

IQRA NATIONAL UNIVERSITY

Construction Management Final Examination

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Section : A

Module : 8th Semester

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Ahmad

(Q1)

Given data:

Number of communication channels = 6
Additional Stake holders = 2

Required Data:

Identify number of communication channel after increasing scope of work = ?

Solution:

As we know that;

Number of communication channel = $\frac{n(n-1)}{2}$

Number of people involved in six communication channels \Rightarrow

$$6 = \frac{n(n-1)}{2}$$

$$12 = n(n-1) = n^2 - n$$

$$n^2 - n - 12 = 0$$

$$n^2 - 4n + 3n - 12 = 0$$

$$n(n-4) + 3(n-4) = 0$$

$$(n-4)(n+3) = 0$$

$$(n-4) = 0$$

$$n = 4$$

$$n+3 = 0$$

$$n = -3$$

(D₂)

Comment:

The project is
behind schedule and
over budget

(Q3)

Solution:

$$NPV = -C_0 + \frac{C_1}{1+r} + \frac{C_2}{(1+r)^2} + \dots + \frac{C_T}{(1+r)^T}$$

$$PV_0 = -C_0$$

$$PV_0 = -9000$$

$$PV_1 = \frac{C_1}{1+r} = \frac{2000}{1 + \frac{10}{100}}$$

$$PV_1 = 1818.18$$

$$PV_2 = \frac{C_2}{(1+r)^2} = \frac{3000}{\left(1 + \frac{10}{100}\right)^2}$$

$$PV_2 = 2479.34$$

$$PV_3 = \frac{C_3}{(1+r)^3} = \frac{3000}{\left(1 + \frac{10}{100}\right)^3}$$

$$PV_3 = 2253.94$$

- C_0 = initial investment

C = cash flow

r = Discount rate

T = time

$C_1 = 2000$

$C_2 = 3000$

$C_3 = 3000$

$C_4 = 4000$

$$PV_4 = \frac{C_4}{(1+r)^4}$$

$$= \frac{4000}{\left(1 + \frac{10}{100}\right)^4}$$

$$PV_4 = 2732.05$$

$$NPV = -C_0 + \frac{C_1}{1+r} + \frac{C_2}{(1+r)^2} + \frac{C_3}{(1+r)^3} + \frac{C_4}{(1+r)^4}$$

$$= -9000 + 1818.18 + 2479.34 + 2253.94 + 2732.05$$

$$NPV = \$283.51$$

(Q4)

The Power / Interest Matrix:

Classifies stakeholders in relation to their power and the extent to which they are likely to show interest in the actions of the organisation.

Can be used to indicate the nature of the relationship which should be adopted with each group

		Level of interest	
		Low	High
Power	Low	A minimal Effort	B keep informed
	High	C keep satisfied	D keep Players

(Q5)

Ans:

Stages of Risk Management

Stage 1

Initiation:

- Assemble risk management Resources
- Appoint team leader and ensure the breadth of skills within team.
- Assign responsibilities appropriate to task.

Step 2

Proposal Familiarization:

- Specify objectives & criteria
- Familiarize the team with proposal
- Determine assessment criteria for proposal.

Step 3

Risk Analysis:

- Identify Risks.
- Prepare a comprehensive schedule of risks for each element -
- Assess the likelihoods and list main assumptions -
- Identify significant risks -
- Identify major risks for detail risk action planning -

Step 4

Risk Response Planning:

- Identify feasible responses -
- Responses may include:
 - > Risk Prevention
 - > Impact mitigation

> Risk transfer & insurance
> Risk acceptance

→ Develop management measures and action schedules

Step 5

Reporting:

→ For designated Proposals, produce the risk management plan

→ For projects, collate and summarize risk action schedules and measures.

Step 6

Risk Management Implementation:

→ Implement measures and action strategies