Future of Enterprise Integration: Strategic and Technical Issues in External Systems Integration", M. Lynne Markus et al., forthcoming report to Advanced Practices Council of SIM (International.)

- a. Discuss the main business and technical considerations for developing an external systems integration strategy in one particular industry (e.g. biotechnology, hospitality, health care, legal services, telecommunications, and financial services). State whether you are taking the perspective of a single firm or of an industry consortium. (10 marks)
- b. Describe one type of external system integration that has been implemented in that industry. In what ways has it been "successful"? In what ways has it "failed" to reach expectations?
What theories help to explain these successes and failures? (8 marks)
- c. What kinds of skills do IS Managers need to plan, implement and support integrated external systems? Explain your answer with consideration to your response to (a) and (b). (7 marks)

Q3.

- a. Outline why it is important for a company to ensure that any MIS development is in line with corporate strategy. (5 marks)
- b. Describe, with supporting examples, TWO Strategic Information Systems Planning (SISP) techniques that can help management to identify potential MIS developments from existing corporate strategy. (12 marks)
- c. Explain how an Executive Information System (EIS) can be used by senior management to monitor the achievement of current corporate strategy. (8 marks)

Q4.

A company is investigating whether to outsource all of its MIS functions to a large, well-established outsource provider, or to outsource all new MIS software developments to a local software house whilst keeping existing MIS operations in-house.

- a. Describe the factors that would need to be considered when choosing between the total and partial MIS outsourcing options. (15 marks)
- b. The company has decided to totally outsource MIS functions, but is now considering the outsourcing of aspects of the MIS function to different outsourcing providers. Discuss the

advantages and potential risks that using several outsource providers have, instead of using a single outsource provider.

(10 marks)

Q5.

a. Outline the DDM Model of a Decision Support System (DSS).

(6 marks)

b. For EACH of the following business situations, describe and justify the most suitable MIS subtype that could be implemented:

i. The Managing Director of a large international food retailer wants to consider product range and marketing decisions with his first line management group in seven different countries on a frequent basis without moving from his office.

(6 marks)

ii. A manufacturing company wants each of its twelve manufacturing plants to have expert diagnosis of manufacturing process problems available to them as they occur and without having to seek advice from the human expert on each occasion.

(6 marks)

iii. The management of a university wants to monitor the student and course data with respect to several performance indicators as set by the university and/or external funding organizations.

(7 marks)

Part B

Q1.

Describe EACH of the following MIS concepts and explain how each could be used within a company's Business Intelligence system.

a. Extract-Transform-Load (ETL) process.

(7 marks)

b. On Line Analytical Processing (OLAP) tool.

(7 marks)

c. Data mining tool.

(6 marks)

d. Executive Dashboard.

(5 marks)

Q2.

a. Outline the following MIS development approaches and appraise the relative suitability of EACH approach to the development of a large corporate data warehouse:

i. Traditional approach.

ii. Evolutionary approach.

iii. Phased approach.

(17marks)

b. Explain a snowflake schema and clearly identify the role snowflake schemas play within data warehouse development.

(8 marks)



Q3.

a. Discuss what is meant by a virtual organization, highlighting the role played by the Internet within such an organization.

(7 marks)

b. Describe the ways in which the Internet can be used in the provision of an organization's management information and management support, highlighting the benefits that result from such use.

(18 marks)

Q4. Describe, with illustrative examples, how THREE of the following can be used in the provision of a company's MIS:

- Cost benefit analysis
- Business Intelligence tools
- SQIRO
- CASE tools
- Application Service Providers

(25 marks)