

# Capacity Building Programme

Topic: New Age Project Management

# Outline

1. Project and its Characteristics
2. Factors Influencing Projects
3. Stakeholder Analysis
4. Project Selection Methods
5. Project Prioritization Framework
6. Project Feasibility Studies
7. Project Proposals and Requirement Gathering
8. Visualizing a Project
9. Project Performance Monitoring

# Project and its Characteristics

A project in project management is a temporary and unique endeavor that aims to achieve specific objectives within a defined timeframe, budget, and scope. It involves planning, executing, and controlling of the resources to deliver a desired outcome that meets stakeholder expectations.

Established Objective

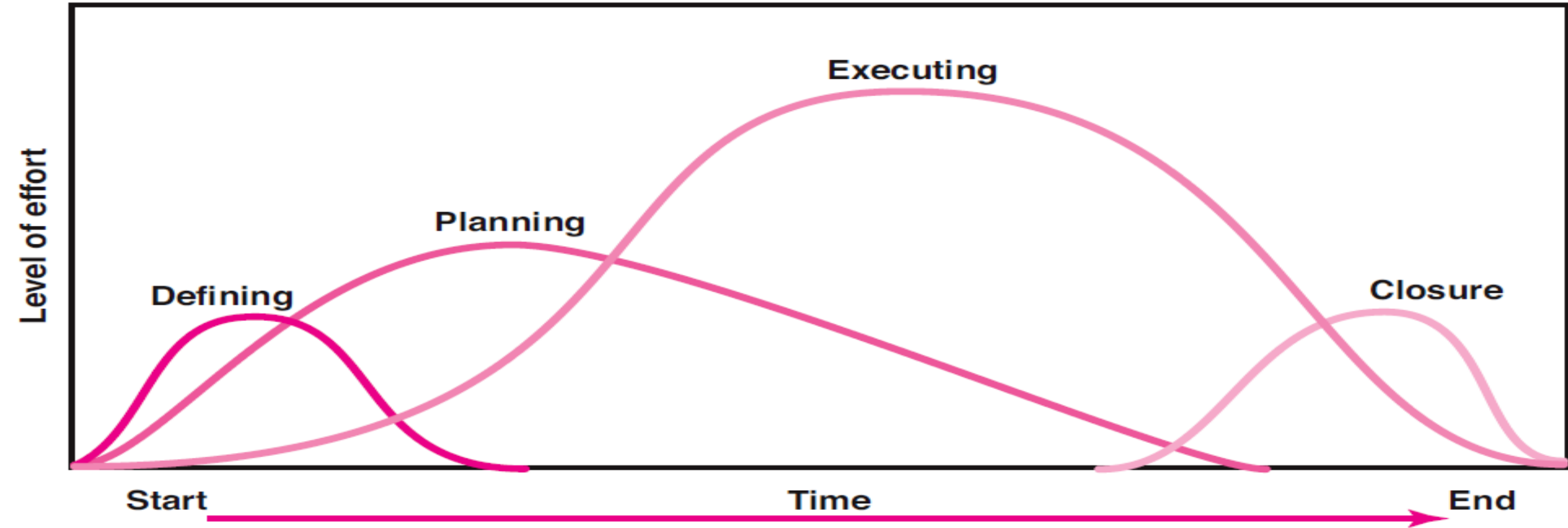
Defined Life Span

Organizational Participation

Unique in its own sense

Time, Cost and Performance Constraints

# Project Life Cycle



## Defining

1. Goals
2. Specifications
3. Tasks
4. Responsibilities

## Planning

1. Schedules
2. Budgets
3. Resources
4. Risks
5. Staffing

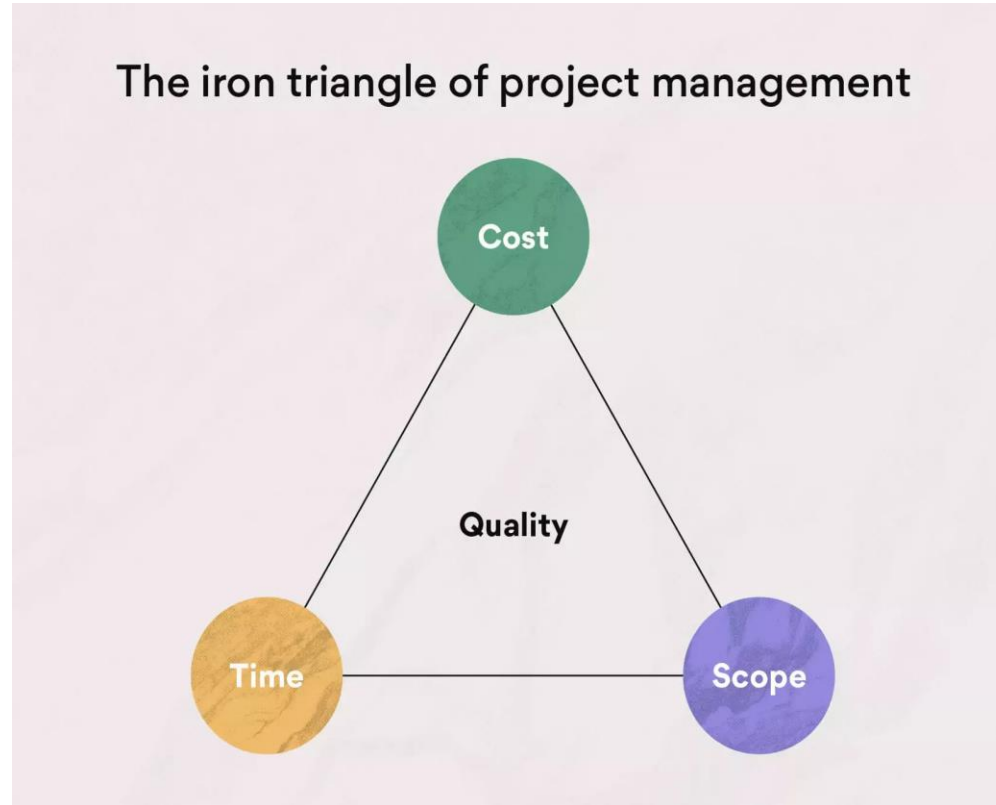
## Executing

1. Status reports
2. Changes
3. Quality
4. Forecasts

## Closure

1. Train customer
2. Transfer documents
3. Release resources
4. Evaluation
5. Lessons learned

# Project Management Framework



Project management is the application of processes, methods, skills, knowledge and experience to achieve specific project objectives according to the project acceptance criteria within agreed parameters.

# Factors Influencing Projects

Projects exist and operate in environments that may have an influence on them. These influences may have a favorable or unfavorable impact on the project.

