



PMP® exam prep summary book by edzest

This summary book contains a consolidation of all the concepts and terms important for PMP® exam prep.

The flow of content is the way a project is managed.

Slide covers the summary of all the points & important notes for readers are added in the box provided in the slides.

Concepts & Terms are followed by Exam Mindset important for PMP® exam takers.

All the best for your exam!

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Introduction to Project Management

Projects

A Project is a **temporary** endeavor undertaken to create a **unique** product, service, or result.



Product

Service

Result

Operations in an organization is NOT temporary and the activities are repeated regularly. The deliverables from every project are handed over to operations team (internal or external)

Why Projects?

To enable organizations deliver VALUE & achieve desired OUTCOME

Value is the worth, importance, or usefulness of something

Outputs refer to the tangible products or services that are produced by a project

Outcomes refer to the impact or benefits that those outputs have on the organization or stakeholders.

Output

Not a reason for designing Project

Indicates completion of a project activity

Tangible, hence easy to measure

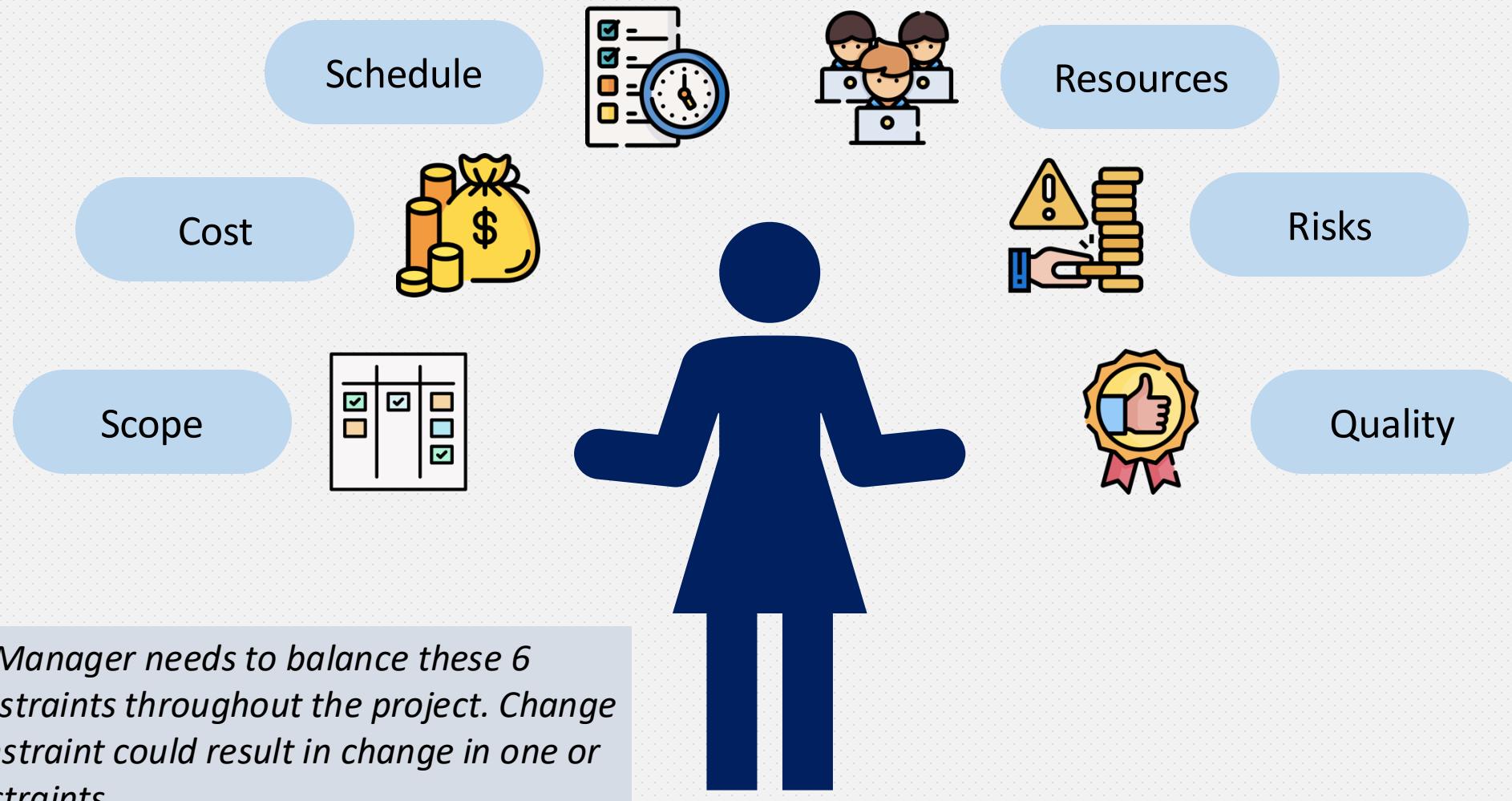
Outcome

Reason for designing a project

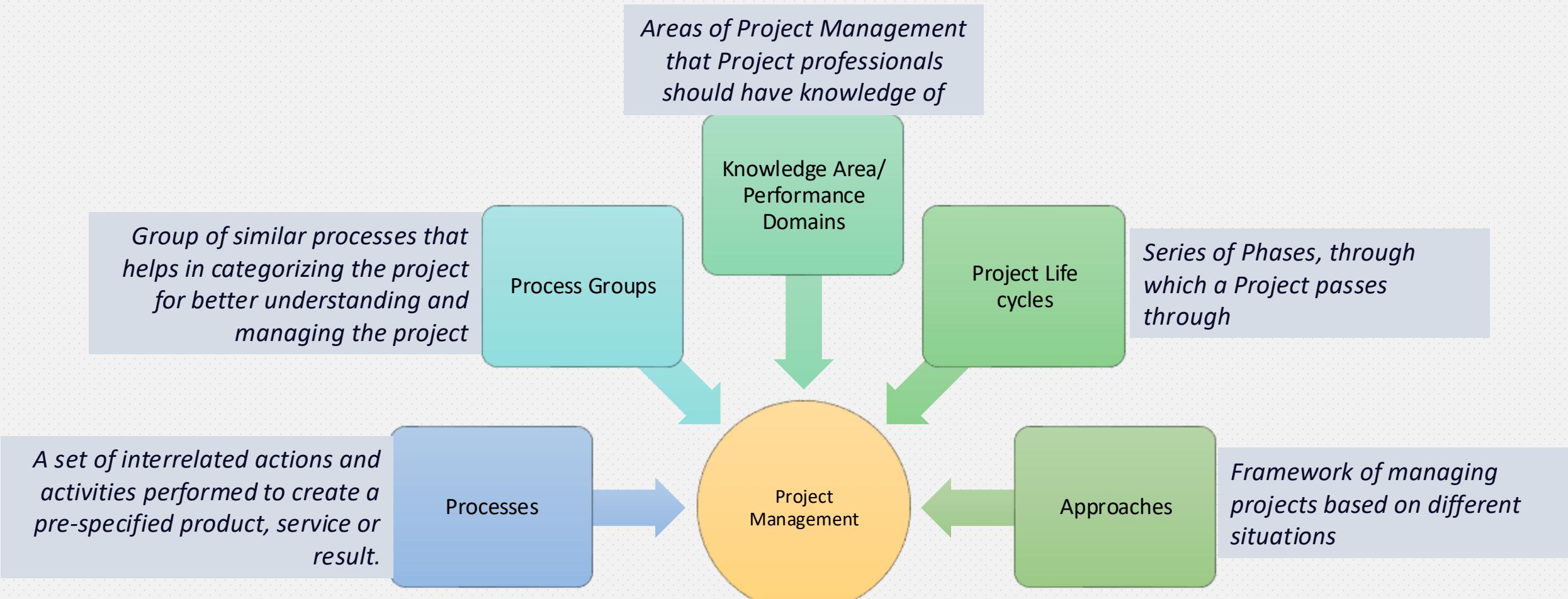
Indicates achievement of project objectives

