

*Ollscoil na hÉireann, Gaillimh*  
*National University of Ireland, Galway*

**Semester II Examinations, 2004/2005**

Exam Code(s)	1IT1
Exam(s)	Master's Degree in Information Technology
Module Code(s)	CT514
Module(s)	IT Strategy
Paper No.	
Repeat Paper	Special Paper
External Examiner(s)	Prof. D. Bell
Internal Examiner(s)	Prof. G. Lyons
	Catherine Cronin

**Instructions:**

Duration	3 hrs.
No. of Answerbooks	1

**Requirements:**

Handout	
MCQ	
Statistical Tables	
Graph Paper	
Log Graph Paper	
Other Material	

No. of Pages	4
Department(s)	

**Time allowed : THREE hours**

Answer **FOUR** questions:

**THREE** from **Part A** and **ONE** from **Part B**

**ALL questions are equally weighted: 25 marks each**

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**Part A.** Answer **THREE** of the following questions.

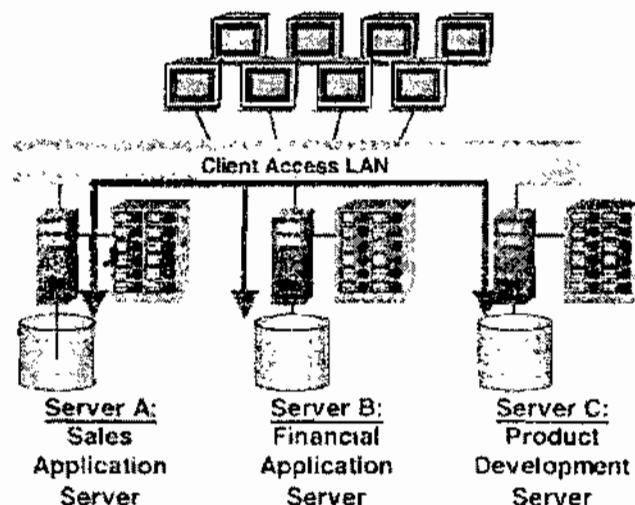
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1. (a) Define Business Process Re-engineering (BPR); what are its main objectives?  
[5 marks]
- (b) Describe how a *business process* view of an organisation differs in terms of structure, management, performance measurement and systems support from a more traditional model of a business organisation.  
[5 marks]
- (c) Why is an understanding of BPR essential when developing and implementing an IT Strategy? Use examples from the course to illustrate your argument.  
[15 marks]
2. (a) What is the purpose of constructing a *business case* for IT investment value analysis? What are the risks of not using a business case approach?  
[8 marks]
- (b) Define and describe the key elements of a business case.  
[7 marks]
- (c) You are assisting a new IT consultant who has been asked to create a cost/benefit model for a new IT investment. Based on your own knowledge and experience, what advice would you give this consultant about (i) identifying all possible costs and benefits, and (ii) communicating with stakeholders about the cost/benefit model?  
[10 marks]
3. (a) Explain, using a diagram, the relationships between *Business Strategy*, *IT Strategy*, *Competitive Environment* and *Emerging Technology Developments*.  
[8 marks]
- (b) Explain what is meant by *top-down*, *bottom-up* and *inside-out* IS/IT strategy planning.  
[7 marks]
- (c) Give an example of an IT project, in the health care sector, for each of the 3 categories defined in part (b). For each proposed project, explain why you assign it to its particular category, and what tools could be used to identify further IS/IT solutions within that category.  
[10 marks]

4. (a) Define *core capability*. How might consideration of core capabilities help in developing an organisation's IT strategy? [10 marks]
- (b) Discuss how *tacit* and *explicit* knowledge is transmitted within organisations and suggest how an organisation's IT strategy might support such knowledge transmission. [10 marks]
- (c) How might an organisation assess the *value* of Knowledge Management within the organisation? [5 marks]
5. (a) What is an *emerging technology*? Give an example of an emerging technology which might be considered by a national supermarket chain; outline its potential benefits by distinguishing between competitive and technological advantages. [8 marks]
- (b) Describe the various questions, issues and risks to be considered when evaluating an emerging technology. Use examples to illustrate your answer. [8 marks]
- (c) Your task is to provide an improved SAN-based IT infrastructure for the client/server architecture shown below. The following issues are to be considered:
- An efficient use of additional disk storage
  - An increased I/O data volume
  - A more efficient data backup
  - A shared data access between servers
  - An increased availability of the servers

Provide a schematic to illustrate your design.

[9 marks]



6. (a) Briefly define *information architecture*. Then describe the differences between *client-server* and *web services-oriented* architectures. Use simple diagrams to illustrate your points. [8 marks]
- (b) Discuss the following related statements in the context of IT architecture. [8 marks]
- “Business process requirements should drive applications and IT infrastructure”
  - “Applications *enable* business processes”
- (c) Consider a business or an organisation you are familiar with (e.g. the hospital); discuss the limitations of the current IT infrastructure, and how these might be addressed. Possible questions which may help you are:
- Are individual systems integrated with one another, or isolated/unconnected?
  - What could be done to improve the overall visibility of (patient) information across departments?
  - Is there potential for a “loosely-coupled”, “peer-to-peer” architecture?
- [9 marks]

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**Part B. Answer only ONE of these questions.**

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7. “IT projects tend to be extended efforts, spanning many years and demanding substantive amounts of resources. Only a system clearly linked to the long-term drivers of a firm’s strategy has the chance to become an important contributor to the business’s success.” (Kovacevic and Majluf, 1993)

Discuss this statement in the context of developing an IT Strategy for an organisation. In your answer, you must draw on material covered during the course. [25 marks]

8. Four phases in IT strategy planning are:

- Phase 1. Confirm business objectives & analyse IT opportunities
- Phase 2. Analyse current IT & define strategy scope
- Phase 3. Develop target IT architectures & alternative strategies
- Phase 4. Develop IT strategy implementation plan

- (a) Outline the objective(s) of each of the 4 phases. [5 marks]
- (b) Assume that you have been hired as an IT consultant, by the organisation that you examined in your IT Strategy / Marketing Management project, to help the organisation to update its IT strategy. You have reviewed all the available literature and you are now preparing for your first meeting with the organisation.
- Which of the key decision makers in the organisation would you like to attend this first meeting? Briefly explain your choices. [8 marks]
- (c) Identify THREE questions you would like to ask the organisation, in order to determine its present IT/IS status. For each of your questions, explain what key information you expect to obtain. [12 marks]