## Enterprise Environmental Factors

Refer to conditions not under the control of project team, that influence, constrain or direct the project

Can be both internal and external to the organization.

Eg: Market Conditions, Social political and cultural influences, legal and govt. standards, infrastructure, resource and

## Organizational Process Assets

Refer to the plans, processes, policies, procedure and knowledge bases specific to and used by the performing organization.

Are always internal to the organization.

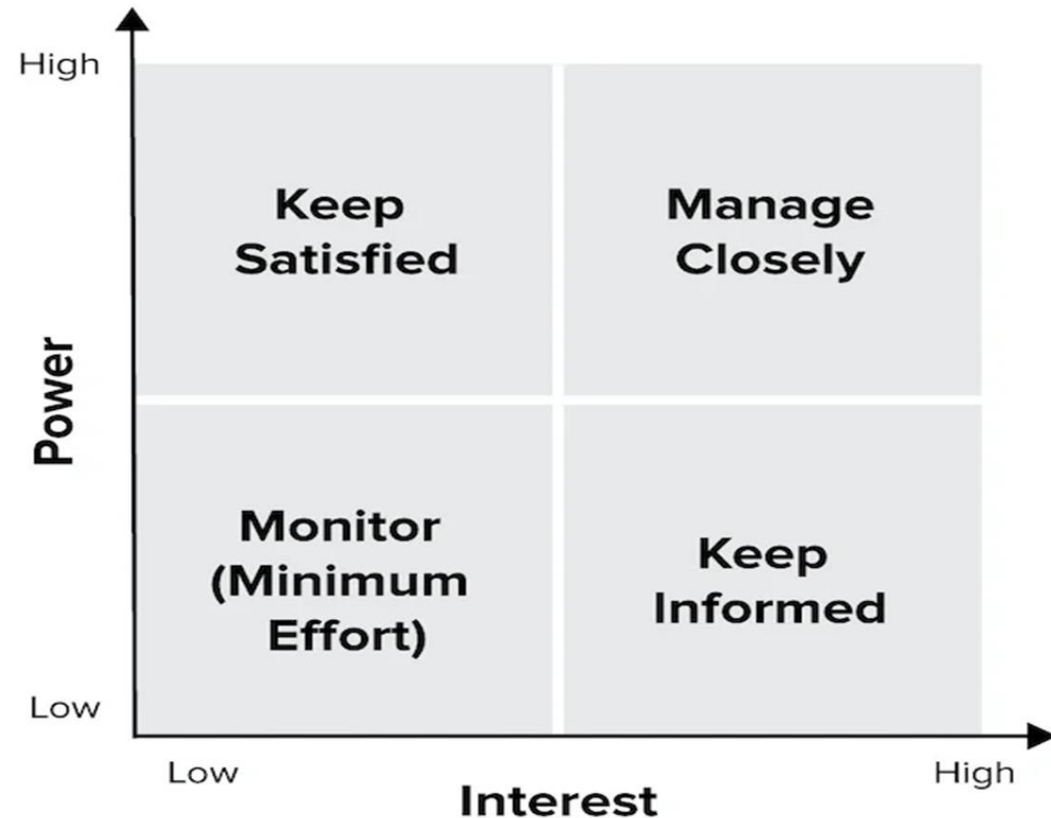
Eg: Organizational standards, HR policies, financial databases, stakeholder registers, risk registers, lesson learned repository from previous projects.

# STAKEHOLDER ANALYSIS

- A stakeholder analysis is a process of identifying these people before the project begins; grouping them according to their levels of INTEREST (how much they get affected by the project) and POWER (how much they can influence the project); and determining how best it will be to involve and communicate each of these stakeholder groups throughout.

Various stakeholder in a particular project can be

- Project Manager
- Project Sponsor/Director
- Functional Managers/ Officers/ Subject Matter Experts
- End Users/Clients
- Govt./Legal/Regulators
- Trainers
- Analysts
- Contractors



# Delhi's Traffic Jam Nightmare



More cars than available capacity



Retards the movement of cars within the available capacity



All cars need to slow down until all of them stop at some traffic jam.

If we intend to carry out more projects than we have capacity for, "all of them" tend to slow down and eventually all of them stop in a project jam.

We may not be able to finish any of them on time.