Intangible, hence difficult to measure

Project Management Constraints



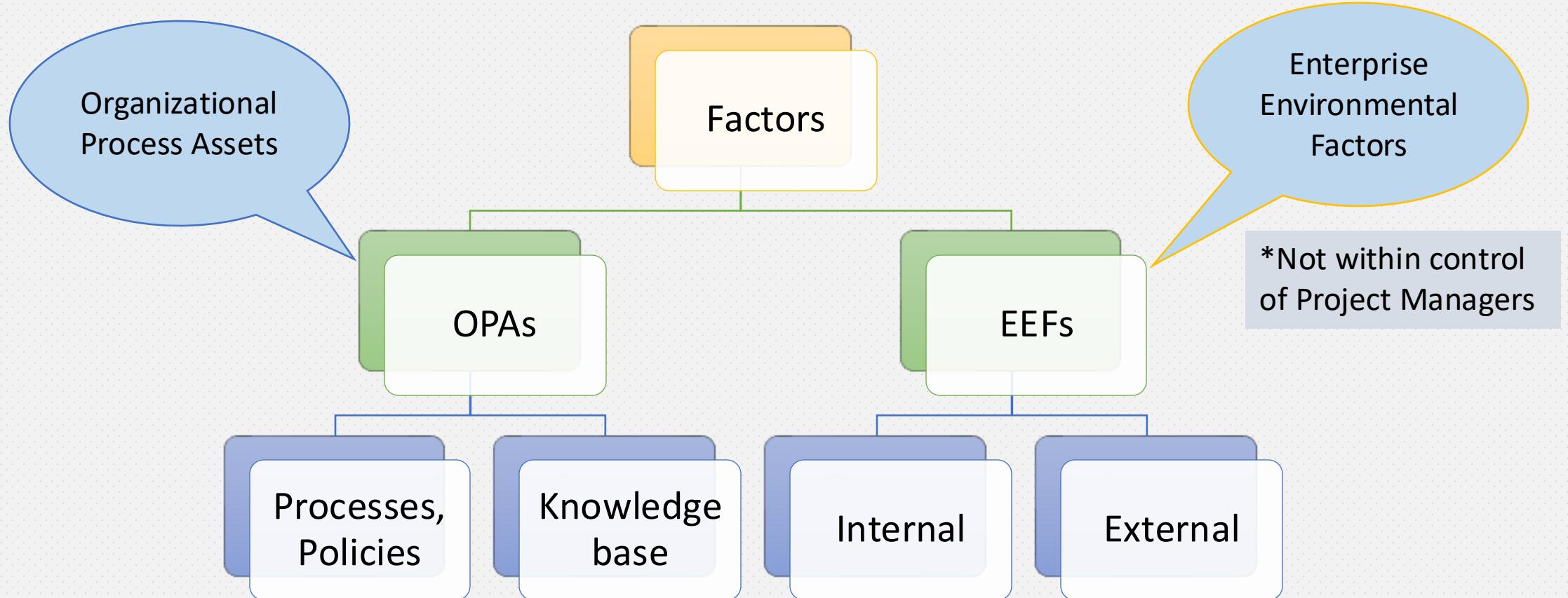
Project Management Components



Project Management Components

Process Groups	Knowledge Area (PMBOK 6)	Performance Domain (PMBOK 7)	Approaches
Initiation	Integration	Stakeholder	Traditional
Planning	Scope	Team	Agile
Execution	Schedule	Development Approach	Hybrid
Monitoring & Controlling	Cost	Planning	
Closing	Quality	Project Work	
	Risk	Delivery	
	Resources	Measurement	
	Communication	Uncertainty	
	Procurement		
	Stakeholder		

Environmental Factors



Organization Structure

Characteristics	Functional	Projectized	Matrix
Project Manager's Authority	Low	High	Moderate
Group arrangement	By Tasks done	By Projects	Mixed
Resources Authority	Functional Manager	Project Manager	Shared
Budget Control	Functional Manager	Project Manager	Both

Project, Program, Portfolio

Portfolio-1

Portfolio-2

Strategic Objectives

Program-1

Program-2

Program-3

Cumulative effect



Project-1

Project-2

Project-3

Project-4

Individual focus

Project Sponsor's Responsibilities

Stage	Responsibilities
Overall	Commit to arrange Project funding requirements
	Protect the Project from unnecessary changes
Before Initiation	Help develop Business Case and Benefits Management Plan
Initiation	Provide high level requirements
	Help define measurable objectives
	Determine hard and soft constraints, in consultation with customers
	Champion the project through the organization
	Create and/or approve the project charter
	Outline authorities of a Project Manager
	Assign a Project Manager in consultation with Executive Committee
Planning	Communicate the Project vision/ Participate in defining project vision
	Commit to arranging required funds for project
	Convey, determine, and finalize reports needed by the management
Executing	Support in identifying overall project risks
	Approve the Plan components, Baselines, and Master Project Management Plan
	Protect the project from unnecessary changes
Monitoring and Controlling	Approve trade-offs between constraints, while controlling the project
	Authorize a Change Control Board
	Provide approvals on matters beyond Project Manager's authority
Closing	Provide final acceptance on the project
	Provide final rewards and recognition

Project Team's Responsibilities

Stage	Team's responsibilities
Overall	Self-organize and complete or coordinate for completion of project tasks
Planning	Carry out planning for all project areas
	Plan frequency of regular meetings for improvement
	Suggest alternatives and best approaches
	Assigning the tasks among themselves for adaptive projects
Executing	Self-organize and manage the work
	Meet regularly to discuss on improvements
	Share knowledge gained throughout the project with relevant stakeholders
	Manage conflicts before escalating
	Capture lessons learned throughout the project
	Works together to complete the requirements
Monitoring and Controlling	Take local decisions to control the project
	Carry out impact analysis for problems/changes
Closing	Discuss lessons learned in the project
	Provide feedback on their experience with the project
	Celebrate the project closure

Project Manager's responsibilities -1/2

Stage of the project	Responsibilities
Overall	Apply Project Management Knowledge and Skillsets to achieve project success
	Major Power Skills: Collaborative Leadership, Decision Making, Problem Solving, Communication
	Promote the selected project methodologies in the organization, as required
	Create a collaborative environment by taking regular efforts throughout the project
	Empower the team members and stakeholders for taking local decisions
	Solve Team members problems, support & promote their performance
	Train, Coach, and Mentor the team and Stakeholders
	Build a Shared understanding of the project among all the team members
	Support virtual team and overcome diversity related issues
	Be proactive in identifying problems and ensure appropriate responses
Before Initiation	Support in Project Selection by estimating cost and time despite less information available
Initiation	Create and support Project Sponsor in creating the Project Charter
	Identify and Analyse assumptions and constraints
	Identify, understand, and Analyse major stakeholders
Planning	Lead and direct Project Planning activities for all project areas
	Identify dependencies between the project activities and ensure effective integration
	Determine Time and Cost reserves in the project, and carry out regular analysis
	Help the team define the ground rules and create Team Charter
	Determine performance metrics for the project and team
	Integrate project plan components and discuss for approvals/sign-offs, as may be required

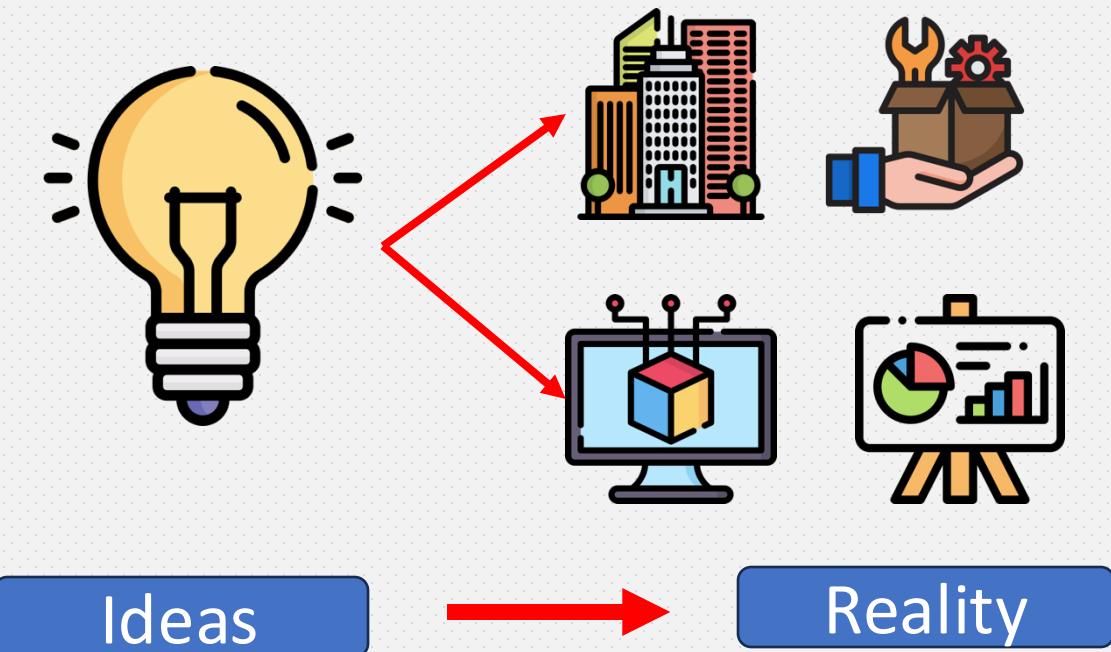
Project Manager's responsibilities -2/2

Stage of the project	Responsibilities
Executing	Determine the need for change requests Lead the team through Servant Leadership
	Maintain Stakeholder Engagement and manage their expectations throughout the project
	Manage Project knowledge and Artifacts generate through project work
	Review Lessons learned documents for consolidation and appropriation for use in the project
	Coordinate interactions between project team and stakeholders; facilitate meetings
	Measure the actual project performances and determine varianaces from plan Bring the project back to control by taking necessary actions Monitor Risks throughout the project against Risk Appetite and tolerance level of the organization
Closing	Perform project closing at the end of each project phase, as designed. Perform project closure formalities at the end of the project.



Selecting a Project

It all starts with an idea



A Project is selected to create Ideas into reality



Achieve
Business
Strategy

Meet
Stakeholder's
needs

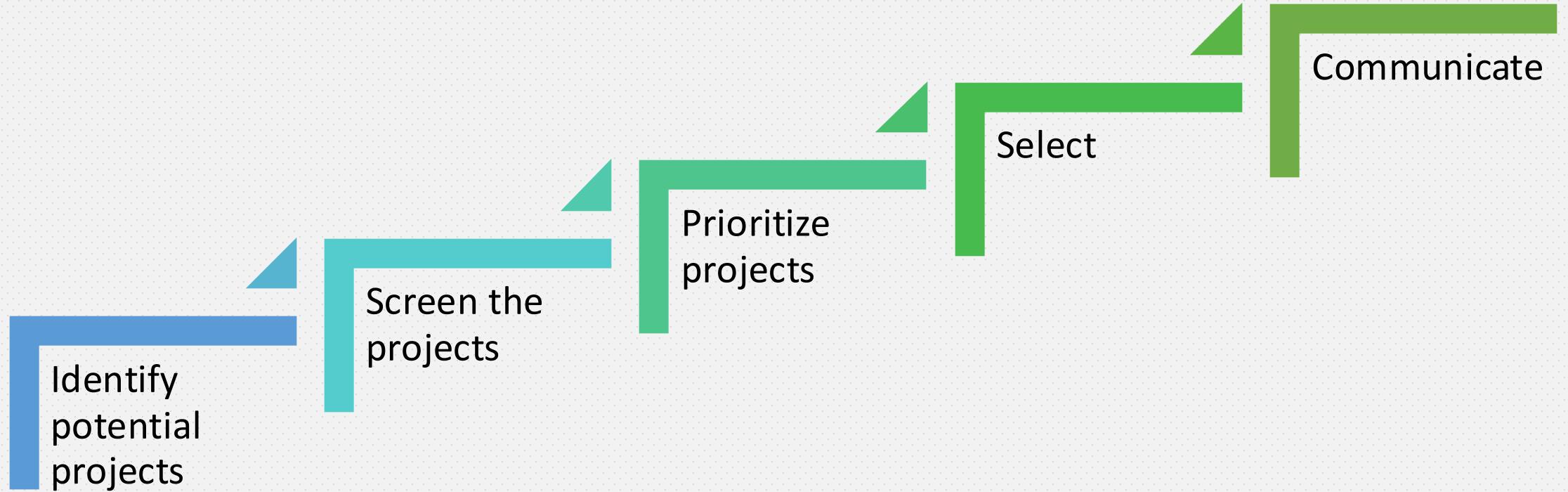
Create or
Improve
products

Meet Legal or
Social
Requirements

A project may be selected due to one or more of these 4 reasons.

