جامعة الحسين التقنية
Al Hussein Technical University

ASSIGNEMNT BRIEF

1.1 HTU Course No: 30202450 1.2 1.3 BTEC UNIT No:	1.4 HTU Course Name: Management Information Systems 1.5 1.6 BTEC UNIT Name:

Assignment Brief Number: 1

Version: 1

جامعة الحسين التقنية
Al Hussein Technical University

Assignment Brief

Student Name/ID Number	
HTU Course Number and Title	30202450 Management Information Systems
BTEC course number and title	
Academic Year	2022/2023 (Spring Semester)
Assignment Author	Dr. Nayef Abu-Ageel
Course Tutor	
Assignment Title	Evaluation of an IT Investments
Assignment Ref No	Assignment 1
Issue Date	1/5/2023
Formative Assessment dates	Every two weeks until 9/6/2023
Submission Date	Part 1: 20-6-2022 (11:59PM) Part 2: 20-6-2022 (11:30AM-1:30PM)
IV Name & Date	Hana AlRasheed

Submission Format

Project Plan Report
In your Project Plan, you should make use of headings, paragraphs, and subsections as appropriate. The expected word limit is about 4000 words (recommended 10 pages including designs/images…etc), although you will not be penalised for exceeding the total word limit. Do your best to be within the word limit. Submit a **soft copy of your report** to the instructor. Your Project Plan Report should be written in a formal business style using **single spacing and font size 12**.

Presentation:
Prepare a final power point presentation that describes your Project Plan.

Note: Soft copies submissions of your Presentation and Project Plan Report should be done through the university's eLearning system within the deadline specified above from below link:
https://elearning.htu.edu.jo/

Unit Learning Outcomes

LO1 Utilize conceptual frameworks to align IT investments with business strategy.

LO2 Specify business requirements as information system specifications.

LO3 Assess the fit between business requirements and enterprise systems features.

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Assignment Brief and Guidance

You have recently joined a Ibn Sina Health Organization as an Information Systems Specialist. As a member of a task force, you were asked to evaluate Anesthesia Information Management System (AIMS). See Appendix I for more details.

PART 1

Economic Feasibility Analysis
Prepare a feasibility analysis for the implementation of the Anesthesia Information Management System (AIMS) within the Ibn Sina Health Organization.

1- Calculate the following items generated by AIMS over a 10-year period:
   a. The total initial cost of the project
   b. The cost savings to the Ibn Sina Healthcare System per year
   c. The project cash flow per year
   d. The Net Present Value (NPV)
   e. Internal Rate of Return (IRR)
   f. Sensitivity analysis that shows Sensitivity of Maintenance Cost (15%-30%) and Cost of Capital (8%-16%)

Attach a spreadsheet that shows the above items.

2- Articulate how the proposed AIMS project fits with the IT investment portfolio of a real health organization that you select.

Presentation:
Prepare a final power point presentation that describes your Economic Feasibility Analysis. You will be required to present this part in class before the end of the semester.

Your presentation should contain the following slides.
Slide 1: Project title, your name, date
Slide 2: Outline
Slide 3-10: Economic Feasibility Analysis
Slide 11: Conclusions

PART 2

Part 2 will be an on-campus examination on Tuesday, June 20, 2023 at 11:30PM-1:30PM. Room:

Pass	Merit	Distinction
LO1 Utilize conceptual frameworks to align IT investments with business strategy		
P1 Understand IT governance and its significance. **P2** Understand Operating Model & Maturity of Enterprise Architecture.	**M1** Align IT investment decisions with the goals and strategies of the organization. **M2** Incorporate risk in IT investment evaluation.	**D1** Calculate Net Profit Value (NPV) and produce a detailed evaluation of IT projects. **D2** Articulate how a proposed IT project fits with the IT investment portfolio of an organization.
LO2 Specify business requirements as information system specifications		
P3 Describe how an organization provides context for the SDLC. **P4** List the major variants of the SDLC. Compare and contrast rapid application development with waterfall.	**M3** Understand the components of Data Flow Diagrams (DFD) and Entity Relationship Diagrams (ERD).	**D3** Evaluate whether DFD is decomposed to the proper level.
LO3 Assess the fit between business requirements and enterprise systems features		**D4** Understand ERP implementation best practices.
P5 Understand procurement, production, and business fulfilment processes.	**M4** Understand the ERP selection process.	