Need for Project Selection, Project Prioritization and Project Feasibility Studies



# Project Selection Methods

## 1. Scoring Model

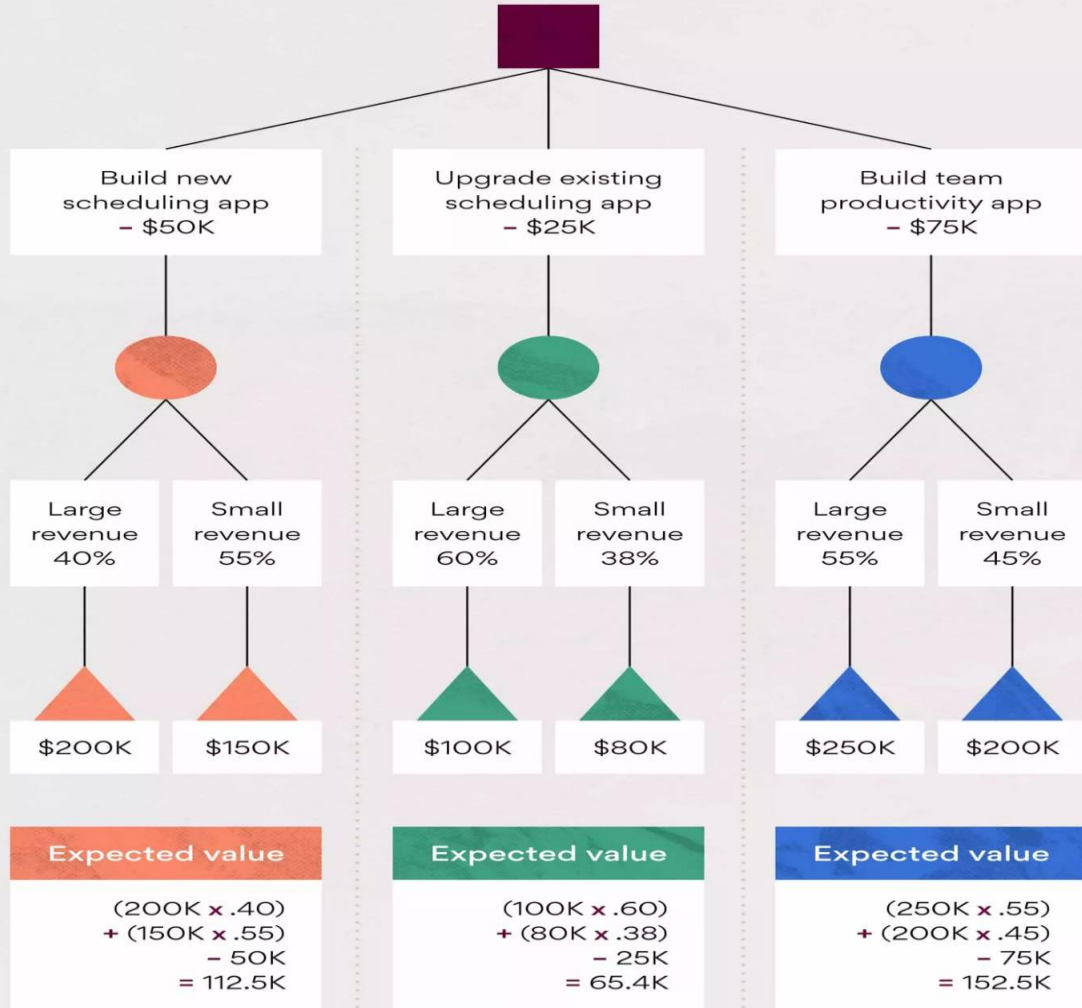
	Criterion	Weight	Project			
			1	2	3	4
1	Market share effect	10%	70	70	50	30
2	Competition	5%	30	70	70	70
3	Risk	10%	10	30	50	30
4	Product fit	5%	70	70	50	0
5	Strategic plan alignment	15%	50	50	70	30
6	Customer support	20%	50	50	30	30
7	Payback	10%	70	70	30	10
8	NPV	15%	70	50	30	30
9	ROI	10%	50	50	30	10
	<b>Totals</b>	100%	53	54	43	26.5

## 2. Financial Criteria Methods

- Pay Back Method
- Net Present Value Method
- Cost Benefit Method
- Discounted Cash flow Method
- Internal Rate of Return Method