Project Selection

Project selection is the process of evaluating various potential projects and determining which ones should be pursued to best achieve the desired outcomes and maximize the return on investment



Benefits Measurement Methods

Benefit-cost ratio

Ratio between Benefits & Cost expected from project, Higher the BCR value, better the project

Payback Period

Expected Time to recover the cost (money being spent in the project), Lower the PBP, better the project

Net Present Value

Diff. between Cash-in & Cash-out, taking time value of money (inflation) into consideration, higher the NPV, better the project

Internal Rate of Return

Interest rate at which the project will earn benefits, higher the IRR, better the project

Return on Investment

Return percentage of the investment: $(\text{Benefits}-\text{Cost})/\text{Cost}$ expressed in percentage. Higher the ROI, better the project

**These financial considerations are not the only reasons why a project is selected: strategic, political, relationship are also considered before selecting a project*

Business documents to support selection

- **Business Case-**
 - Contains the list of benefits expected from the project.
- **Benefits Management Plan**
 - Defines the processes of creating, maximizing, and sustaining the benefits provided by the project: it informs about how the benefits will be managed.

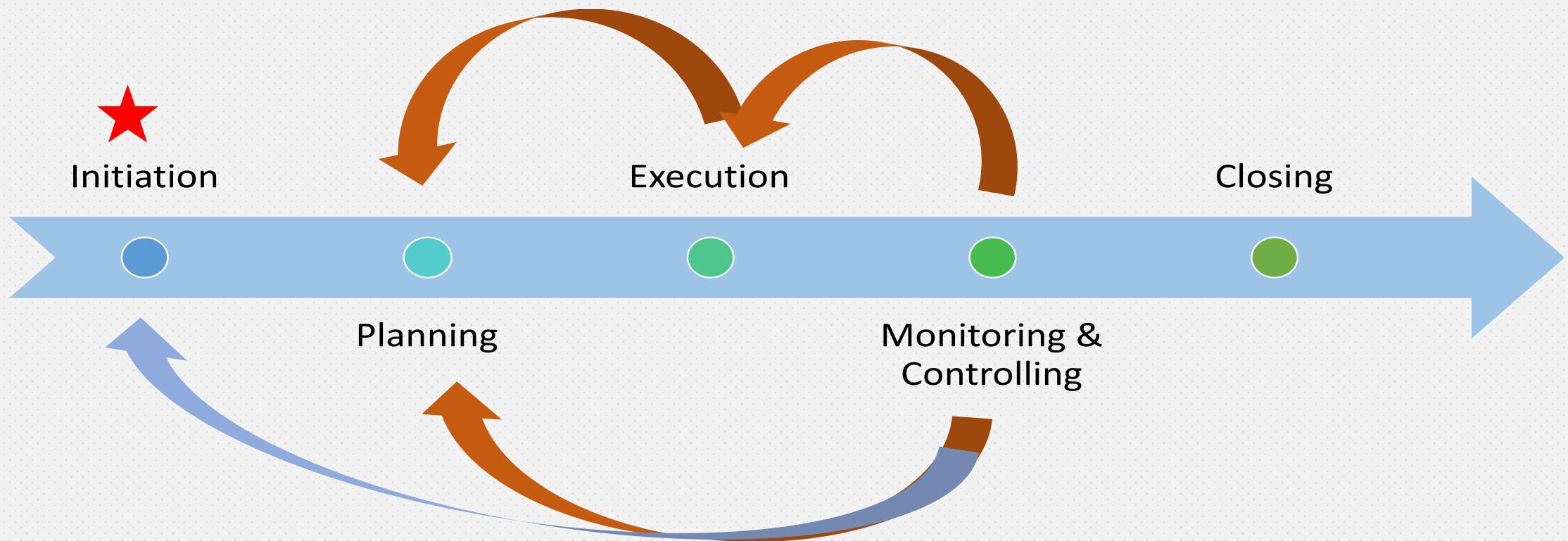
**Business Documents are strategic documents created by the Project Sponsor and helps the management in taking decision about which Project to be selected.*

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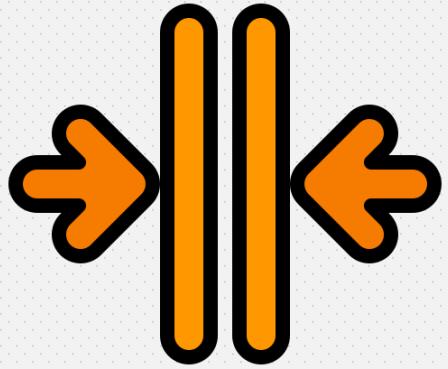
Initiating a project

Initiation

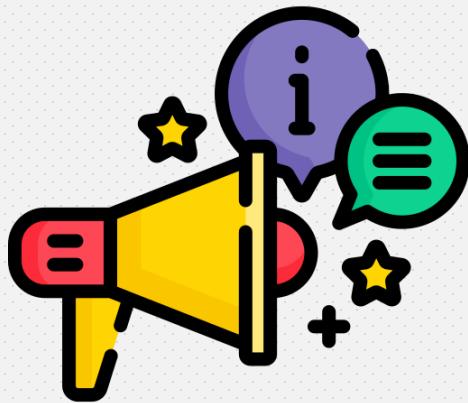
The processes of starting a new project, which includes defining the project's goals and objectives, and creating an initial plan for how to achieve them.



Purpose of Initiation



Align Stakeholder expectations and the project's purpose



Inform Stakeholders of the project scope and objectives



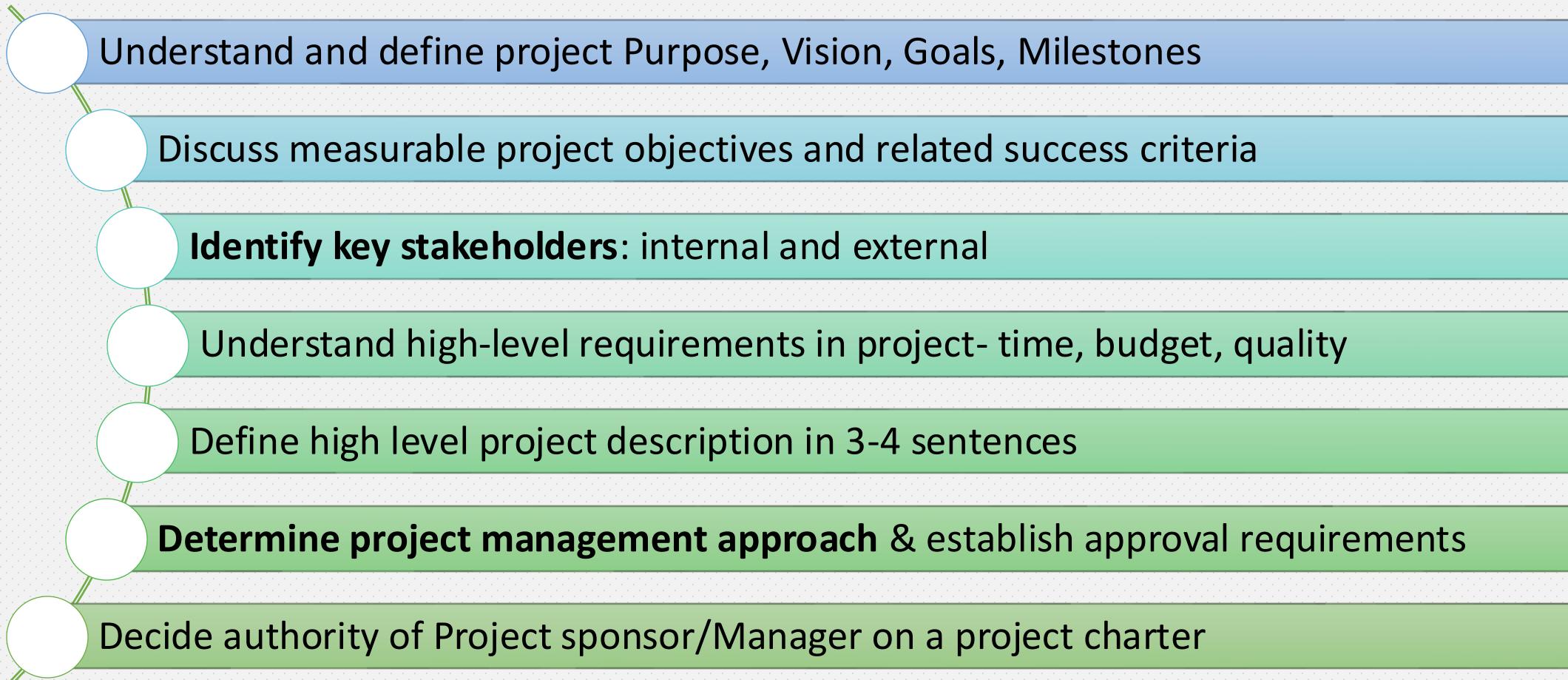
Discuss the need of their participation throughout the project

