

# Construction - Management

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Q No: 1

(1)

Given data:

Number of communication channels = 6  
Additional stake holder = 2

Required data:

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

**Solution:-**

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

The number of people involved in six communication channel

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

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

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

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

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

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

$$(n-4) = 0$$

$$n = 4$$

$$(n+3) = 0$$

$$n = -3$$

So the number of people involved = 4  
As there are additional stake holders

So total no<sup>①</sup> of people are

$$n = 4 + 2$$

$$n = 6$$

Now, the required communication

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

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

$$= 3(5)$$

$$= 15$$

New communication channel = 15 Ans.

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Q#2

① No ~~#~~ 2

Work Package	BCWS Planned value (PV)	ACWP Actual cost (AC)	Progress %	BCWP Earned value (EV)	CPI EV/AC	SPI EV/PV	(CV) EV-AC	SV EV-PV
1	\$ 100,000.00	\$ 120,000.00	100%	\$ 100,000.00	0.83	1.00	(\$ 20,000.00)	\$
2	\$ 100,000.00	\$ 110,000.00	100%	\$ 100,000.00	0.91	1.00	(\$ 10,000.00)	\$
3	\$ 100,000.00	\$ 80,000.00	100%	\$ 90,000.00	1.13	0.90	\$ 10,000.00	(\$ 10,000.00)
4	\$ 100,000.00	\$ 125,000.00	80%	\$ 80,000.00	0.64	0.80	(\$ 45,000.00)	(\$ 70,000.00)
5	\$ 100,000.00	\$ 75,000.00	50%	\$ 50,000.00	0.67	0.50	(\$ 25,000.00)	(\$ 50,000.00)
6	\$ 100,000.00	\$ -	0%	\$ -	0.00	0.00		\$ (100,000.00)
7	\$ 100,000.00	\$ -	0%	\$ -	0.00	0.00		\$ (100,000.00)
8	\$ 100,000.00	\$ -	0%	\$ -	0.00	0.00		\$ (100,000.00)
9	\$ 100,000.00	\$ -	0%	\$ -	0.00	0.00		\$ (100,000.00)
10	\$ 100,000.00	\$ -	0%	\$ -	0.00	0.00		\$ (100,000.00)
BAC								

Comments:  
Project is over budget and lag behind.



Discount 10%

$$PV = \frac{FV}{(1+r)^n}$$

For first year:

$$PV = \frac{2000}{(1+0.10)^1} = \boxed{1818.18 \text{ \textsterling}}$$

For second year:

$$PV = \frac{3000}{(1+0.10)^2} = \boxed{2479.34 \text{ \textsterling}}$$

For third year:

$$PV = \frac{3000}{(1+0.10)^3} = \boxed{2253.94 \text{ \textsterling}}$$

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

$$PV = \frac{4000}{(1+0.10)^4} = \boxed{2732.05 \text{ \textsterling}}$$

Thus = ?

$$PV_0 = -9000 \text{ \textdollar}$$

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

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

$$PV_3 = 2253.94 \text{ \textdollar}$$

$$PV_4 = 2732.05 \text{ \textdollar}$$

$$NPV = 283.515 \text{ Ans.}$$

### Comment:

→ A positive NPV means the combined PV of all cash inflows exceeds the PV of each out flows.

→ The NPV of 283.51 suggest that the combined PV of all cash in flow exceeds the PVs of cash out flow by 283.51.

This project is acceptable as it's add profit of 283.51 \textdollar to the company.

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Q No/4

~~Flow/interest Matrix~~

New

Communication

channel = ISAs

Q No: ~~7~~ 4

### Identify your stakeholders

Starting by brain storming who your stakeholders are. As part of this, think of all the people who are affected by your work.