### 3. Decision Tree

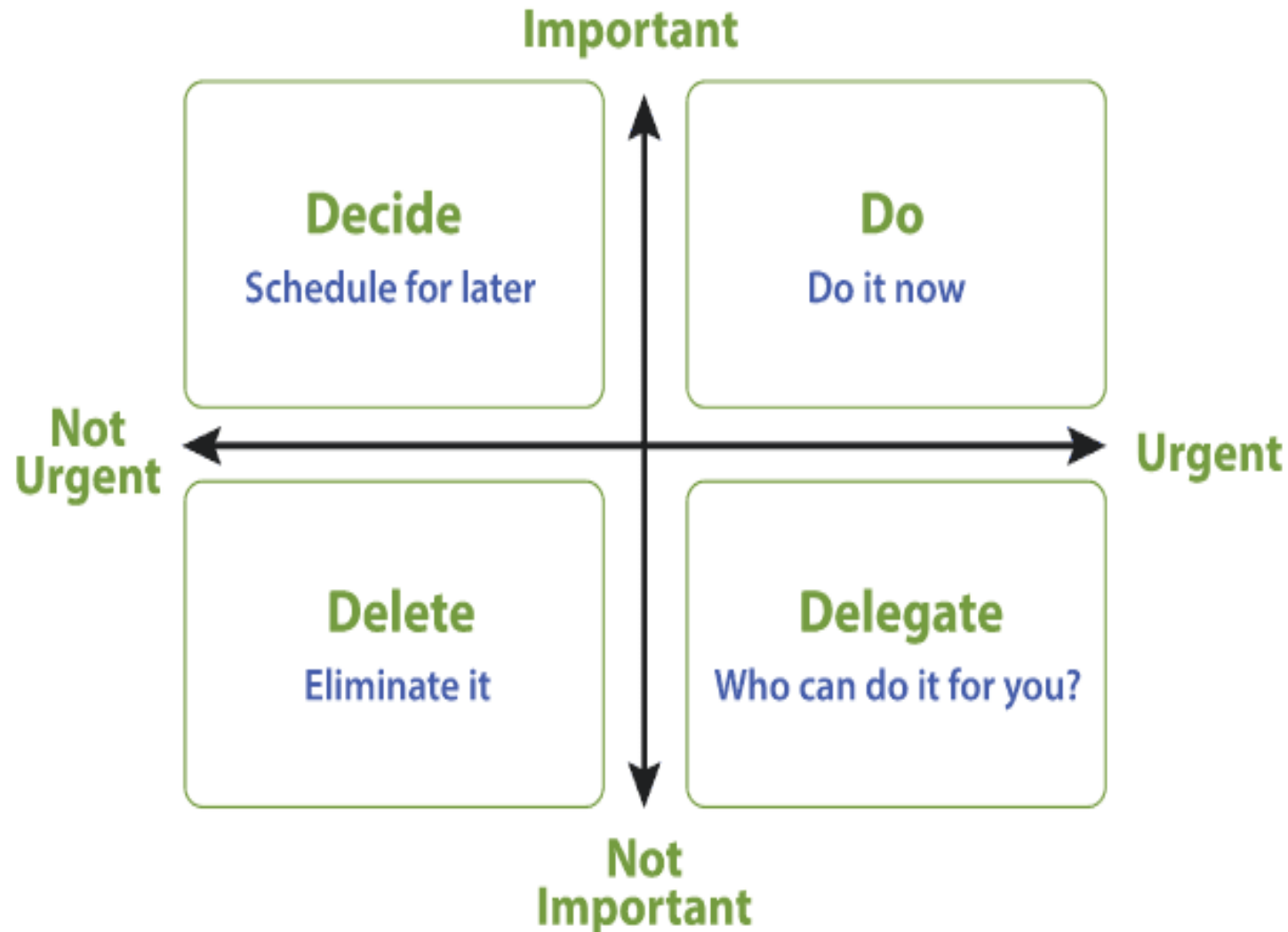
Example of decision tree analysis



### 4. Constraint Optimization Method

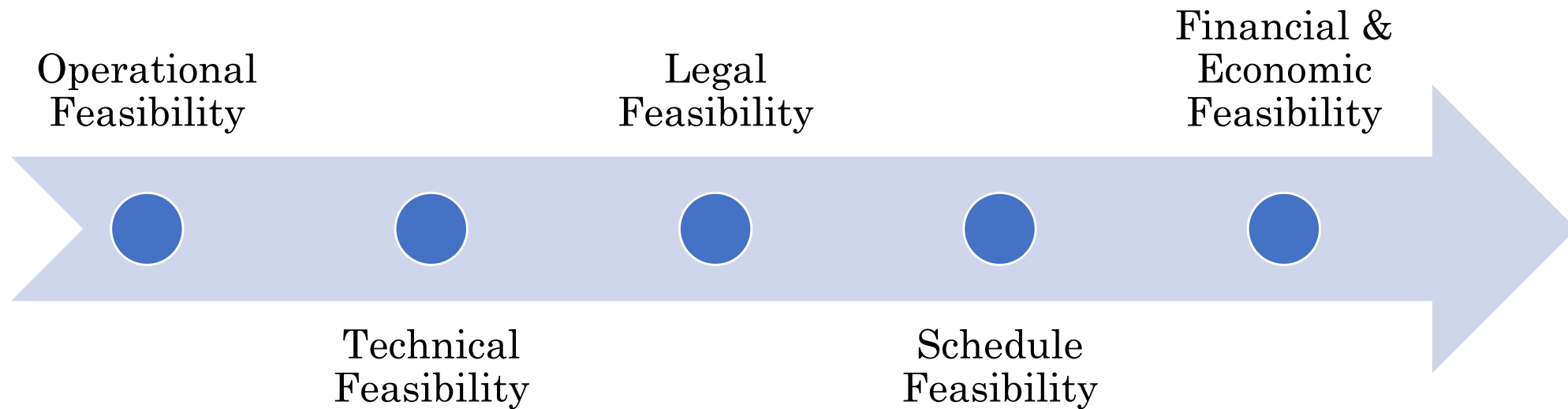
- Linear Programming
- Non Linear Programming
- Integer Programming
- Dynamic Programming

# Project Prioritization Framework



# Project Feasibility Study

A feasibility study is a comprehensive evaluation of a proposed project that evaluates all factors critical to its success in order to assess its likelihood of success



# Project Proposals

A project proposal is a written document outlining everything stakeholders should know about a project including the time, budget, objective and goals.

Proposal can be sought both from inside the firm or outside the firm.

## **Request for information (RFI)**

1. Purpose: When we are looking for information or we're not sure what solution might solve our problem
2. Asks: General questions designed to educate and inform.
3. Style: Casual
4. Advantage: They're fast and inform next step to meet business needs.