Project Charter

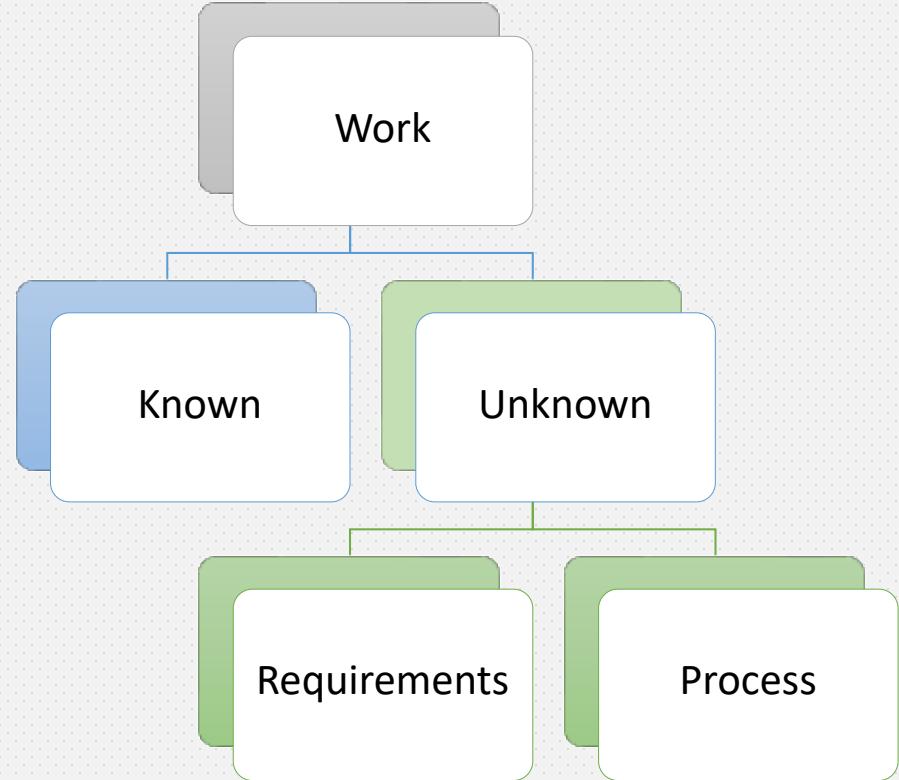
A project charter is a document that formally recognizes the existence of a project, identifies a framework for project management process, & provides project managers with authority to begin work. It contains:



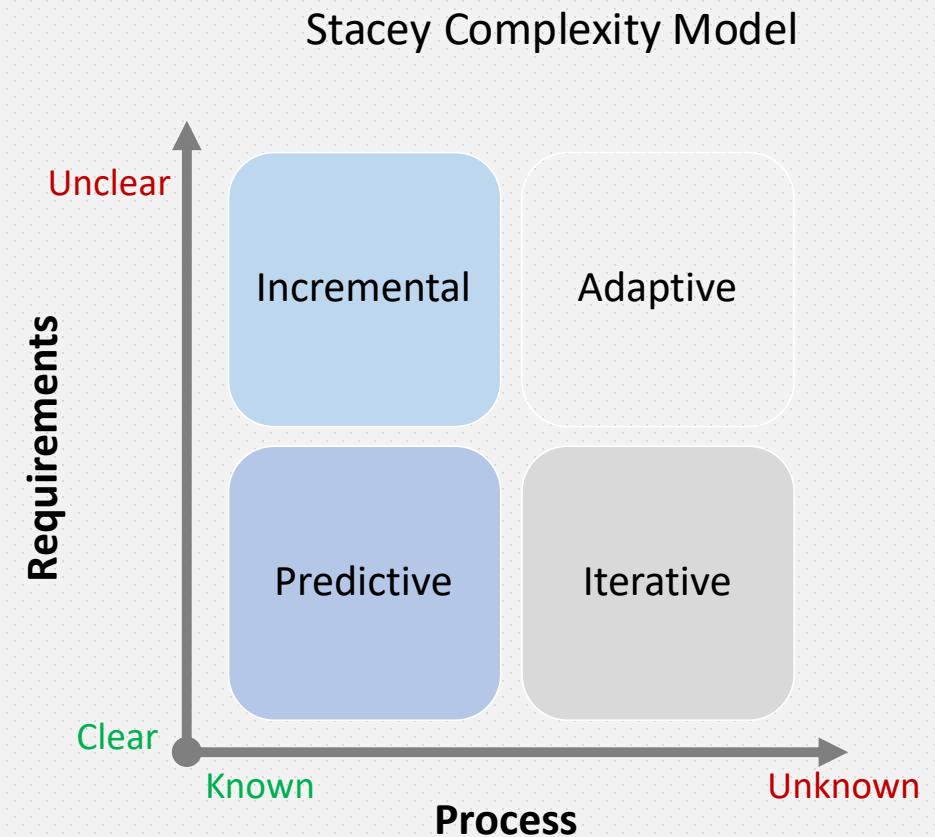
General flow of activities in Initiation



Determining Project Management approaches

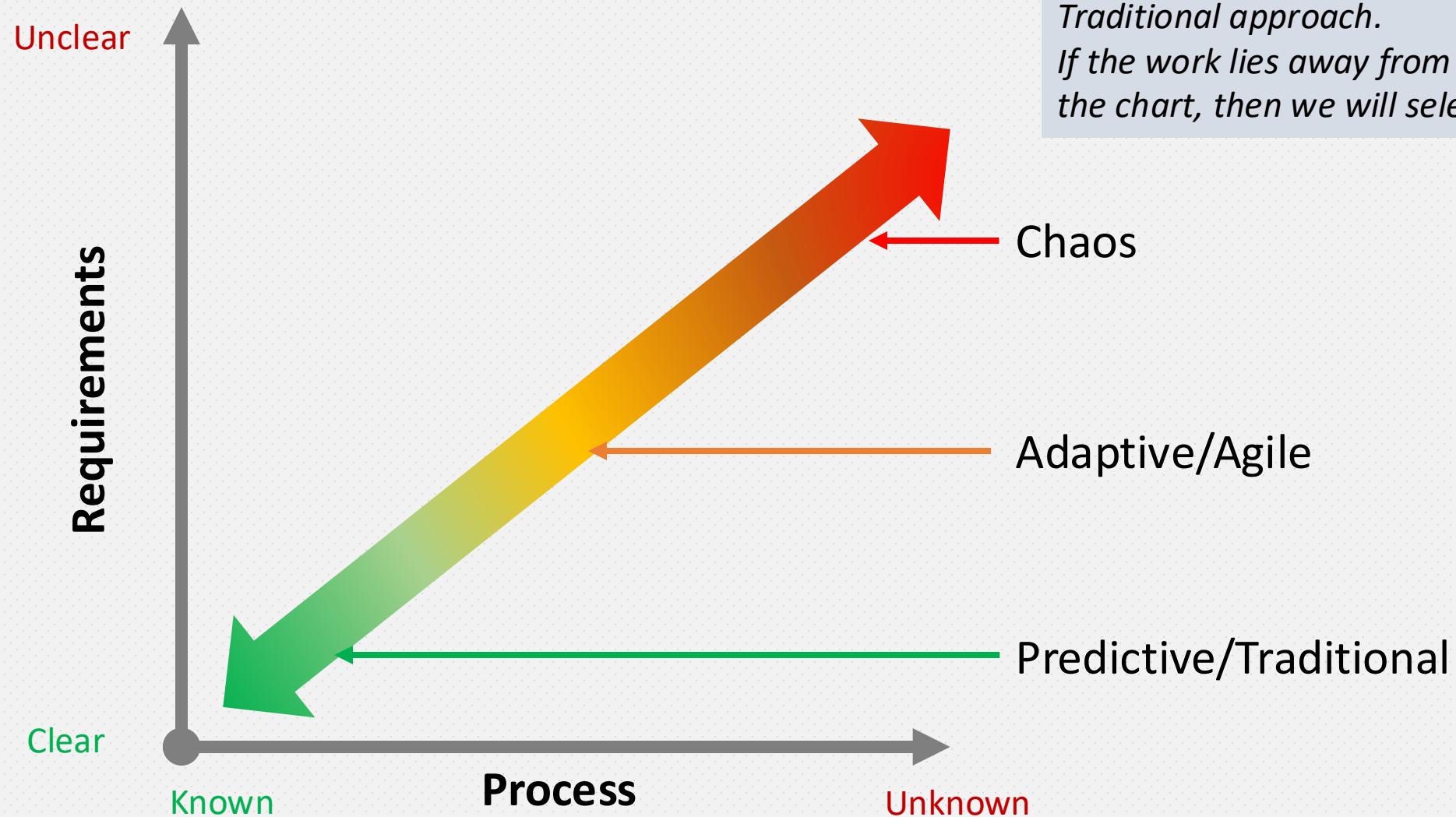


The work we do in the project needs to be assessed for uncertainties in requirements & processes, and when the result is plotted on X-Y chart, it helps in deciding the approach



Purely Incremental & Iterative approaches are rare. But important to understand adaptive approach, which is a mix of iterative & incremental.

Agile continuum



If the work that we are supposed to do in projects lie towards the origin of this chart (Green zone in image), then we will select Traditional approach.

