

Ans: 01

01

Given Data:

Number of communication channels = 6
Additional stake holders = 2

Required:

Number of channels after increasing
the scope of work = 8

"Solution:"

"As we know that";

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

The number of people involved in "6" communication channels;

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

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

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

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

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

$$(n+3)(n-4) = 0 \quad (\text{we will get two values})$$

$$n+3 = 0, \quad n-4 = 0$$

$$\text{neglected} \leftarrow \boxed{n = -3} \quad \boxed{n = 4} \rightarrow \text{Taken}$$

So the number of people involved = 4
As there are additional stakeholders,
So total number of people are;

$$n = 4 + 2$$

$$n = 6$$

Now required communication channels;

$$= \frac{3 \cdot 6(6-1)}{2} = 3(5) = 15$$

Required communication channels = 15

Ans: 2;

Work Package	BCWS Planned Value "PV"	ACWP Actual Cost "AC"	Progress %	BCWP Earned Value "EV"	Cost value "CV" (EV - AC)	Cost performance Index (CPI) (EV/AC)	S-performance Index (SPI) (EV/PV)	Schedule Variance "SV" (EV - PV)
1	\$100,000	\$120,000	100%	\$100,000	\$-20,000	0.83	1.00	\$ -
2	\$100,000	\$110,000	100%	\$100,000	\$-10,000	0.91	1.00	\$ -
3	\$100,000	\$80,000	90%	\$90,000	\$10,000	1.13	0.90	\$100,000
4	\$100,000	\$125,000	80%	\$80,000	\$45,000	0.67	0.80	\$20,000
5	\$100,000	\$75,000	50%	\$50,000	\$25,000	0.00	0.50	\$50,000
6	\$100,000	\$0.00	0%	-	-	0.00	0.00	\$100,000
7	\$100,000	\$0.00	0%	-	-	0.00	0.00	\$100,000
8	\$100,000	\$0.00	0%	-	-	0.00	0.00	\$100,000
9	\$100,000	\$0.00	0%	-	-	0.00	0.00	\$100,000
10	\$100,000	\$0.00	0%	-	-	0.00	0.00	\$100,000
	<u>1000,000</u>					<u>3.54</u>		

Estimate completion = $\frac{\sum BCWS}{\sum CPI} = \frac{1000,000}{3.54} = 282,485.$

Ans: 03;

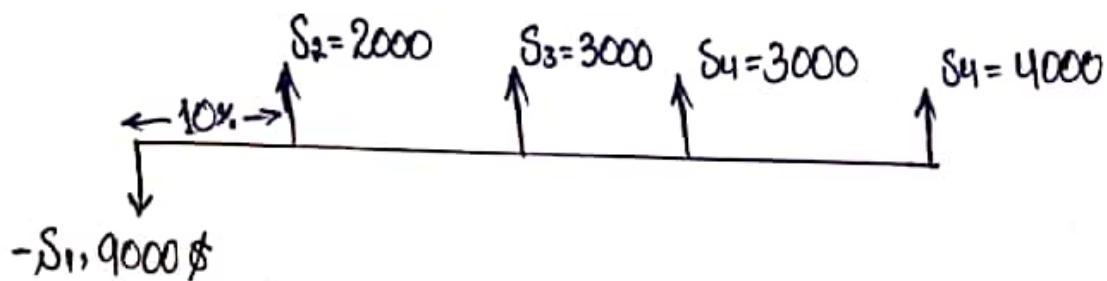
Given Data;

Company Invest = 9000 \$

Project life = 4 years.

Discount rate = 10 %

Expected cash flow for next four years.



Required; NPV = ?

Solution; As we know that;

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

So;

$$PV_0 = -C_0$$

$$PV_0 = -9000$$

$$\left(PV_n = \frac{FV_n}{(1+Y)^n} \right) \quad \left(C_n = FV_n \right)$$

* For 1st year;

$$PV_1 = \frac{FV_1}{(1+Y)^1} = \frac{2000}{(1+0.10)^1} = 1818.18 \$$$

★; For 2nd year;

$$PV_2 = \frac{FV_2}{(1+Y)^2} = \frac{3000}{(1+0.10)^2} = 2479.34 \$$$

★; For 3rd year;

$$PV_3 = \frac{FV_3}{(1+Y)^3} = \frac{3000}{(1+0.10)^3} = 2253.94 \$$$

★; For 4th year;

$$PV_4 = \frac{FV_4}{(1+Y)^4} = \frac{4000}{(1+0.10)^4} = 2732.05 \$$$

“By putting values in eq (A)”

$$NPV = -9000 + 188.18 + 2479.34 + 2253.94 + 2732.05$$

NPV = 283.515 \$ Ans

Comments;