## **Request for Quotation (RFI)**

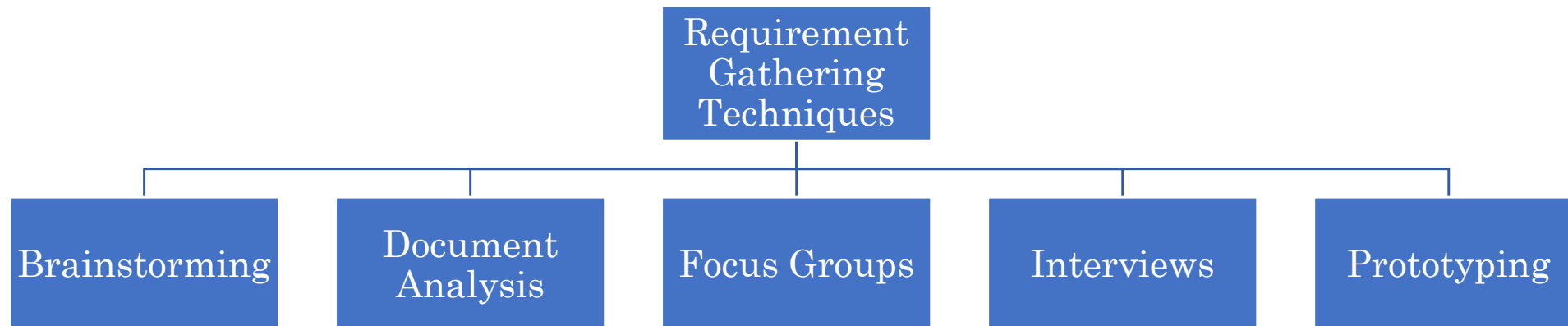
1. Purpose: When we know exactly what we want and why, but we need to explore all of the financial details
2. Asks: Questions about what it will cost to meet the requirements.
3. Style: Structured and perspective
4. Advantage: Removes distractions and allows buyers to focus on price.

## **Request for Proposal (RFP)**

1. Purpose: When you are ready to shop around and evaluate many factors before making a choice
2. Asks: Specific, detailed questions about the service, product and vendor's business.
3. Style: Formal and direct.
4. Advantage: Providing a clear comparison of vendor offers and capabilities

# Requirement Gathering

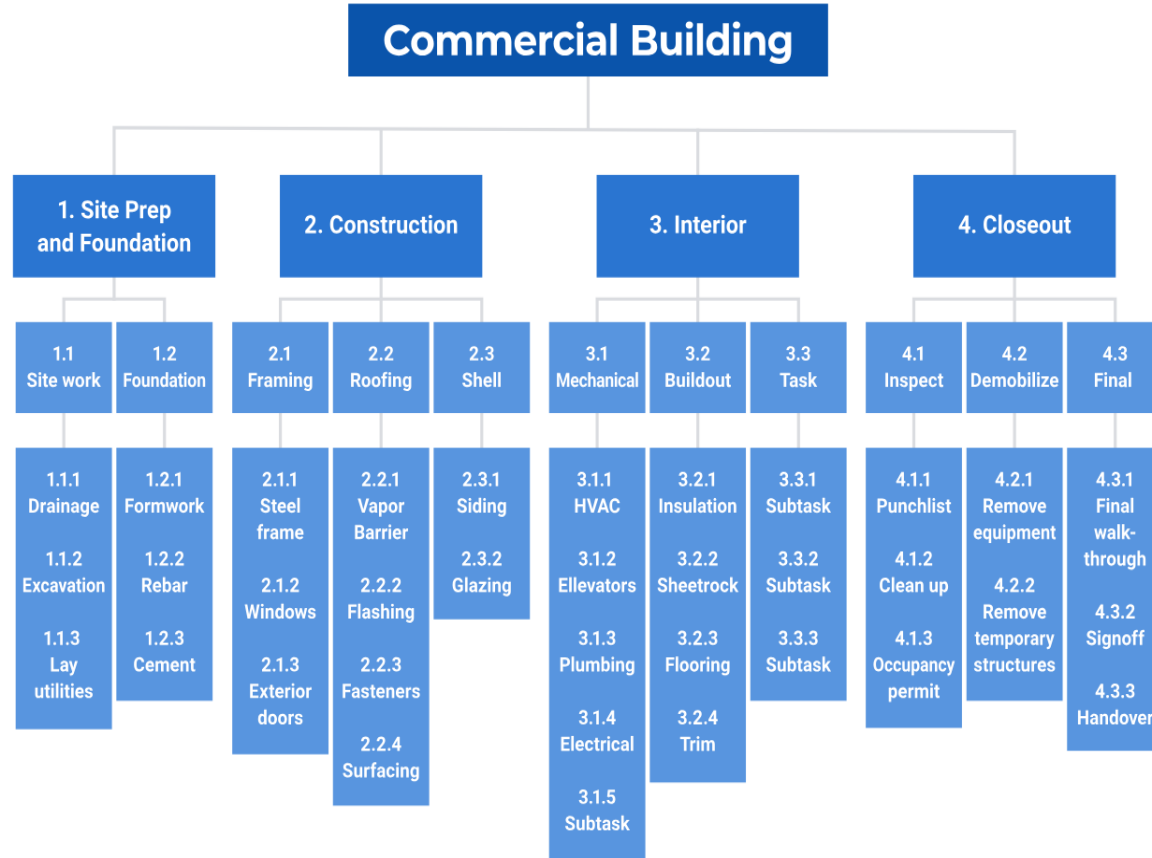
- It is the process of generating a list of requirements (functional, system, technical, etc.) from various stakeholders. It sounds fairly simple, but it's incredibly important.
- It includes business requirements, stakeholder requirements, solution requirements (functional and non functional), transitional and readiness requirements.