If the work lies away from origin (yellow zone in the chart, then we will select Agile Approach)

Lifecycle Characteristics

Approach	Requirements	Activities	Delivery	Goal
Predictive	Fixed	Performed once for the entire project	Single delivery	Manage cost & time
Iterative	Dynamic	Repeated until correct	Single delivery	Correctness of solution
Incremental	Dynamic	Performed once for an increment	Frequent smaller deliveries	Speed of delivery
Adaptive	Dynamic	Repeated until correct	Frequent smaller deliveries	Customer value

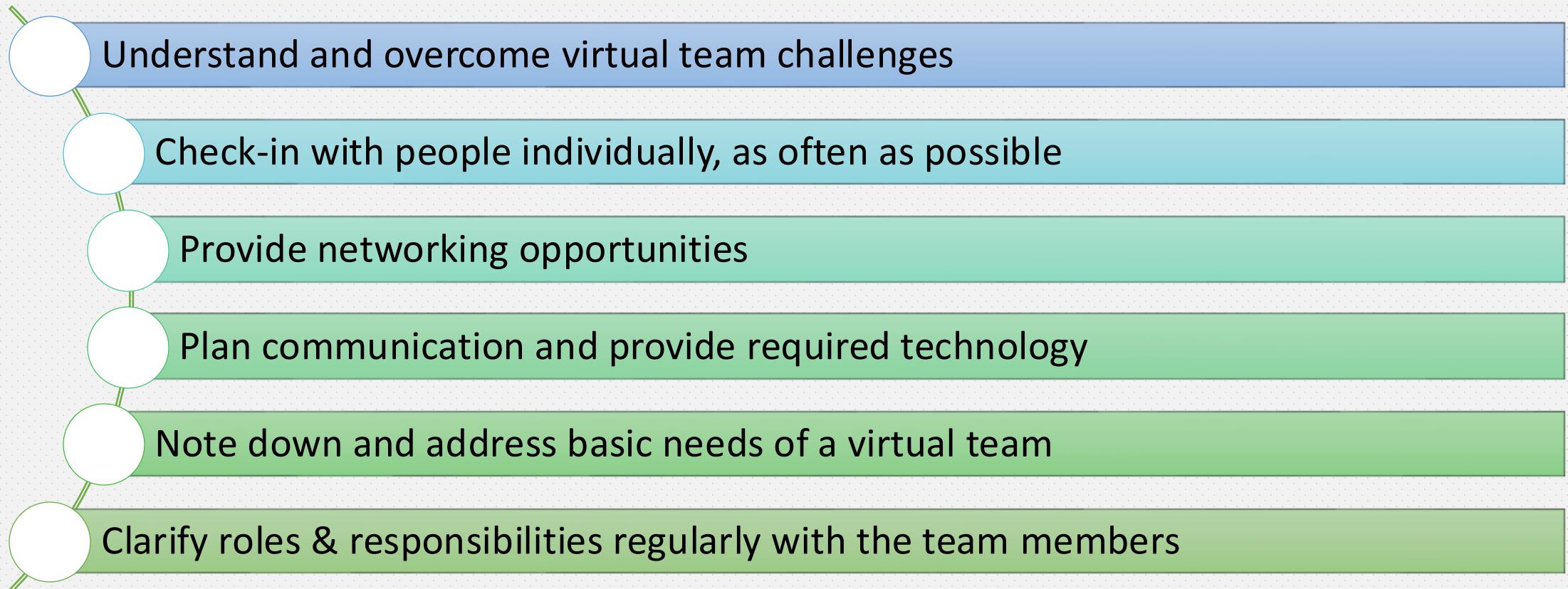


Building a Team

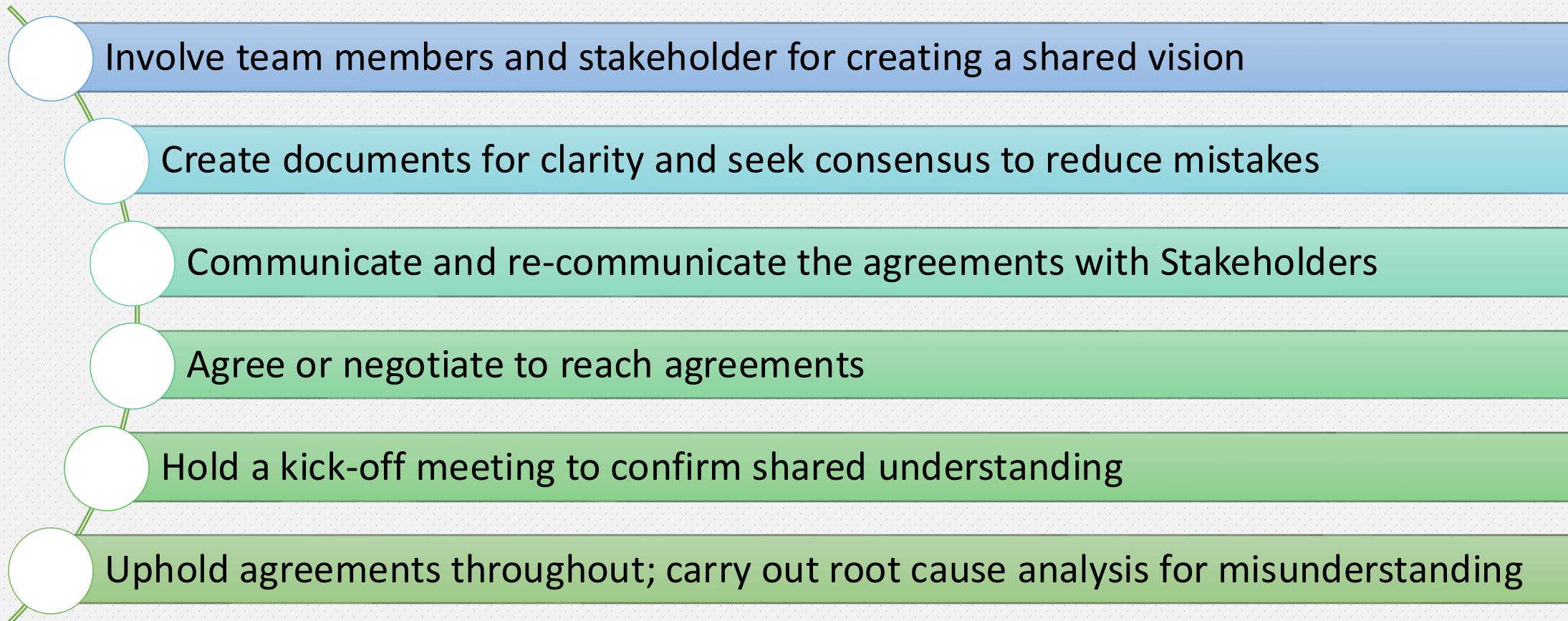
Guidelines for building a Team

- 
- Create a culture where team members are willing to experiment, seek help, and fail fast
 - Understand the stage of team development and bring them quickly to performing stage
 - Avoid single point of failure; create a back-up for every skillset required for the project
 - Hire people from different background and practice Diversity, Equity, and Inclusion
 - Hire generalizing specialists (T-type) or train people to add to their skillsets

Guidelines for Supporting virtual team



Guidelines for Building Shared understanding

- 
- Involve team members and stakeholder for creating a shared vision
 - Create documents for clarity and seek consensus to reduce mistakes
 - Communicate and re-communicate the agreements with Stakeholders
 - Agree or negotiate to reach agreements
 - Hold a kick-off meeting to confirm shared understanding
 - Uphold agreements throughout; carry out root cause analysis for misunderstanding

Guidelines for Negotiating Project agreements

- 
- Determine a negotiation strategy and plan before participating in a negotiation
 - Involve team members while preparing the strategy to explore best alternatives
 - Amicably resolve any conflicts that arise during negotiations
 - Look for win-win outcome and long-lasting solutions
 - Do not hesitate to negotiate with anyone for project benefits- sponsors, Customers...

Guidelines for Defining Team ground rules

- 
- Help the team develop ground rules for both internal and external stakeholders
 - Display the rules in highly visible area an review/update continuously
 - An easy and simple shortlist of fewer points is much better than a complex, but extensive one
 - Collaboration is the best way to handle ground rule violations- don't ignore
 - Involve a 3rd person or take a harsh decision only if it's justified, for e.g. repetitive or deliberate offenders

