FACULTY OF COMPUTING
UTM Johor Bahru

Semester II 2024/2025

Subject	:	**SECD2613 System Analysis and Design**
Task	:	**Assignment 1**
Title	:	**Group Assignment 1 (Project Planning 5%)**
Due	:	**1 week**
Submission	:	Submit softcopy (in .pdf format) via e-learning and hardcopy.

Part A: Feasibility Study

Is MyClient+ Needed?: The Scenario

"We've grown so fast over the past year, and I think it's time we looked like a modern company — especially to our clients," said Sara, co-founder and managing director of MyClient+, a digital marketing and customer support startup. "Our current tools are holding us back. We need a proper CRM system."

Adam, the operations manager, looked unconvinced. "I get that you want us to look modern, but I'm not sure a whole new system is the way to go. We're managing okay with what we have — spreadsheets, forms, and emails."

Sara leaned forward. "Managing 'okay' isn't enough. We're getting more client complaints. Tickets go missing. Reports are delayed. I want automation, real-time updates, and proper client tracking. Plus, our competitors have proper platforms — we're falling behind."

"But have we done any real analysis?" Adam asked. "We might be able to fix some of those problems with better workflow, not necessarily a full CRM system."

"I'd like to be seen as a leader in digital client service," Sara replied. "Not just someone patching up Excel sheets. Let's not just talk — find out what we actually need. Do a proper study. Talk to the team, review the process. If we're spending RM150,000 on something, I want to know it's worth it."

A week later, Adam came back with a stack of notes and spoke with Sara again.

"I interviewed the support team, sales team, and even a few clients. Everyone agrees things could be better. There's a lot of duplication of work. Reports take hours to compile. Some support tickets never get followed up."

"And the IT side?" Sara asked.

“Our internal team doesn’t have the skills for full development. But yes — the technology exists. It’s just a matter of whether it’s the right move now. If we go ahead, we need to plan carefully — define the scope, estimate costs, check feasibility.”

Sara nodded. “Then let’s take the next step. You’ll lead the feasibility study — start by drafting a clear problem statement and outlining our options. We’ll decide once we see the full picture.”

Your Task

As the systems analyst assisting MyClient+, your task is to prepare a feasibility study report that outlines the potential benefits, costs, and viability of implementing the CRM system.

Your report must include **5 items** as the following instructions:

1. **Problem Definition**
   - Clearly describe the current issues faced by MyClient+.

2. **Objectives, Requirements, and Constraints**
   - Outline what the new system aims to achieve, key requirements, and any limitations.

You may refer to the example in page 90 of the E-Book to guide you in answering questions 1 and 2.

3. **Feasibility Study** - Based on your analysis, what is the status of the three types of feasibility?
   - Technical Feasibility
   - Operational Feasibility
   - E**conomic feasibility** - perform a Cost-Benefit Analysis (CBA) based on given or assumed values.

MyClient+ is evaluating a proposed CRM system project. You are asked to assess the economic feasibility using Cost-Benefit Analysis (CBA) over a 5-year period.

Using the **Estimates Costs and Estimated Benefits** provided, present your calculations of the following in a table using the same format as the CBA example in lecture slides.

- Adjust the initial cost values using the sensitivity factor.
- Estimate the annual production costs for each year with 6% increase.
- Calculate the present value (PV) of production costs using 8% discount rate.
- Calculate annual benefits: RM2,000/week × 52 × 0.9 and apply 5% yearly increase.
- Calculate PV of annual benefits using the discount rate.

Calculate total PV of costs, benefits, gain/loss, and profitability index.

Estimated Costs

Hardware: RM 45,000
Software: RM 10,000
Consultant: RM 25,000
Training: RM 20,000
Supplies: RM 3,000/year
IS Support: RM 15,000/year
Maintenance: RM 3,000/year

Estimated Benefits

Weekly cost savings: RM 2,000/week
Project duration: 5 years
Discount rate: 8%
Sensitivity factor (cost): 1.1
Sensitivity factor (benefits): 0.9
Annual increase in benefits: 5%
Annual increase in production costs: 6%

PART B: Work Breakdown Structure (WBS) and Gantt Chart

Based on the scenario provided in Part A regarding the CRM system project for MyClient+, you are now required to develop a Work Breakdown Structure (WBS) that reflects how the project can be planned and organized.

4. Using the process-oriented approach, construct a Work Breakdown Structure (WBS) for the proposed CRM System Development Project.

Your WBS should include the following:

- Level 1: Overall project name (e.g., "CRM System for MyClient+")
- Level 2: 5 major phases (Requirements Gathering, Design, Development, Testing, Deployment)
- Level 3: At least 3 detailed activities or deliverables under each component

You may present the WBS as a hierarchical list, tree diagram, or indented outline. Include activity IDs or codes (e.g., 1.1, 1.2.1) for clarity.

5. Develop the Gantt Chart based on the following instructions

- Select **at least 10 activities** from your WBS.
- Assign **realistic durations** (in days or weeks) to each activity.

- Identify dependencies between activities (e.g., Development can only start after Design is completed).
- Use Microsoft Excel, Google Sheets, or OpenProject to create a **Gantt chart**.