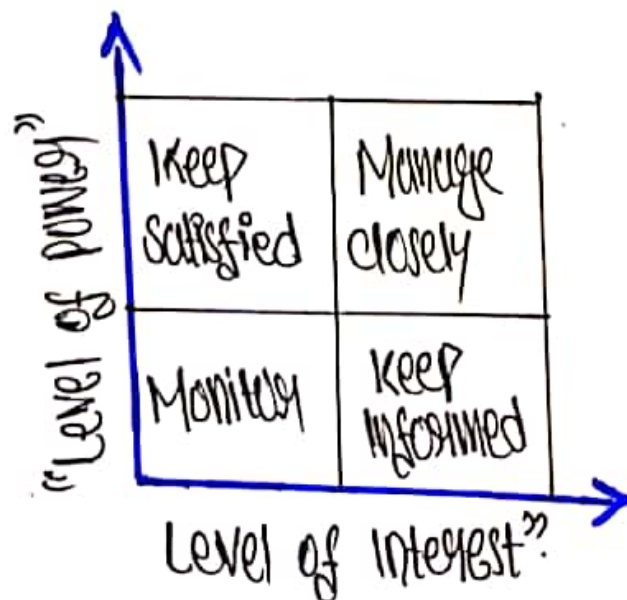
- A positive “NPV” means the combined PV of all cash inflows exceeds the PV of each outflows.
- The “NPV” of “283.515 \$” suggest that the combined PV of all cash inflows exceeds the PV of cashout flows by “283.515”.
- The project is acceptable as its add profit of 283.515 \$ to the company.

Ans: 04; "POWER INTEREST MATRIX";

Also known as Power Interest Grid;

It is a simple tool that help us to categorize project stakeholders with increasing "power" and "interest" in the project. This tool help us to focus on the stakeholders who can make or break our project.

- * Power; The ability of the stakeholder to stop or change the project e.g; A government regulatory approval authority has a very high level of power.
- * Interest; The size of the overlap between the stakeholder and the project goals. e.g; A Landowner who's house has to be removed to make way for a project has a very high interest.



☼ "Identification of Stakeholders"

07

"1"; Stakeholders with high power and high interest are major stakeholders that are heavily invested in the project.

They must be actively managed.

"2"; Stakeholders with high power but low interest must be kept satisfied. They can derail the project over seemingly minor issues.

"3"; Stakeholders with low power but high interest must be kept informed. They can create high influence (i.e. raise a stink) if they don't get what they want.

"4"; Stakeholders with low power and low interest must be monitored, in case they become more powerful and can affect the project in the future.



"Ans:05" CHECKLIST FOR RISK MANAGEMENT "Residential House Project".

Stage:01 "INITIATION"

- "i" • Assemble Risk management resources.
- "ii" • Appoint the team leader and ensure a breadth of skills within the team.
- "iii" • Assign Risk management responsibilities appropriate to task.

Stage:02 "PROPOSAL FAMILIARIZATION"

- "i" • Specify objectives and criteria.
- "ii" • Familiarize the team with the proposal, assemble documentation and define the key objectives.
- "iii" • Assess the proposal in relation to the agency's objectives and strategies.
- "iv" • Determine assessment criteria for proposal.
- "v" • Define key elements to structure risk analysis.
"Target 20-50 elements or items".

"a" Identify Risks;

"i"; Prepare a comprehensive schedule of risks for each element.

"ii"; Describe each risk and list the main assumptions

"b"; Assess Risk Likelihoods and consequences;

"i"; Assemble data on risk and their consequences.

"ii"; Assess risk Likelihoods.

"iii"; Assess risk Impacts.

"c"; Identify Significant risks;

"i"; Rank Risks to reflect impacts and likelihoods.

"ii"; Where applicable, estimate risk factors.

"iii"; Discard minor risks.

"iv"; Identify moderate risks for management measures.

"d"; Identify Major risk for detailed risk action planning.

Stage: 04 "Risk Response Planning";

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"a"; "Identify feasible responses";

"i"; For each moderate and major risk, identify the feasible responses.

"ii"; Response may include;

- Risk prevention.
- Impact mitigation.
- Risk transfer and insurance.
- Risk acceptance.

"b"; Describe each feasible response and list main assumptions.

"c"; Select the best response.

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

"d"; Develop Management measures and action schedules.

"i"; Specify Risk Management measures for moderate risks.

"ii"; Develop risk action schedule for major risks.

- Actions required. (what is to be done)
- Resources (what and who?)
- Responsibilities (who?)
- Timing. (when?)

Stage: 05

"REPORTING";

- "i"; For designed proposals, produce the Risk Management Plan.
- "ii"; For other projects, collate and summarize risk action schedule and measures.

Stage: 06

"Risk Management Implementation"

- "i"; Implement measures and action strategies.
- "ii"; Monitor the implementation.
 - Assign responsibilities.
 - Timing.
- "iii"; Undertake periodic review and performance evaluation.

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 "END"
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