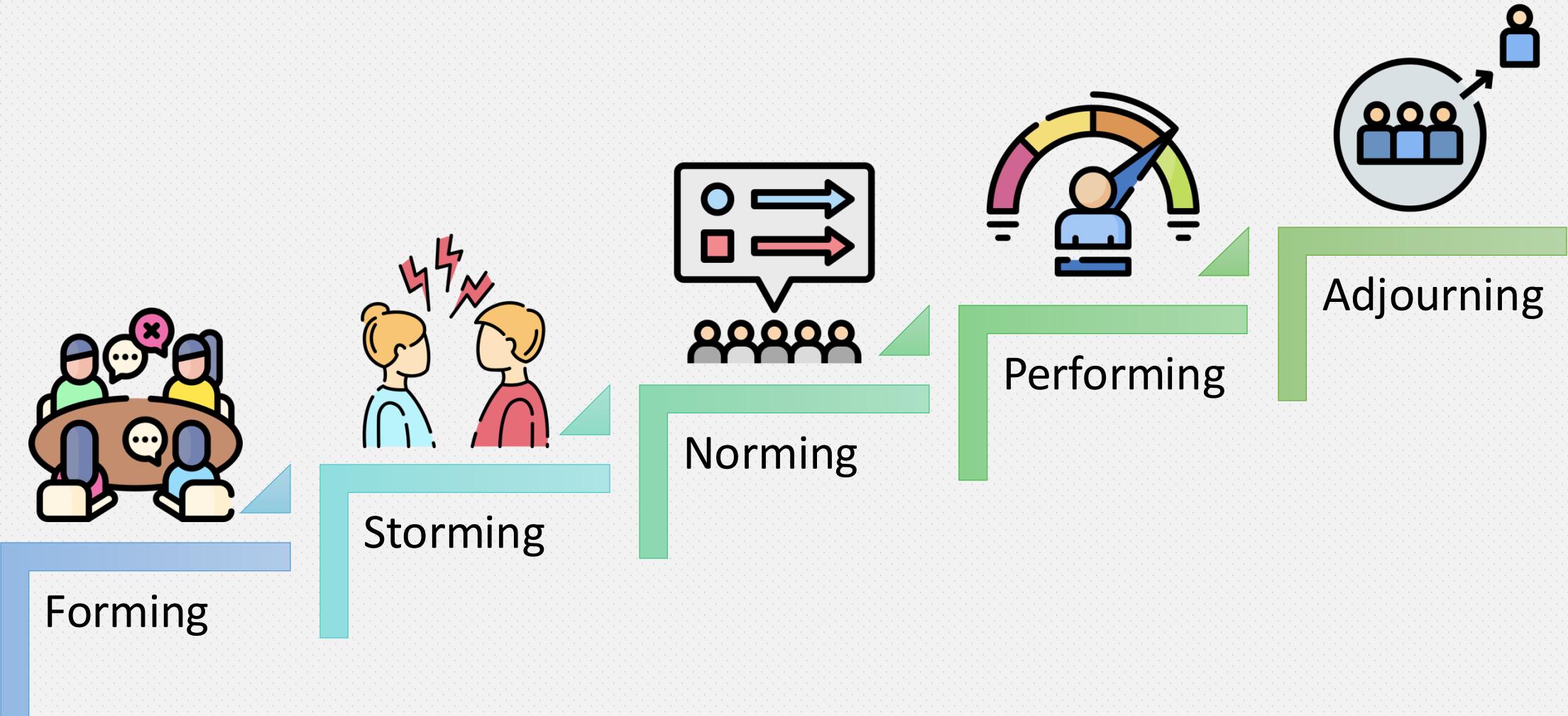
Guidelines for Empowering the team

- 
- Empower the team to take local decisions regularly
 - Provide team the opportunities to take decisions
 - Involve the team while taking project decisions: Participatory decision making
 - Help the team in solving problems collaboratively as a cohesive unit
 - Create an environment in which team is willing to experiment

Guidelines for Ensuring training for team members

- 
- 1 Create an environment in which team members are willing to learn
 - 2 Discuss with the team regularly about what they want
 - 3 Training existing team members is better than hiring new one
 - 4 Add training expense to project budget if it done for project specific skills
 - 5 Request to add to organization's L&D budget, if the training is for broader skillsets

Tuckman's ladder of team development



Virtual team vs Co-located team

Feature	Virtual Teams	Co-located Teams
Location	Geographically dispersed locations: home or remote offices.	Same physical location: office or shared workspace.
Communication	Rely on digital tools: video conferencing, IMs, and email. Requires planning.	Frequent spontaneous + structured interactions
Team Building and Culture	Building rapport and team spirit can be challenging.	Strong bonding fostered through face-to-face interactions.
Work-Life Balance	Offers greater flexibility and work-life balance.	Less flexible arrangements, but clearer separation between work & personal life.
Management Challenges	Requires strong communication, clear expectations	Easier due to direct oversight and closer communication channels.
Costs	Potentially lower overhead costs due to reduced office space requirements.	Higher expenses associated with office leases and equipment.

Team charter

A team charter is a formal document that outlines the purpose, objectives, roles, responsibilities, and guidelines for a project team.

Team Charter contents:

Shared Values

Behaviour guidelines /ground rules

Communication guidelines

Decision Making

Performance expectations

Conflict resolution measures

Meeting time, frequency, channels

Shared hours, improvement actions

Key points for ground rules

Ground rules are clear agreements on how team members will treat each other and behave as part of the team

Decided by team >> Accepted by team >>
Followed by team

Why ground rules?

- As a guide to know which behavior is acceptable
- Set basic behavior norms
- Clear expectations and fewer misunderstandings

Why team should be empowered?

- To tap the potential of diversity
- Team members (technical experts) will provide practical solutions
- Team would feel significant and stay motivated throughout
- Helps in growth of team members – Autonomy & Mastery
- Willing to go extra miles to take right decisions
- Better than pushing/enforcing- to which team might not agree 100%

Training

Training is teaching, or developing in oneself or others, any skills and knowledge that relate to specific useful competencies.

Training: A structured way of transferring knowledge

Coaching: Guidance provided to achieve certain goals

Mentoring: Guidance, advice, and support provided through a long-term association for career development

Why Training?

- To help team members work independently
- Improves Performance
- Preventive action for people related risks
- Keeps the team motivated
- Helps in spreading out skills and collectively build more knowledgeable teams (Cross training)

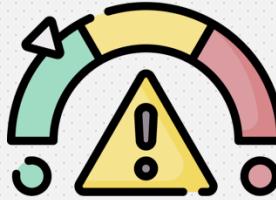


Planning in projects

Planning

The processes that establish the total scope of the effort, refine the objectives, and develop the course of action required to attain those objectives.

Why planning?



To reduce risks



To build confidence



To take better decisions



To convey information

Predictive & Adaptive considerations for planning

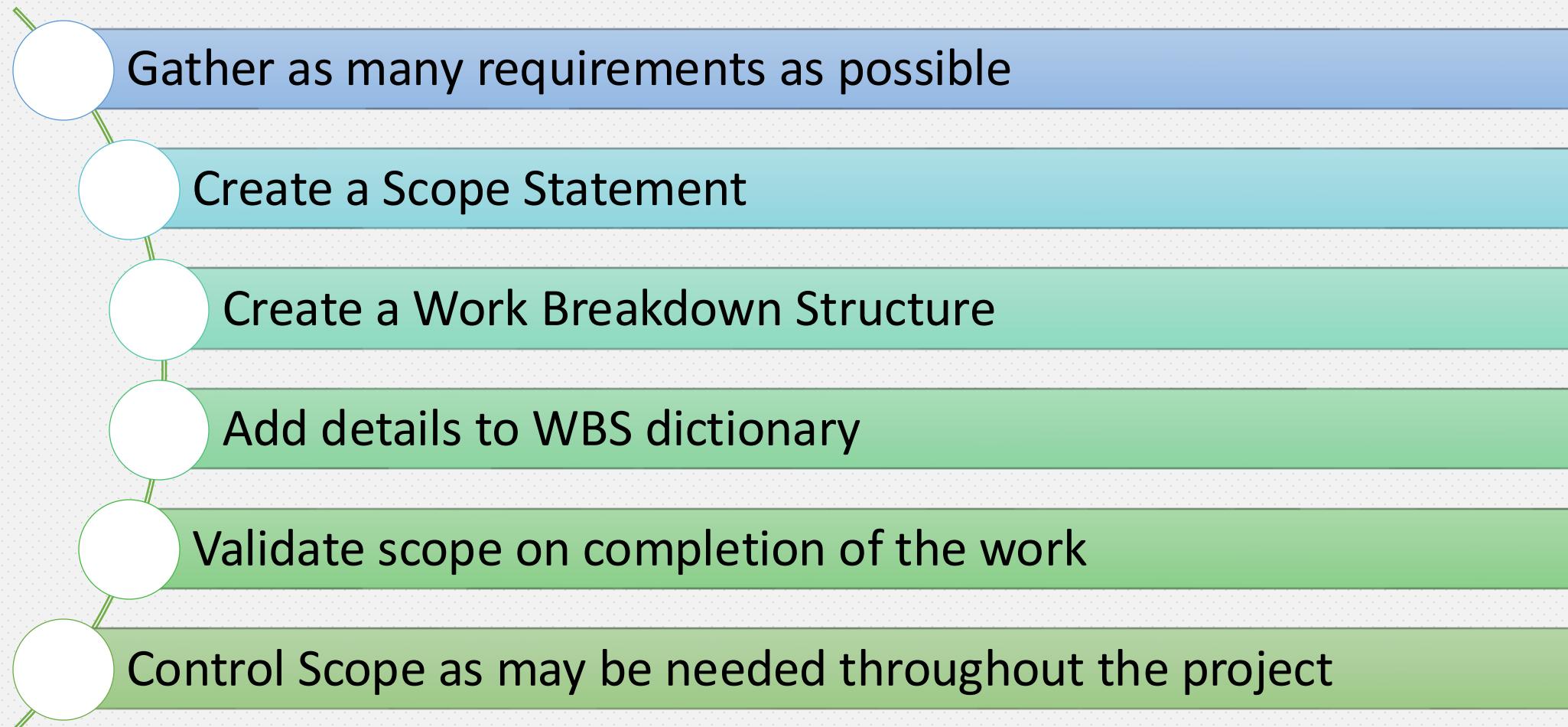
Aspects	Predictive	Adaptive
Outputs/Outcome	Delivered at the end	Delivered incrementally
Changes	Constrained	Incorporated in real time
Stakeholder involvement	At specific milestones	Continuously
Risk and cost controls	Through detailed planning	Done as required

Guidelines for Planning

- 
- Engage team members and Stakeholders
 - Embrace diverse perspective
 - Encourage open dialogue and actively listen to your team
 - Clearly communicate the plan with stakeholders
 - Focus on empowering the team over micromanagement
 - Utilize collaboration tools effectively

Managing Scope (Traditional)

Managing Scope in Traditional projects



Project Requirements

Specific conditions, capabilities, features, and constraints that must be met by a project deliverable or outcome.



