UNIVERSITY OF LONDON

279 0037 ZB

BSc degrees and Diplomas for Graduates in Economics, Management, Finance and the Social Sciences, the Diploma in Economics and Access Route for Students in the External Programme

Computer-based Information Systems

Monday, 22 May 2006 : 2.30pm to 5.30pm

Candidates should answer **FOUR** of the following **EIGHT** questions: **QUESTION 1** of Section A (40 marks) and **THREE** questions from Section B (20 marks each). **Candidates are strongly advised to divide their time accordingly.**

SECTION A

Answer all **ten** questions from this section (40 marks in total)

1. Central Hospital is a large hospital in a big American city. It has about 2,000 employees and treats 50,000 patients every year. The annual expenditure for drugs and medical consumables counts for around 30% of the budget, which in 2005 was $500 millions.

   Since 2001 the Hospital has faced financial challenges due to the reduction in government support. In this period the hospital budget has reduced by 7% while the annual drug and medical consumables expenses has increased by only 3% - far less than the national average. The Hospital has responded to this challenge with a strategy based on e-procurement, the use of information technology and computer systems to support procurement services. Specific investments have been made and new procurement systems now play a powerful role in their operations and have helped them to meet their restricted budget. The focus of this effort has been on improving the procurement strategy and achieving the best value for money, emphasising communications with their suppliers and collaboration with other hospital operating in their region. For example, much procurement is now handled via a Regional Procurement Service using a common B2B platform. This is shared with eight other hospitals operating in the same region.

   As a result of this strategy the Hospital now has two systems in use for procurement. The first is the Regional Procurement Service which centralises and consolidates the orders hospitals make to their larger suppliers. The other system, internal to Central Hospital, is used for small procurements and for specialised requests that emerge during the daily operation of the hospital. To support these initiatives the hospital has recently opened its own web portal to facilitate interaction with its current and potential suppliers. Here suppliers can retrieve information regarding the hospital procurement processes, their current requirements and, via live internet relay chat, suppliers can make direct enquires to the procurement office of the hospital to gain more information and to solve everyday and administrative problems.

   In 2005, 45% of orders were handled by the internal system, while 55% were managed by the centralised procurement system. In the future they expect the percentage going through the centralised system to rise to over 75%. The web portal has also been increasingly used, with over 70% of queries related to procurement handled via this media

   So far the both the Hospital's procurement office and the information system department have successfully faced the challenges of implementing the new procurement processes. Both technically and organisationally this has been a complex project, and despite the support of consultants, the Hospital is pleased with its success at managing the changes and the benefits it has delivered to help keep within the tight budget. They are now considering setting up a spin off company to provide consultancy and software services to other Hospitals entering into e-procurement.

(a) Briefly explain what is e-procurement and give two examples of industries **other than health care** where it is successfully used.

(b) Central hospital now has two parallel system in place for procurement. What problems do you envisage this poses for IT managers and hospital staff?

(c) Suggest two main considerations that need to be addressed in establishing the operational relationships between Central Hospital and the Regional Procurement Service.

(d) The live web chat support system has required a reorganisation of the hospital's procurement office. Explain what benefits it could expect from such a system and why this has required a reorganization?

(e) Suggest **two** ways in which the new procurement processes have allowed the hospital to ensure that it gets best value for money when it purchases drugs and medical supplies.

(f) Some hospital managers want to close down the local procurement system and only utilise the centralised one. Would this be feasible and desirable?

(g) Central Hospital claims to have been able to survive the challenges of the new budget because of the strategic use of information technology. Using Porter's model suggest what particular areas of the business they have addressed through the technology.

(h) A typical order with all the associated information including time for pick-up and delivery, amounts to about 1500K bytes of data. If the connection speed between the Regional Centre and the suppliers operate at 500kbs, how long will it take to send this information to the suppliers. State any assumptions or limitations in your answer

(i) The hospital has made use of consultants during its reorganisation of procurement. Suggest **two** areas which it may have been sensible to seek such external support and explain why?

(j) The Hospital managers now see the potential to generate extra income for the hospital by selling their services to other hospitals. Explain the strength and weaknesses of this strategy

SECTION B

Answer **three** questions from this section (20 marks each)

2. (a) What is knowledge management? Identify the basic concepts underling this strategy and explain why many organizations have embarked on knowledge management projects. **(10 marks)**

    (b) What is the difference between knowledge and information? **(10 marks)**

3. (a) What is a business strategy? How should it relate to an information systems strategy? **(10 marks)**

    (b) Give **two** examples of information systems that have been designed to support an explicit business strategy. **(10 marks)**

4. (a) What is an information system development methodology? What problems are such methodologies intended to solve when they are adopted by organizations? **(10 marks)**

    (b) Explain the prototyping approach to IS development and the reasons why it might be the chosen for a particular systems development effort.
    (10 marks)

5. (a) Should medium sized or large organizations expect to outsource all their IT support services? **(10 marks)**

    (b) What management, organization, and technology factors should be considered when making this decision? **(10 marks)**

6. 'There are only a few areas in which B2C e-commerce has been a real success. What these areas teach us is that the key to such success is a standard product and an efficient supply chain to allow the delivery of the goods.' Critically discuss this view.

7. (a) It has been often said that ICT can reduce transaction costs. What does this means and what are the likely consequences for organisations and firms?
    (10 marks)

    (b) Provide **two** examples where ICT has been used to reduce transaction costs, explaining exactly why these costs have been reduced. **(10 marks)**

8. Write a brief report for the Prime Minister of your country arguing in favour of an e-government project to support the tax authorities in collecting tax returns from citizens and businesses.

END OF PAPER