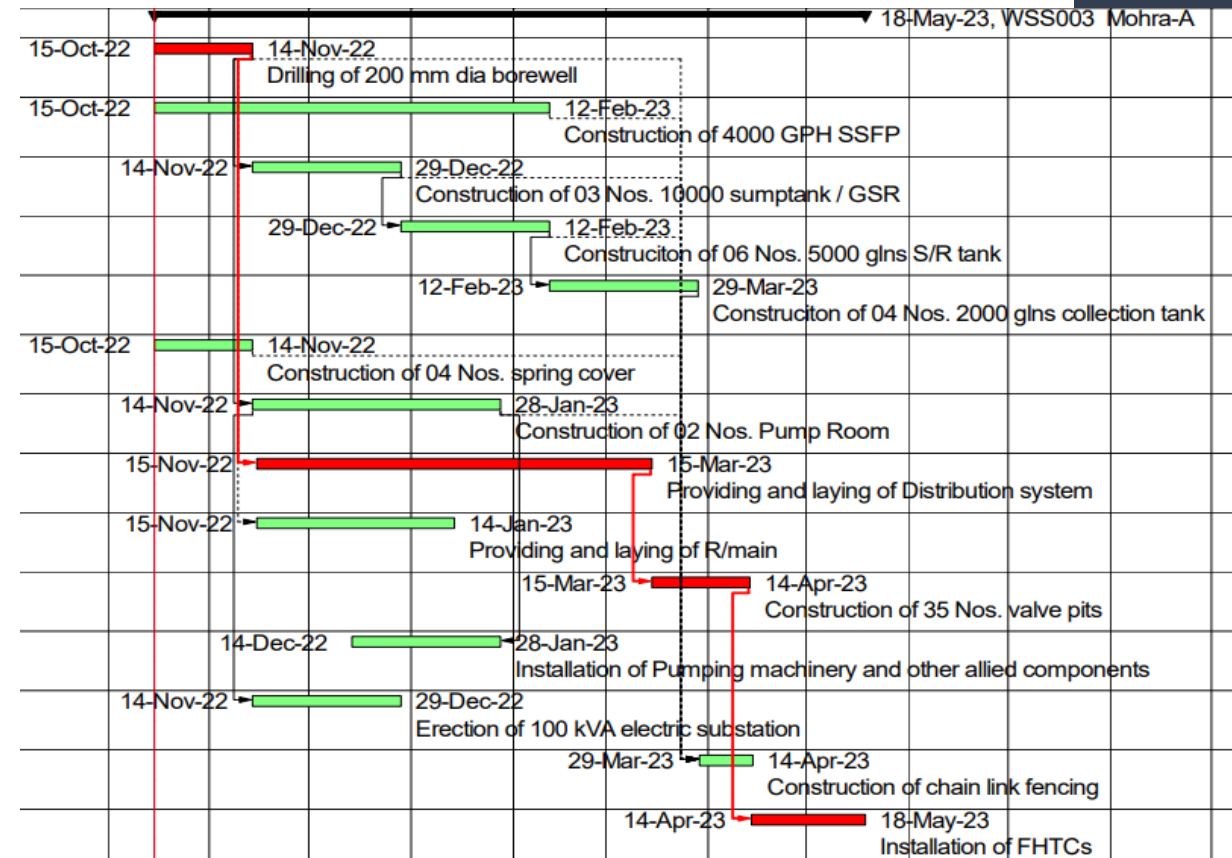
# Visualising a Project

Project chart or network diagram help team members visualise tasks and understand how that work connects to larger business goals.

