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ROLL No: 7399

SUBJECT: Construction Management

INSTRUCTOR:

DATE: 22.6.2020.

QNo: 1

→ GIVEN DATA:

Number of communication channels = 6

Additional stake holders = 2

→ REQUIRED DATA:

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

→ SOLUTION:

As we know that;

Number of communication channels = $\frac{n(n-1)}{2}$ The number of people involved in six communication channel \Rightarrow

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

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

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

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

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

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

P.T.O.

$$n-4=0$$

$$n=4$$

$$n+3=0$$

$$n=-3$$

So, the number of people involved = 4

As;

There are additional stake holder's so total number of people are;

$$n=4+2$$

$$n=6$$

Now, the required communication channel =

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

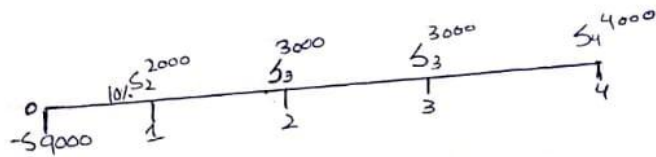
$$= \frac{30(6-1)}{2} = 3(5)$$

New communication channel = 15 Ans.

Work Package	BCWS		ACWP	Progress	BSP	CV	CPI	SU	
	Planned value (PV)	Actual cost (AC)	EV	%	Planned value (EV)	EV-AC	EV/PV	EV-PU	
1	\$100,000,00	\$120,000,00	\$100,000,00	100%	\$100,000,00	\$20,000,00	1.00	\$-	
2	\$100,000,00	\$110,000,00	\$100,000,00	100%	\$100,000,00	\$10,000,00	1.00	\$-	
3	\$100,000,00	\$80,000,00	\$90,000,00	90%	\$90,000,00	\$10,000,00	0.90	\$10,000,00	
4	\$100,000,00	\$125,000,00	\$80,000,00	80%	\$80,000,00	\$45,000,00	0.20	\$20,000,00	
5	\$100,000,00	\$75,000,00	\$50,000,00	50%	\$50,000,00	\$25,000,00	0.50	\$30,000,00	
6	\$100,000,00	\$-	\$-	0%	\$-	\$-	0.00	\$100,000,00	
7	\$100,000,00	\$-	\$-	0%	\$-	\$-	0.00	\$100,000,00	
8	\$100,000,00	\$-	\$-	0%	\$-	\$-	0.00	\$100,000,00	
9	\$100,000,00	\$-	\$-	0%	\$-	\$-	0.00	\$100,000,00	
10	\$100,000,00	\$-	\$-	0%	\$-	\$-	0.00	\$100,000,00	
BAC	Comments:- The project is behind schedule and over budget								

QNO:3-

A company is planning to invest 9000-1 in a project today. The project is expected to have life of 4 years. The expected cash flow for next 4 years is shown and discount rate is 10%. Calculate Net present value (Npv) & comment on the result.



Solution:-

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

$$Pv_0 = -C_0$$
$$Pv_0 = -9000$$

$$\rightarrow Pv_1 = \frac{C_1}{1+r} = \left(\frac{2000}{1 + \frac{10}{100}} \right)$$

$$\Rightarrow Pv_1 = 1818.18$$

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

$$\Rightarrow Pv_2 = 2479.34$$

$$\rightarrow Pv_3 = \frac{C_3}{(1+r)^3} = \frac{3000}{\left(1 + \frac{10}{100}\right)^3}$$

$$= Pv_3 = 2253.94$$

-C = Initial Investment

C = Cash Flow

r = Discount rate

T = Time.

$$C_1 = 2000$$

$$C_2 = 3000$$

$$C_3 = 3000$$

$$C_4 = 4000$$

$$\rightarrow PV_4 = \frac{C_4}{(1+r)^4} = \frac{4000}{\left(1 + \frac{10}{100}\right)^4}$$

$$\Rightarrow PV_4 = 2732.05$$

$$\begin{aligned} NPV &= -C_0 + \frac{C_1}{1+r} + \frac{C_2}{(1+r)^2} + \frac{C_3}{(1+r)^3} + \frac{C_4}{(1+r)^4} \\ &= -9000 + 1818.18 + 2479.34 + 2253.94 + 2732.05 \end{aligned}$$

$$NPV = \$ 283.51$$

Q No: 4

Answer:-

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.

Power / Interest Matrix (Gardner et al. (1986))

		level of interest	
		low	high
power	low	A. minimal effort	B. keep informed
	high	C. keep satisfied	D. key players

Power / Interest Matrix:

- stakeholder in group A: Need only minimum effort and monitoring.

- Stakeholder in group B:- should be kept informed as they may be able to influence more powerful stakeholders.
 - Stakeholder 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.
 - Stakeholder in Group D: Are both powerful and interested. Their co-operation is of key importance for new strategies.
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QNo:5

CHECK LIST FOR RISK MANAGEMENT.

Stage: 1:-

INITIATION

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

Stage: 2:-

Proposal Familiarization

- Specify object and criteria
- Familiarize the team with the proposal assemble documentation and define the key objectives.
- Assess the proposal in relation to the Agency's objectives and strategies.
- Determine assessment criteria for proposal.
- Define key elements (target 20-50 elements, items or activities) to structure risk analysis.

Stage: 3:-

Risk Analysis.

- ★ Identify risks.
- Prepare a comprehensive schedule of risks

P.T.O

- For each element
- Describe each ~~risk~~ risks and list the main assumption.
- * Assess risk likelihoods and consequences.
 - Assemble data on risk and their consequences.
 - Assess risk likelihood.
 - Assess risk impacts.
- * Identify significant risks.
 - Rank risks to reflect impacts and likelihood.
 - Where applicable, estimate risk factors.
 - Discard / accept minor risks.
 - Identify moderate risks for management measures.
- * Identify major risks for detailed risk action planning

Stage: 4:-

Risk response planning.

- * Identify feasible responses.
 - For each moderate and major risk, identify feasible responses.
- * Responses may include:-
 - a) risk prevention.
 - b) impact mitigation.

P.T.O.

c) risk transfer and insurance.

d) risk acceptance.

* Describe each feasible response and list main assumptions.

* Select the best response

- Evaluate the benefits and costs for each response
- Select the preferred response.