The table below identifies some the people who might be stakeholders in your job or your project

your boss	Stake holder	government
Senior executive	Alliance partners	Trade association
your - co-workers	Suppliers	The press
your team	lenders	interest group
Customers	Analysis	The public
prospective customers	future recruits	The community

your family

Key contributors

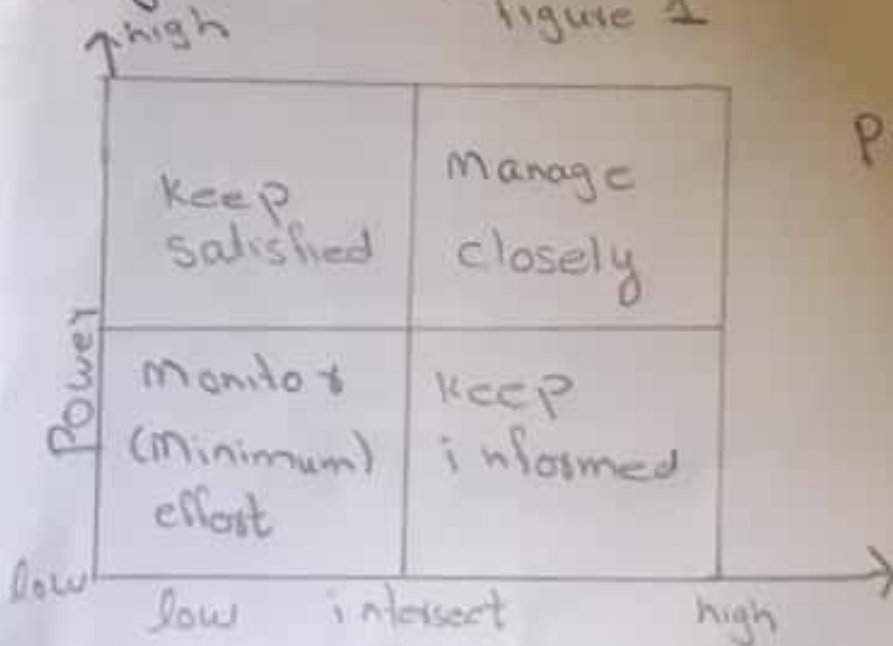
Key advisors.

## Prioritize Your Stakeholders:

You may now have a list of people and organization that are affected by your work. Some of these may have the power either to block that work or to advance it. Some may have interest in what you are doing, while others not care, so you need to work out who you need to prioritize.

You can map out your stakeholders and classify them according to their power over your work and their interest in it on a power/interest Grid make the step easy to accomplish.

Figure 1



power/interest

high power, highly interested: (manage closely) you must fully engage these people and make the greatest effort to satisfy them.



Put low power low interested people keep satisfied  
Satisfied but not so much that they become bored with message

\* low power high interested people (keep informed):  
adequately inform these people and talk to them to ensure that no major issue are rising.

\* low power low interested people (Monitor):  
Again, monitor these people but don't bore with them with excessive communication.

### Understand your key stake holder

Question that can help you understanding your stake holder.

- What financial or emotional interest do they have in the out come of your work? Is it positive or negative?
- What motivates most of all?
- What is the current opinion of your work? Is it based on good information.
- What ~~relation~~ information do they want from you and what is the best way of communicating with them?
- Who else might be influenced by their opinion? Do these people become stake holder in their own right.

You can ask your stake holder these question directly people are often quite open about their view.

Q5

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## Check list for Risk Management.

### Stage: 1

#### initiation:

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

### Stage-2

#### proposal formalization

- Specific objectives and criteria.
- Assess the proposal in relation to the agency objective and strategies
- Determine assessment criteria for proposal.
- Define key elements (target 20-50 elements items or activity) to structure risk analysis.

### Stage: 3

#### Risk Analysis

- Identify risks
- Prepare a comprehensive schedule of Risk for each element.
- Describe each risk and list the main assumptions.
- Assess risk likelihoods and consequences.
- Assess risk likelihoods.
- Assess risk impact.
- Identify significant risks.
- Rank risks to reflect impact and likelihoods.
- Where applicable, estimate risk factor.
- Discard/ Accept minor risks.

## 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 the best response.

→ Evaluate the benefits and costs for each response.

→ Select the preferred response.

\* Develop management measure and action schedules

→ specify Risk management measure for moderate risk

→ Develop risk action schedules for major risk.

(a) addition required (what is to be done)

(b) Resource (what and who?).

(c) Responsibilities (who).

(d) Timing (when).

## Stage #5

## Reporting

\* for designated proposals, produce the Risk management plan.

\* for other project, collate and summarize risk action schedule and measure.

# Stage # 6

(11)

## Risk management implementation

implement measure and action strategies.  
monitor the implementation.

- (a) Assign responsibilities.
- (b) Timning.

undertake periodic review and performance evaluation.