## 1. Work Breakdown Structure

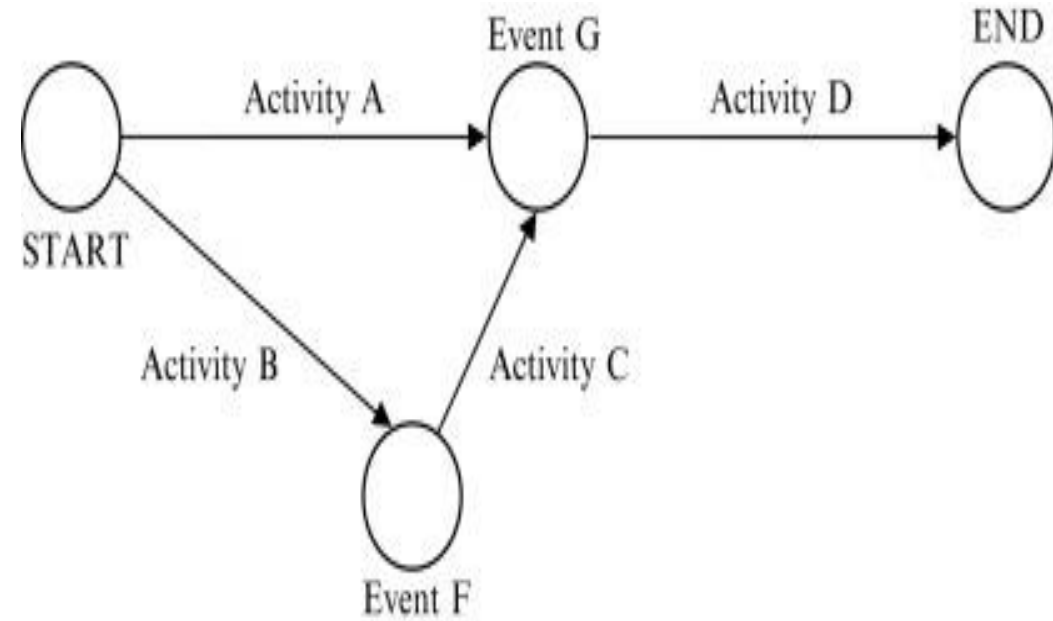


## 2. Gantt Charts

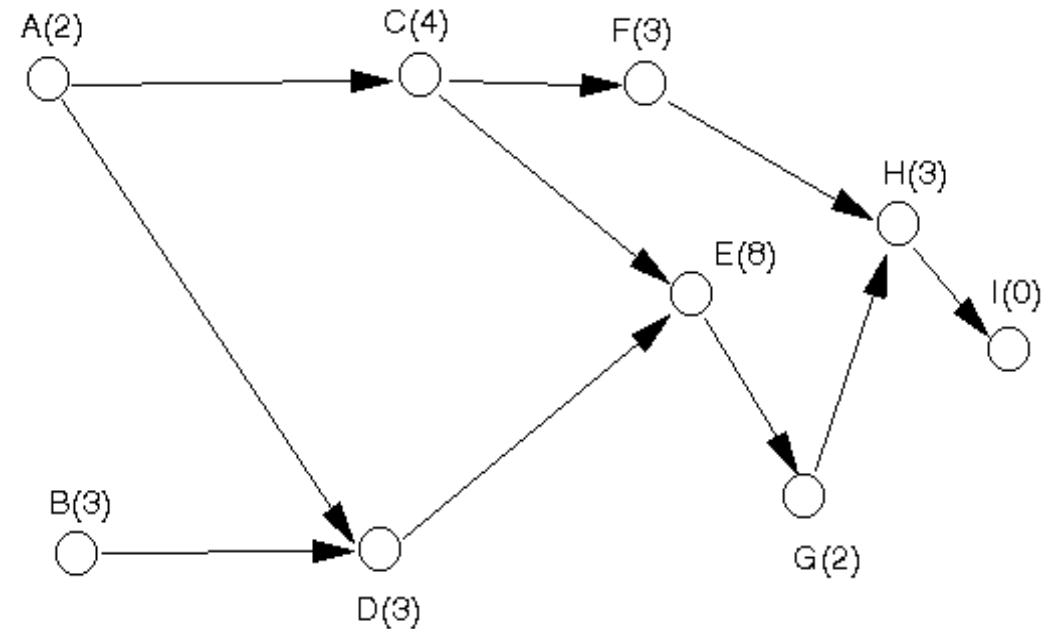


### 3. Network Diagrams

i. Activity on Arrow (AoA)



ii. Activity on Node (AoN)





# Project Performance Monitoring

## Earned Value Management

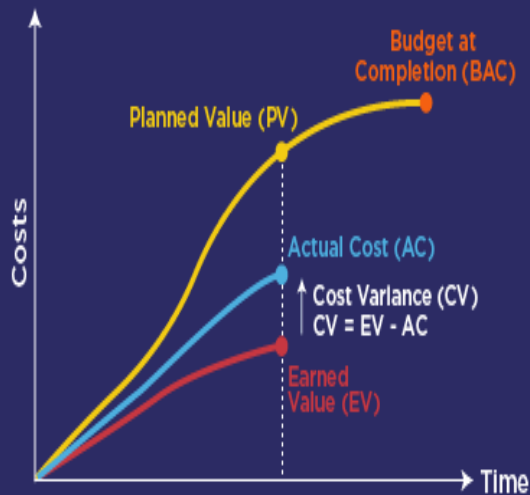
1. Earned Value Management (EVM) is a methodology that combines scope, time and cost measurements to assess project performance and progress.
2. It is a systematic project management process used to find variances in projects based on the comparison of worked performed and work planned.
3. EVM provides quantitative data for project risk management, decision making and can be very useful in project forecasting..
4. Terms used in the EVM are:
  - i. Planned Value (PV) – The planned work for the project.
  - ii. Actual Cost (AC) - The actual cost of work done on the project.
  - iii. Earned Value (EV) – The earned value of the project i.e. the actual dollar value of the work done relative to the original plan.

Project performance can be measured using two terms:

1. Variance – Cost Variance (CV) / Schedule Variance (SV)
2. Efficiency – Cost Performance Index (CPI) / Schedule Performance Index (SPI)

## Costs Variance Analysis

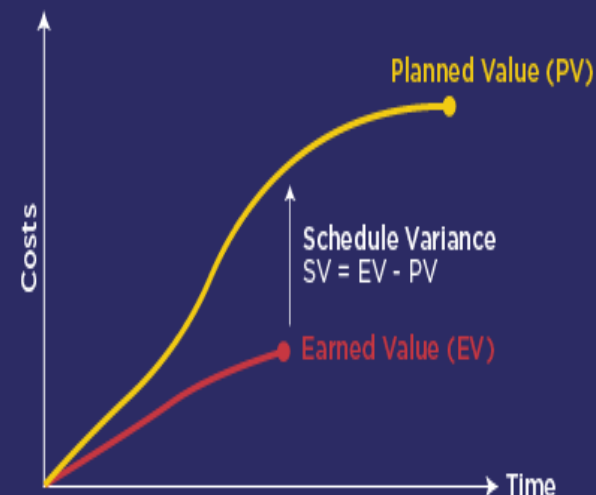
Trends on Cost can be given at any time by comparing Earned Value (EV) with the Actual Cost (AC).