Type of Requirements

Collect requirements/Data Gathering techniques



Benchmarking



Document Analysis



Checklist



Interviews



Surveys &
Questionnaire



Brainstorming



Focus group

Project Scope Statement

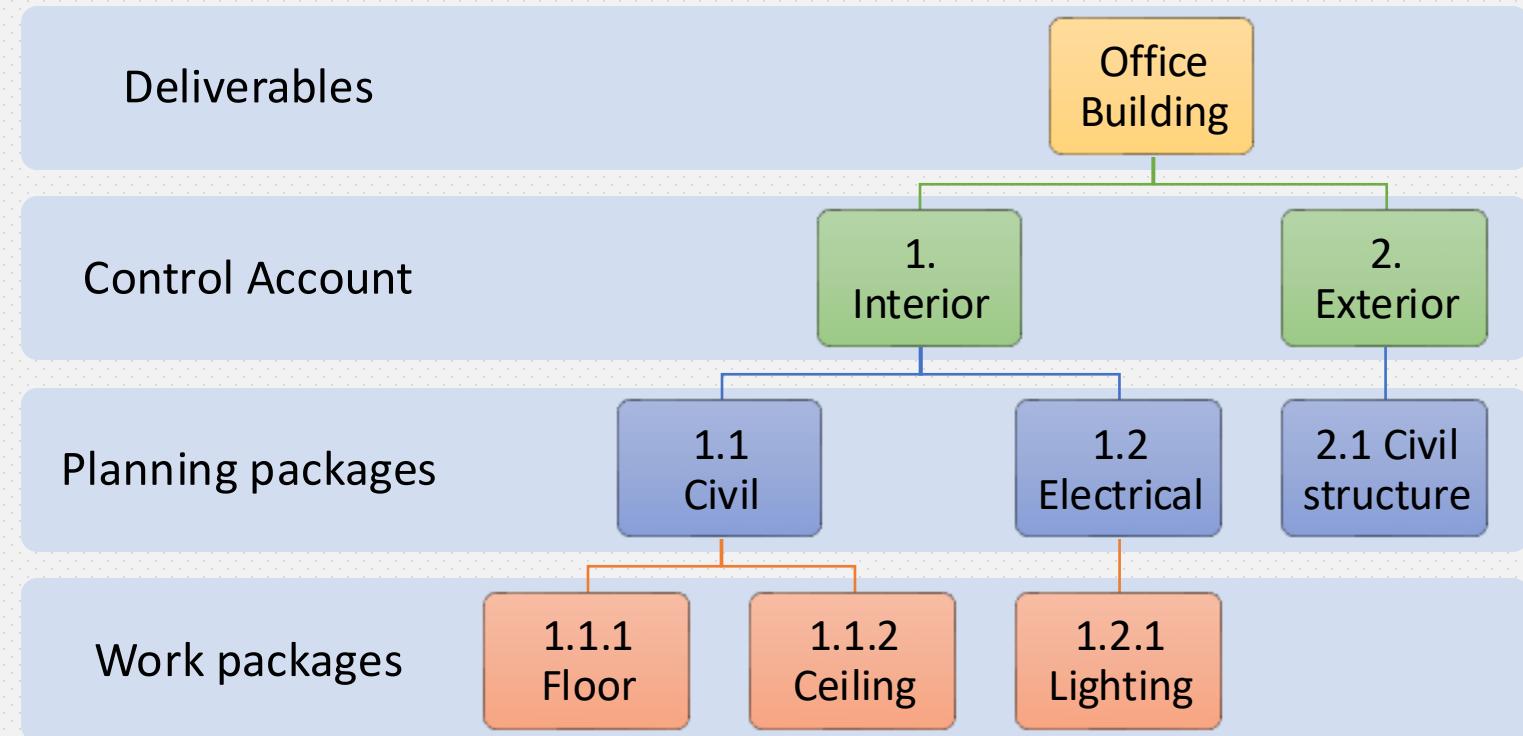
*also known as **scope document***

A formal document that outlines the objectives, deliverables, boundaries, and constraints of a project. It provides a clear and concise description of what is included and excluded from the project scope, establishing a shared understanding among stakeholders.

Project Scope Statement Example			
Project Name	IVR Project		
Project Sponsor	Dave Sponsor	Project Manager	Alice Michaels
Date of Project Approval	08 March 2015	Last Revision Date	08 March 2015
Scope Description	<p>IN SCOPE:</p> <ul style="list-style-type: none">- An IVR system to handle and direct sales calls.- Setup of the IVR system ready to handle all sales enquiries- Training for the sales team on how to use the system- An administration system so the IVR system can be configured by the sales team <p>OUT OF SCOPE:</p> <ul style="list-style-type: none">- Support for any other team other than sales- The ability to route complex sales enquiries, such as partnerships etc.		
Project Deliverables	<ul style="list-style-type: none">- A customer facing IVR system- An IVR configuration system- A training manual for new and existing sales team members		
Acceptance Criteria	The project will be accepted when it is agreed by the sale team that the deliverables meet their needs (deliverables signed off). The project will also be considered a success if post launch testing shows that customer satisfaction is over 5 points higher than where it is now.		
Constraints	The sales team are not dedicated to this project, and must fit this around their day-to-day sales jobs.		
Assumptions	A sales team & full project team will be available to co-create the WBS		

Work Breakdown Structure (WBS)

A Work Breakdown Structure (WBS) is a hierarchical decomposition of the project's deliverables into smaller, more manageable components.



WBS Components

- **Code of accounts:** Number given to every WBS item
- **Deliverables** are the final outcomes or results of the project
- **Control accounts** represent major segments of work used for management control and monitoring
- **Planning packages** provide a more detailed breakdown of work within a control account, helpful in estimating schedule & resources.
- **Work packages** are the smallest units of work that can be assigned and executed

WBS dictionary

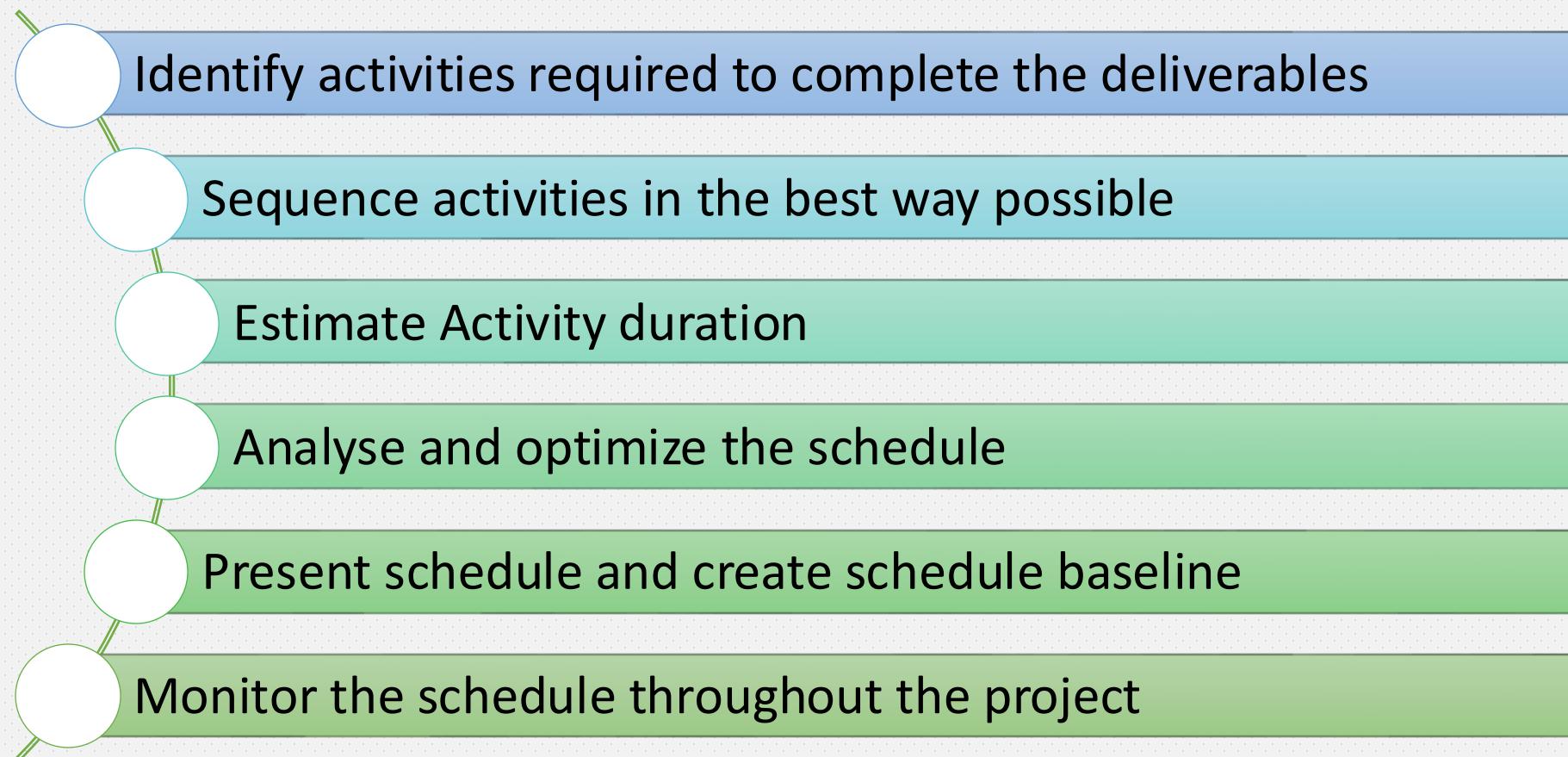
A Work Breakdown Structure (WBS) Dictionary is a supporting document that provides detailed information about each component or element within the WBS.

Work Breakdown Structure (WBS) Dictionary	
Work Package ID	1.1.2
Work Package Name	System Requirements Document
Responsible Organization/Individual	System Analyst, Tier 1 Engineering Team
Work Package Description/Statement of Work	System requirements document will detail the project requirements from technical perspective
Acceptance Criteria	Signoff from key stakeholders and responsible departments
Deliverables	SR Doc
Duration	4 weeks
Cost	2 FTP
Due Date	6/29
Dependencies	Business Requirements Document
Approvers	Project Sponsor, BA, Project Manager, <u>Engg Lead</u> , Test Lead

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Managing Schedule (Traditional)

Managing Schedule in Traditional projects



Activity Dependencies



Mandatory

Two activities may have mandatory dependencies either technical or because of contract/stakeholders requirements



Discretionary

Two activities may have discretionary dependency that can be adjusted based on project conditions.

