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Subject                    P.P.M

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Q No 1:

Given data :- Number of Communication Channels  
is = 6

Additional :- Stake holders = 2.

Required data:

Identify the number of Communication Channels after increasing the scope of work = ?

Solution:- As we know that.

$$\text{Number of Communication Channels} = \frac{n(n-1)}{2}$$

The number of people involved in 6 Communication Channels  $\Rightarrow$ .

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

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

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

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

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

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

$$\begin{array}{l|l} n-4=0 & n+3=0 \\ n=4 & n=-3 \end{array}$$

So the number of people involved = 4

As total number of people are

Now  $n = 4 + 2$

$$n = 6$$

Now the required communication

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

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

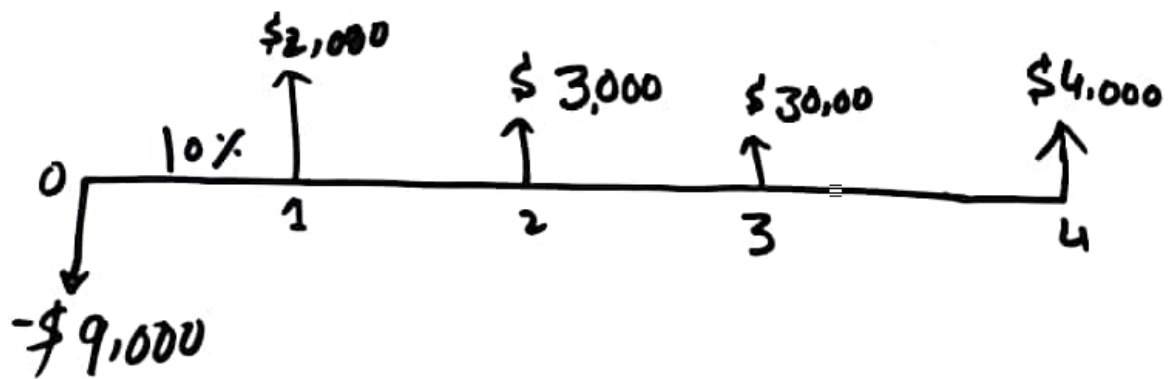
Now communication channel = 15 Ans

Q2 If you have a project of Package for each Package Planned value Actual Cost & Percentage of completion is given Calculate the earned value Cost variance Schedule variance Cost performance index? Comment if the project ahead/behind Schedule or over/under budget.

Ans 2

work Billing	Bills planned value (Pv) ₹	Accts actual cost (Ac) ₹	Percentage %	Bills EV	CV EV - AC	CP EV/PV	SP EV/PV	SV EV - PV
1	100,000.00	100,000.00	100%	100,000.00	20,000.00	0.83	1.00	—
2	100,000.00	110,000.00	100%	100,000.00	10,000.00	0.91	1.00	—
3	100,000.00	90,000.00	90%	90,000.00	10,000.00	1.13	0.90	10,000.00
4)	100,000.00	125,000.00	50%	50,000.00	45,000.00	0.64	0.75	20,500.00
5)	100,000.00	75,000.00	50%	50,000.00	25,000.00	0.67	0.50	50,000.00
6	100,000.00	—	0%	—	—	0	0	100,000.00
7	100,000.00	—	—	—	—	0	0	2,00,000.00
8	100,000.00	—	—	—	—	0	0	1,00,000.00
9)	100,000.00	—	—	—	—	0	0	100,000.00
10	10,000.00	—	—	—	—	0	0	100,000.00

Q3 A company is planning to invest 9000\$ in a project today. The project is expected to have a life of four years. The expected Cash Flow for next four years is shown & the discount rate is 10%. Calculate Net Present Value (NPV) & comment on the result?



Ans 3:-

Required:- Calculate Net Present Value.  
(NPV)

Comment on the result.

Solution:-

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

$$PV_0 = C_0$$

$$PV_0 = -9000$$

For first year:-

$$PV_0 = \frac{C_1}{1+r} = \left( \frac{2000}{1 + 10/100} \right)$$

$$PV_1 = 1818.18 \text{ \$}$$

For 2nd year:-

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

$$PV_2 = 2479.34 \text{ \$}$$

For 3rd year:-

$$PV_3 = \frac{C_3}{(1+r)^3}$$

$$\frac{3000}{(1 + 10/100)^3} \Rightarrow PV_3 = 2253.94 \text{ \$}$$

For 4<sup>th</sup> year:-

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

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

$$PV_4 = 2732.05 \$$$

$-C_0$  = Initial Investment.

$C$  = Cash flow.

$r$  = Discount Rate.

$T$  = Time

$$C_1 = 2000$$

$$C_2 = 3000$$

$$C_3 = 3000$$

$$C_4 = 4000$$

EQUATION (A)  $\Rightarrow$ .



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

$$= -9000 + 1817.8 + 2479.34 + 2253.94 + 2732.05$$

$$\text{NPV} = 293.51 \text{ \$}$$

### COMMENT:—

- The profit is 293.51\$ to the company so the project is acceptable.
- As positive NPV means the combined PV of all cash inflow exceed the PV of each out flow.
- The NPV of 293.51 suggest that the combined PV of all cash inflow exceed the PV of cash out flow by 293.51\$.

Q4 Being a project manager how would you identify the stake holder by power/interest matrix?

Ans4 The power/interest matrix:—

classifies stake holders in relative to their power the extent to which they are likely to show interest in the action of the organisation.

can be used to indicate the nature of the relation which should be adopted with each group.

power/interest matrix (Gardner et al (1986))

		power	
		Low	High
power	Low	A minimal effort	B keep in formation
	High	C keep satisfied	D key player

stakeholders in group A:— Need only minimum effort an monitoring.

stake holder in group B:— Should be kept informed as they may be able to influence more powerful stake holder.

stake holder in group C:— Are powerful but level of interest is low. Generally expected to be possible but may move into group D on an issue of particular interest.

stake holder in group D:— Are both powerful and interested their co-operation is of key importance for new strategies.

Q5 For a project of residential house what are the different stage to be considered in the risk ~~mg~~ management checklist?

Ans: Checklist For Risk Management:-

### stage 1:- Initiation

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

### Stage 2 proposal Familiarization:

- ⇒ specify objective and criteria.
- ⇒ Familiarise the team with the proposal assemble documentation and defined the key objectives.
- ⇒ Determine assessment criteria for proposal.

### stage 3: Risk Analysis:

- ⇒ identify risks.
- ⇒ prepare a comprehensive schedule <sup>with</sup> for each element.
- ⇒ Assess risk likelihoods and consequence.
- ⇒ Assemble data base and their consequence.
- ⇒ Assemble risk likelihoods.
- ⇒ assess risk impacts.

### stage 4:

#### Risk Response planning:—

- ⇒ identify feasible responses.
- ⇒ For each moderate and major risk identify the feasible responses.
- ⇒ Responses may include:
  - or risk prevention.