$CV < 0 \rightarrow EV < AC \rightarrow$  the project is overbudget  
 $CV > 0 \rightarrow EV > AC \rightarrow$  the project is underbudget  
 $CV = 0 \rightarrow EV = AC \rightarrow$  the project is on budget

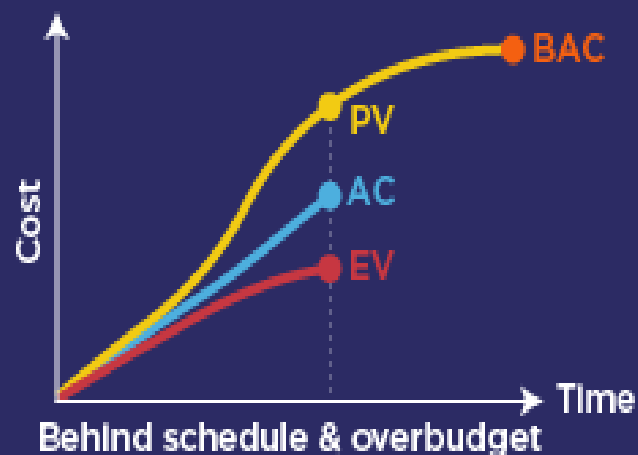
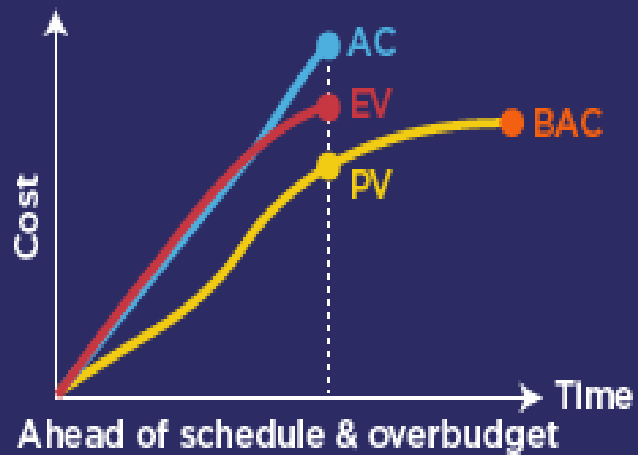
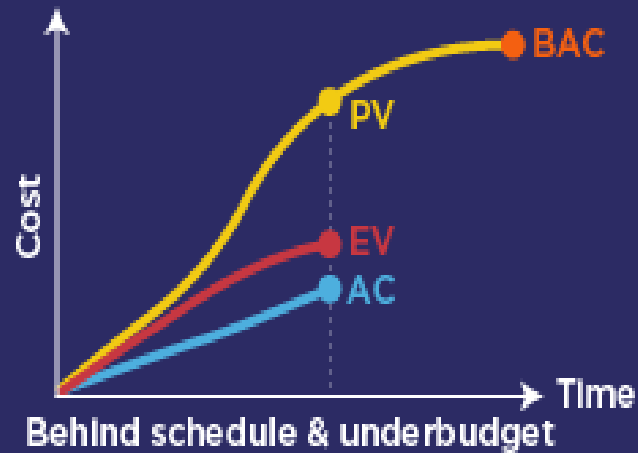
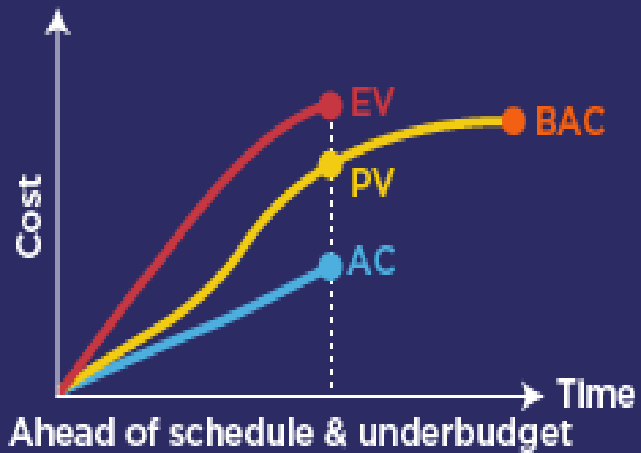
## Schedule Variance Analysis

Trends on Schedule can be given at any time by comparing Earned Value (EV) with the Planned Value (PV) for the activities performed.



$SV < 0 \rightarrow EV < PV \rightarrow$  the project is late  
 $SV > 0 \rightarrow EV > PV \rightarrow$  the project is ahead of schedule  
 $SV = 0 \rightarrow EV = PV \rightarrow$  the project is on time

# Earned Value Analysis



## Reminder

EV = PV, the project is on time

EV = AC, the project is on budget

# Case Studies for Reference

Case Study Topic	Link
Denver International Airport – Baggage Handling System	<a href="https://drive.google.com/file/d/1KYNMITyVdRnfxDy4JD-iMHCAT9ObKn-P/view?usp=drive_link">https://drive.google.com/file/d/1KYNMITyVdRnfxDy4JD-iMHCAT9ObKn-P/view?usp=drive_link</a>
Domestic Auto Parts	<a href="https://drive.google.com/file/d/1gg3sInjw2EHfqe4kwx5TIOLvWCp4ajnS/view?usp=drive_link">https://drive.google.com/file/d/1gg3sInjw2EHfqe4kwx5TIOLvWCp4ajnS/view?usp=drive_link</a>
Creative Chocolates in Nigeria	<a href="https://drive.google.com/file/d/1BgHO85WmRHSr51YmmonezQ4gFTkFeryb/view?usp=drive_link">https://drive.google.com/file/d/1BgHO85WmRHSr51YmmonezQ4gFTkFeryb/view?usp=drive_link</a>
The Premamrutha Dhaara Project: A Sustainable Drinking Water Solution With Social Impact	<a href="https://drive.google.com/file/d/1ynEXhawoMuFVKTx0lTGN7JCsjFaaySUH/view?usp=drive_link">https://drive.google.com/file/d/1ynEXhawoMuFVKTx0lTGN7JCsjFaaySUH/view?usp=drive_link</a>