

IJ: 7753

SEC: "A"

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CONSTRUCTION MANAGEMENT
FINAL PAPER.

QUESTION # 1:

GIVEN DATA:

Number of communication channels = 6

Additional stakeholders = 2

REQUIRED DATA:

Identify the number of communication channels after increasing the scope of work = ?

Solution:

As we know that

~~no~~ number of communication channel = $\frac{n(n-1)}{2}$

The number of people involved in n communication channel \Rightarrow

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

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

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

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

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

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

$$(n-4) = 0$$

$$n = 4$$

$$n + 3 = 0$$

$$n = -3$$

So, the number of people involved = 4

As, There are additional stake holder's so total number of people are:

$$n = 4 + 2$$

$$n = 6$$

The required communication

$$\text{channel} = \frac{3 \cdot 6(6-1)}{2}$$

$$= 3(5)$$

$$= 15$$

New communication channel = 15

Ans.

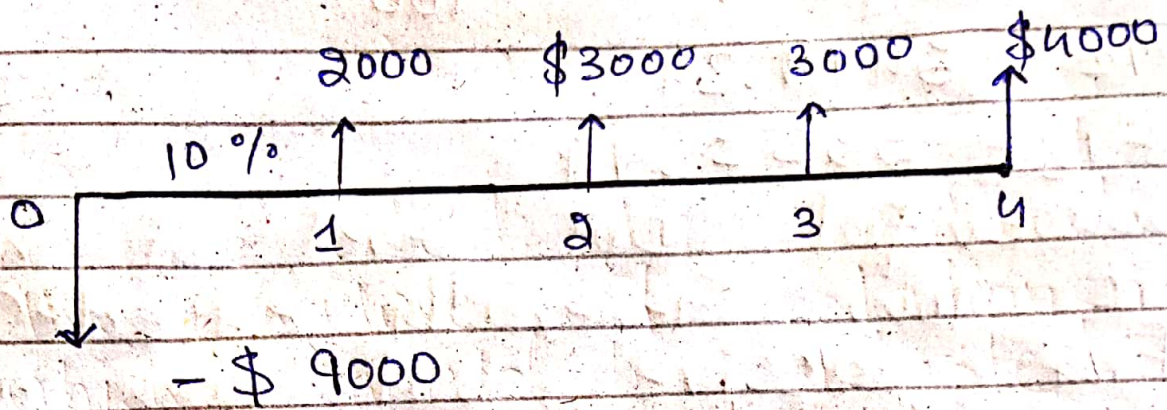
QUESTION # 2:

Work Package	BCWS Planned cost	ACWP Actual cost	Progress %	BCWP Earned value	CV EV-AC	C&PI EV/AC	SPI EV/PV	SV EV-PV
1	\$100 000.00	\$120 000.00	100%	\$100 000.00	\$20 000.00	0.83	1.00	-
2	\$100 000.00	\$100 000.00	100%	\$100 000.00	\$0.00	0.91	1.00	-
3	\$1 000 000.00	\$800 000.00	40%	\$400 000.00	\$600 000.00	1.13	0.90	\$100 000
4	\$1 000 000.00	\$1 250 000.00	80%	\$800 000.00	\$450 000.00	0.64	0.80	\$200 000
5	\$1 000 000.00	\$750 000.00	50%	\$500 000.00	\$250 000.00	0.67	0.50	\$500 000
6	\$1 000 000.00	-	0%	-	-	0.00	0.00	\$1 000 000
7	\$1 000 000.00	-	0%	-	-	0.00	0.00	\$1 000 000
8	\$1 000 000.00	-	0%	-	-	0.00	0.00	\$1 000 000
9	\$1 000 000.00	-	0%	-	-	0.00	0.00	\$1 000 000
10	\$1 000 000.00	-	0%	-	-	0.00	0.00	\$1 000 000
BAC								

Comment:

The project is behind schedule and over budget.

QUESTION # 3:



SOLUTION:

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

-C = initial investment

C = Cash flow

r = Discount rate

T = Time

$C_1 = 2000$

$C_2 = 3000$

$C_3 = 3000$

$C_4 = 4000$

$$P_{V_0} = -C_0$$

$$P_{V_0} = -9000$$

$$P_{V_1} = 1818.18$$

$$Pv_2 = \frac{C_2}{(1+r)^2} = \frac{3000}{\left(1 + \frac{10}{100}\right)^2}$$

$$Pv_2 = 2479.34$$

$$Pv_3 = 2253.94$$

$$Pv_4 = \frac{C_4}{(1+r)^4}$$

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

$$Pv_4 = 2732.05$$

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

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

$$Npv = 5283.51$$

QUESTION # 4:

Power / interest MATRIX:

it can be used to indicate the nature of 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 key players

Stakeholders in group A:

minimum effort on Need only monitoring

Stakeholders in group B:

kept informed as they should be may be

able to influence more powerful stake holders.

Stake holders in group C:

are powerful but level of interest is low. Generally expected to be passive, but may move into group D on an issue of particular interest.

Stake holders in group D:

are both powerful and interested. Their co-operation is of key importance for new strategies.

QUESTION # 5:

CHECK LIST FOR RISK MANAGEMENT:

STAGE 1: INITIATION:

- * Assemble risk management resources.
- * Appoint a team leader and ensure a breadth of skills/ experience within the team.
- * Assign risk management responsibilities appropriate to task.

STAGE 2: PROPOSAL FAMILIARIZATION:

- * specify objectives and criteria
- * Familiarise the team with the proposal assemble documentation and define the key objective.
- * Assess the proposal in relation to the agency objective and strategies.

* Determine assessment criteria for proposal.

* Define key element to structure risk analysis.

Stage 3 Risk Analysis

* Identify Risk:

* prepare a comprehensive schedule of risk for each element.

* Describe each risk and list of main assumption.

* Assess risk likelihood and consequences

* assemble data on risk and consequences.

* Assess risk likelihood.

* Assess risk impact.

Identify significant risk.

* Rank risk to reflect impact and likelihood.

* where applicable, estimate risk factors.

* Discard / accept minor risk

* identify moderate risk for management measures.

identify major risk for detailed risk action planning

STAGE 4 : Risk Response Planning.

□ identify feasible responses.

* For each moderate and major risk, identify the feasible responses.

* Responses may include:

- a) risk prevention
- b) impact mitigation
- c) risk transfer and insurance
- d) risk acceptance

* select best response.

* evaluate the benefits and cost for each response.

* select preferred response.