

CSE1ISX – Information Systems

Assessment 1:

System development life cycle, fact finding techniques

Objectives:

- ✦ Use a generalised model of an information system (IS) to analyse, identify and effectively describe the components of a simple real-life information system
- ✦ Describe the Systems Development Life Cycle approach to developing IS

This is an INDIVIDUAL assignment. Students are not permitted to work in a group when writing this assignment.

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<http://www.latrobe.edu.au/students/academicintegrity/explanation/plagiarism>

Submission Guidelines:

- ✦ Your assignment submission should be typed, not written/drawn by hand.
- ✦ Submit the electronic copy of your assignment through the subject LMS.
- ✦ Submission after the deadline will incur a penalty of 5% of the points available per day capped at 5 days. No assignment will be accepted after 5 days late. If you have encountered difficulties that lead to late submission or no submission, you should apply for special consideration.

Scenario – Hill Book-Store

John Richard is a young entrepreneur who has decided to launch his own book store. He prefers to launch his business as an online store. Conventional book stores are rapidly becoming obsolete and online downloads of books have become the new era of reading books. John predicts that his business initiative will be a venture in the right direction. However, he would still prefer expert advice to clarify his decision to go ahead with an online store as opposed to a conventional book store.

John plans to launch his business, *Hill Book-Store* in early January 2019. Before launching the book store, the business requires a web-based system that will handle most of his business transactions. After trialling the system with the vital features and successful launch of the business, John plans to extend the web-based system to handle all other business-related transactions.

Hill Book-Store system must be designed to allow customers to register with the store to gain membership. The customers provide their personal details and payment information (i.e. credit card details) to register with the store. Once the details are verified, the customers will be requested to choose a username and a password for login purposes.

Once the customers gain their membership, they will be able log in to the system and browse the store for books. The price of each book is displayed along with other details of the book. Once the members come across a book they like, they should be able to click a button to download the book for rental. Once the member authorises a rental, a receipt is emailed to the email address of the user. Each book can be rented for a maximum of 30 days from the day it is downloaded. A member can rent ten (10) books at any given time.

John also needs to keep track of the state of his business. To do this, the system should generate various monthly reports.

John has already hired a team of IT professionals for the business. The hired IT team is also capable of developing the *Hill Book-Store* system. However, John is weighing the pros and cons of developing the system in-house or outsourcing it to a software development company named *IT Solution*.

Your tasks

Task 1 [3 points]

List three (3) system development methods, that the in-house IT team might shortlist to implement this system.

Task 2 [2 points]

Which specific systems development method (from the three shortlisted in Task 1) would be the most suitable for this project? Justify your answer.

You may make any reasonable assumptions.

Task 3 [2 points]

John has suggested the following,

As the IT team has a good grasp of the expected business transactions, Let's dive straight into implementing the system

If the *Hill Book-Store* system is to be developed in-house, do you agree with John? Discuss your answer with appropriate reasoning.

Task 4 [2 points]

Loraine White is the newly recruited IT Manager at *Hill Book-Store*. Loraine has been assigned the task of conducting a SWOT analysis for the project. It is hoped that this will aid John finalise his decision in expanding his business to a completely online system.

Assume you are Loraine and create a SWOT analysis for *Hill Book-Store*. Use the given SWOT analysis template (Table 1) to create your answer.

SWOT analysis template

Strengths	Weaknesses
Opportunities	Threats

Table 1

Task 5 [13 points]

It is estimated that if the system is to build in-house, it would take the IT team five weeks to complete development. The hired IT team consists of three IT professionals. All development tasks from project initiation to delivery (system installation) will be carried out by the team.

Assume that three team members work 40 hours a week and are paid \$50 per hour on developing the project. Training all employees at *Hill Book-Store*, including John, will be carried out by William Craig from the IT team, who is also an IT training specialist. William is paid \$75 per hour for the training session that is estimated to take two days to complete. The system maintenance and troubleshooting will be performed by a system administrator that will be hired as an on-call (casual) employee at \$40 per hour. It is estimated that the system administrator will need to work five hours per week to complete the maintenance and support work.

IT solution software company has provided John an estimate indicating that it would take 3 weeks to complete the project and that it would cost \$60,000. This includes a day long training session for the employees. IT solution has the capability to provide ongoing maintenance for the system for an annual fee of \$3500.

Regardless of the option John chooses, the hardware cost must be paid by *Hill Book-Store*. The hardware cost for the project, that includes desktop computers for all staff and other

necessary equipment is estimated to be \$10,000. The licences for the software is estimated to cost \$6000. It is estimated that the cost of hardware and software are outright costs that will only affect the project initiation. It is expected that the system will not require upgrades within the first six years of its operation.

John has estimated his costs for launching his business as a conventional (physical) book store. This estimate includes \$90,000 per annum for the shop lease and cost of an employee to work in the store to be \$35,000 per annum.

The estimate also revealed that errors and omissions of a manual system would be cost the organization \$600 in lost revenue per month. An online system is predicted to eliminate these losses.

Regardless of either option used, the system will only be operational for three months in its first year of use. This time will be considered as a trial period for the system.

To help John decide whether to develop the system in-house or by outsourcing, identify costs and benefits for both options. The life span of the system is estimated to be five years from when it is operational.

Use cost-benefit analysis template (Table 2) to help you answer the question. Create separate cost benefit analysis documents for both options.

Cost benefit analysis template

Years	0	1	2	3	4	5
Benefits						
Cumulative						
Costs						
Cumulative						

Table 2

Task 6 [6 points]

Compare the two options by calculating the Return-on-Investment (ROI). Base the ROI calculation over a five-year period, as indicated in the cost benefit analysis template.

Using the cost benefit analysis calculated in Task 5 and the ROI analysis, recommend which option John should choose to develop the *Hill Book-Store* system. Provide justification for your recommendation.

Task 7 [2 points]

Assume that John decides to develop the *Hill Book-Store* system in-house. Which fact-finding methods would be most suitable to gather requirements from John?

Briefly describe your answer providing appropriate justification.

When you have completed the report,

1. Save it as a single word document called **xxx_cse1isx_assessment1.docx** (where xxx is your student ID)
2. Submit the assessment via the **Assessment 1 Upload** link on the LMS system.

Assessment 1 Marking Criteria

Task 1

	Points
Three system development methods are listed	3
TOTAL	3

Task 2

	Points
Suitable reasoning and justification provided for the chosen methodology	2
TOTAL	2

Task 3

	Points
Suitable reasoning and justification provided for scenario	2
TOTAL	2

Task 4

	Points
At least two points are indicated in each area of the SWOT analysis	2
TOTAL	2

Task 5

	Points
Costs and benefits are identified correctly for both methods	4
Values of the cost and benefits are identified correctly for both methods	4
Cost and benefit values are projected correctly for five years	5
TOTAL	13

Task 6

	Points
Accurate ROI calculation for inhouse method	2
ROI calculation for outsource method	2
Valid recommendation and reasoning based on ROI calculation provided	2
TOTAL	6

Task 7

	Points
Accurate identification of appropriate fact-finding methods	1
Appropriate reasoning for choosing the methods	1
TOTAL	2



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