STUDENT ASSESSMENT SUBMISSION AND DECLARATION

When submitting evidence for assessment, each student must sign a declaration confirming that the work is their own.

Student name: **Student ID:**		**Assessor name:** Dr. Nayef Abu-Ageel
Issue date:	**Submission date:**	**Submitted on:**

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Programme: Computing	
HTU Course Name: Management Information Systems	**BTEC Course name:**
HTU Course Code: 30202450	**BTEC Course Code:**
Assignment number and title:	
Assignment 8: Learning Management System (LMS) Evaluation	

Plagiarism

Plagiarism is a particular form of cheating. Plagiarism must be avoided at all costs and students who break the rules, however innocently, may be penalised. It is your responsibility to ensure that you understand correct referencing practices. As a university level student, you are expected to use appropriate references throughout and keep carefully detailed notes of all your sources of materials for material you have used in your work, including any material downloaded from the Internet. Please consult the relevant unit lecturer or your course tutor if you need any further advice.

Student declaration
I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice.

Student signature: **Date:**

Appendix I

AIMS for Ibn Sina Healthcare System

Anesthesia Information Management Systems (AIMS) increase the reimbursement for operating room (OR) services by reducing omissions, facilitating coding and transfer of an electronic record, prompting physician input of missing data, increasing accuracy of data entry, and improving the revenue cycle. Additional benefits include improved staff scheduling, medical decision-making support, and quality improvement monitoring. Advances in the sophistication of computer workstations and network components, and an industry trend towards electronic medical record (EMR) implementation, have driven the development of AIMS that interfaces with the hospital's software system. Despite these advances, fewer than 90% of medical centers have adopted an AIMS due to the uncertainty of various costs.

The business decision to purchase an AIMS takes into account the net present value (NPV) of daily cash flows, the total cost of ownership (TCO), and return on investment (ROI) calculations. Total cost of ownership and ROI are limited by their exclusion of the time value of money and a bias against long-term investments, respectively. Total cost of ownership focuses on training, maintenance, and technical support costs, which are uncertain and difficult to estimate.

Capital budgeting decisions should be based on the discounted cash flow method. Net present value estimates the value of the AIMS's projected future cash flow as if the cash flows were available today. The NPV of daily operating activities is calculated using the change in net working capital, operating cash flow (OCF), and capital spending. The elements of change in net working capital are inventory, accounts receivable, and accounts payable. Operating cash flow is estimated from the cost savings in anesthetic-related drug costs, monetary savings per case, and hospital reimbursement increases. Capital spending includes the cost of the AIMS software, servers, workstations, routers, and cables. **Table 1** lists the determinants of OCF and capital spending. **Table 2** lists the project assumptions. Consider the Ibn Sina Healthcare System, which performs 14,500 procedures in 25 ORs and generates $110,700,112 in revenue. Senior managers are considering adopting an AIMS at 25 workstations within the OR, and 5 workstations within the business offices. An approximation of the net present value to the Ibn Sina Healthcare System is determined by considering published estimated figures. Operating rooms account for approximately 45% of a hospital's revenue. A $35 per case reduction in anesthetic drug costs, a $150 per case cost savings, and a 2.1% increase in hospital reimbursement were observed following installation of an intraoperative data management system. Cost estimates for the AIMS software, servers, workstations, routers, and cables are proposed.

Assuming that net working capital remains unchanged by the purchase, you are required to calculate the following items generated by AIMS over a 10-year period:

(1) The total initial cost of the project
(2) The cost savings to the Ibn Sina Healthcare System per year
(3) The project cash flow per year
(4) The NPV
(5) Internal Rate of Return (IRR)
(6) Sensitivity analysis that shows Sensitivity of Maintenance Cost (15%-30%) and Cost of Capital (8%-15%)

Table 1 Determinants of cash flow and capital spending
1. Operating cash flow i. anesthetic-related drug costs: • number of cases per year ii. money per case: • number of cases per year iii. hospital reimbursement: • gross revenue 2. Capital spending i. number of operating room work stations ii. number of office work stations iii. estimate of infrastructure (routers/switches/cables)

Table 1 Assumptions
Cost of capital: 8.5% Number of people to be trained: 165 Cost per OR workstation: $10,000 Cost per Office workstation: $7,000 Cost of software (per workstation): $10,000 Cost of Infrastructure: $39,000 Maintenance per year (%): 18% Consulting (% of software): 200% Cost of training/person: $1,200 Cost of Server: $41,000