

University of Energy and Natural Resources, Sunyani
School of Science
Department of Information Technology and Decision
Sciences



Take-Home Assignment: Performing Financial Analysis, Project Evaluation and Selection

Course: Information Technology Project Management

Lecturer: Dr. Kwabena Adu

Assignment Title: Financial Evaluation of Competing IT Projects

Instructions:

You are a project analyst at a mid-sized IT consulting firm. The company is considering investing in **one of two major IT projects**. Your task is to evaluate both projects using **Net Present Value (NPV)** and **Return on Investment (ROI)** and recommend which project should be approved.

Submission date: 21st July 2025

Time: Before 5:00pm

Q1. Project A: Cloud Infrastructure Upgrade

Year	Cash Flow (\$)	Discount Factor @10%	Net Present Value(NPV)
0	(150,000)		
1	40,000		
2	50,000		
3	60,000		
4	50,000		
5	40,000		

Project B: Custom Software Development

Year	Cash Flow (\$)	Discount Factor @10%	Net Present Value(NPV)
0	(180,000)		
1	30,000		
2	40,000		
3	70,000		
4	80,000		
5	60,000		

- I. **Calculate the Net Present Value (NPV)** of both Project A and Project B
- II. **Calculate the Return on Investment (ROI)** for both projects
- III. **Recommend** one project based on your NPV and ROI analysis.
- IV. **Justify** your recommendation in 50–100 words, using relevant project management and financial reasoning.

Question 2.

Project A: Enterprise Network Security Upgrade

Project	Year 0	Year 1	Year 2	Year3	Year4	Year5	TOTAL:
Cost (\$)	-500	200	200	2,000	400	500	
Discount Factor							
Discounted Cost							
Benefit (\$)	4,000	2,000	5,000	16,000	5,000	6,000	
Discount Factor							
Discounted Benefit							
Cashflow							
Cumulated Cashflow							

Project B: Mobile App Development For Customer Engagement

Project	Year 0	Year 1	Year 2	Year3	Year4	Year5	TOTAL:
Costs (\$)	4,000	2,000	5,000	6,000	6,000	6,000	
Discount Factor							
Discounted Cost							
Benefit (\$)	6,000	0	0	12,000	7,000	8,000	
Discount Factor							
Discounted Benefit							
Cashflow							
Cumulated Cashflow							

- I. Complete the **Discounted Cost, Discounted Benefit, Cashflow** and **Cumulated Cashflow** rows for both Project A and Project B using a **discount rate of 5%**.
- II. Calculate the **Net Present Value (NPV)** for each project.
- III. Based on the NPV results, which project is financially more viable? Justify your answer.
- IV. Calculate the **Return on Investment (ROI)** for both Project A and Project B
- V. Based on ROI, which project delivers better return?
- VI. If ROI were the only criterion, which project would you select?
- VII. If the **benefits of Project B in Year 3 are reduced by 20%**, how would it affect the overall project NPV?
- VIII. Discuss how **risk and uncertainty** in benefit estimation can influence project decision-making.
- IX. **Assume you are the IT Project Manager of a medium-sized firm.** Both projects are viable, but you can only select one due to budget constraints. Using your answers from previous questions (NPV, ROI), make a final recommendation on which project should be chosen. Justify your selection using both **financial** and **strategic project management** considerations (e.g., impact on security, customer engagement, long-term value, alignment with company goals).

Deliverables:

- Detailed calculations for NPV and ROI
- Clear recommendation of one project
- Justification for your choice
- You are required to present your work on official sheet **ONLY**