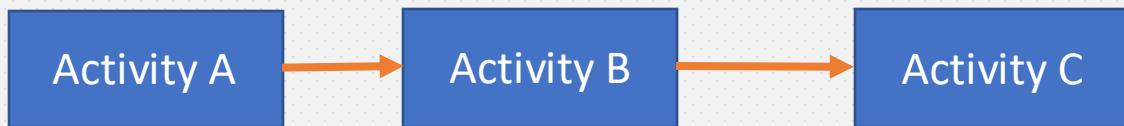


External



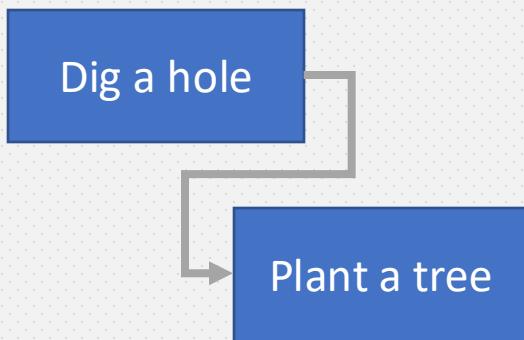
Internal

Precedence Relationship (Logical relationships)

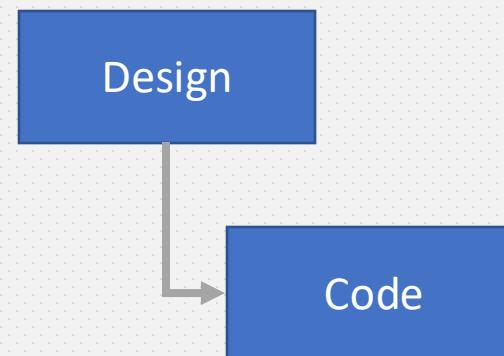


Understanding the logical relationship helps in understanding sequence of activities and planning the best sequence.

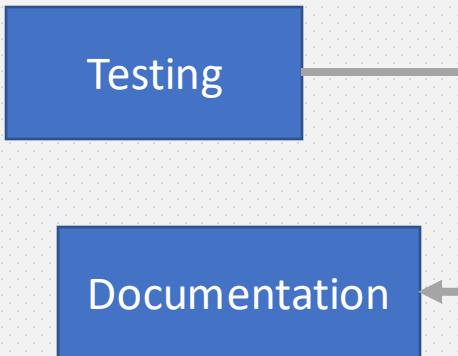
Finish to start



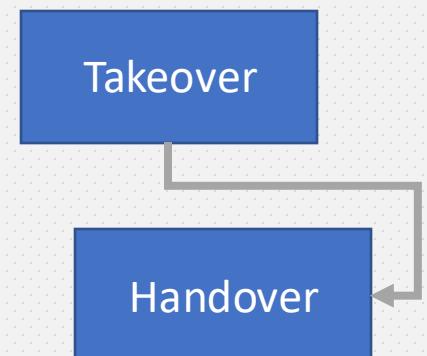
Start- to start



Finish to Finish



Start to Finish

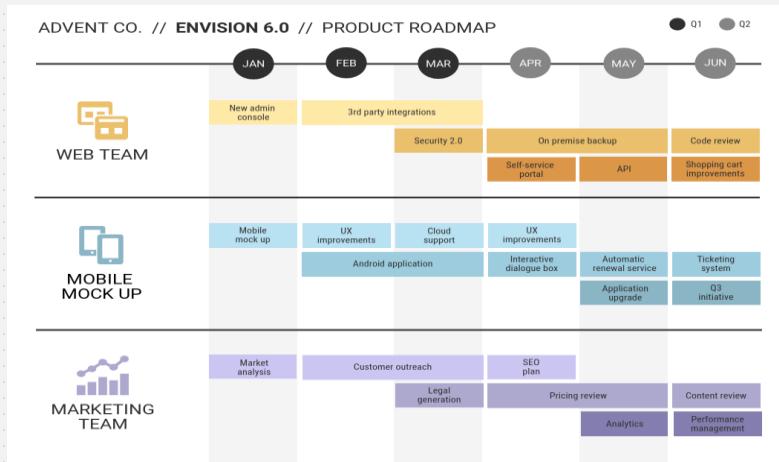


Estimating Techniques

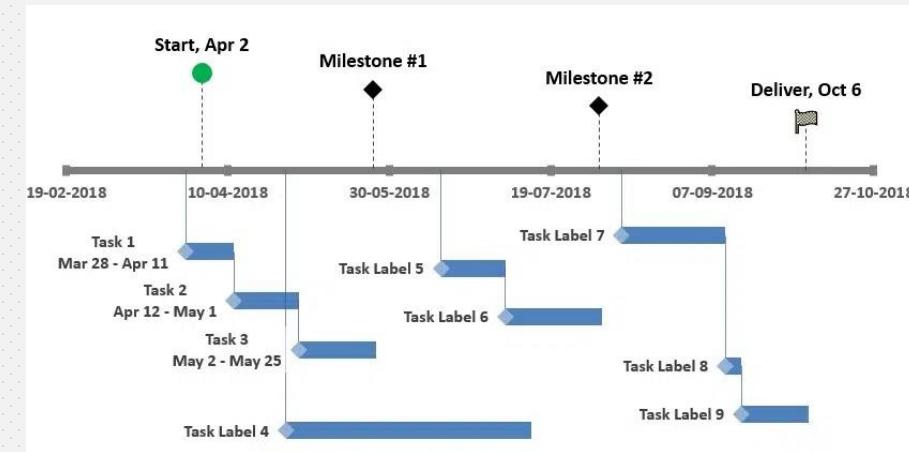
- **Analogous Estimating**- Using previous project reference to estimate Similar activities
- **Parametric Estimating**- Historical data + some formula
- **3 –point estimating**- Approx. range of estimates through Pessimist, Most-likely, Optimist
 - Triangular estimate: Simple Average $(P+M+O)/3$
 - Beta estimates: Weighted Average $(P+4M+O)/6$
- **Bottom-up estimate**: Add up estimate of work packages for a total

Schedule Presentation

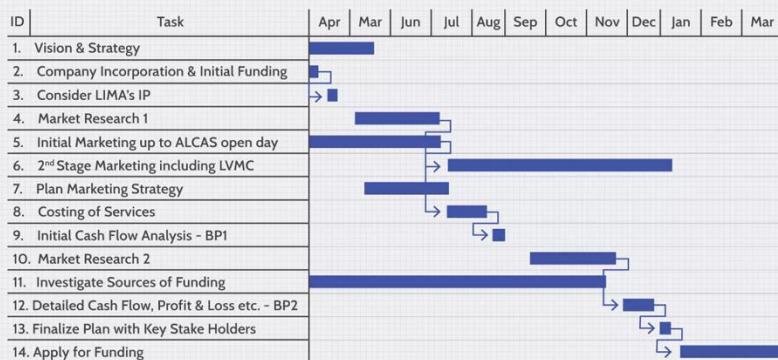
RoadMap



Milestone chart

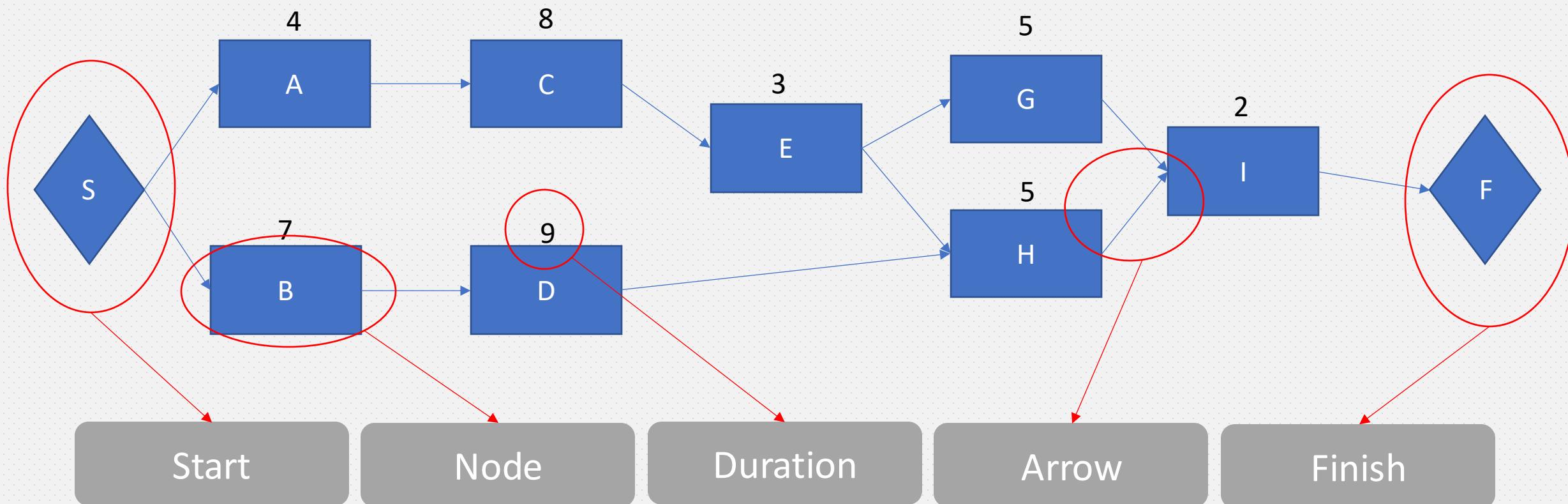


Gantt chart



Schedule can be represented in any of these formats as per convenience of team and stakeholders.

Schedule Network diagram



Schedule Network Analysis

Critical Path method

Identifying the Longest duration path

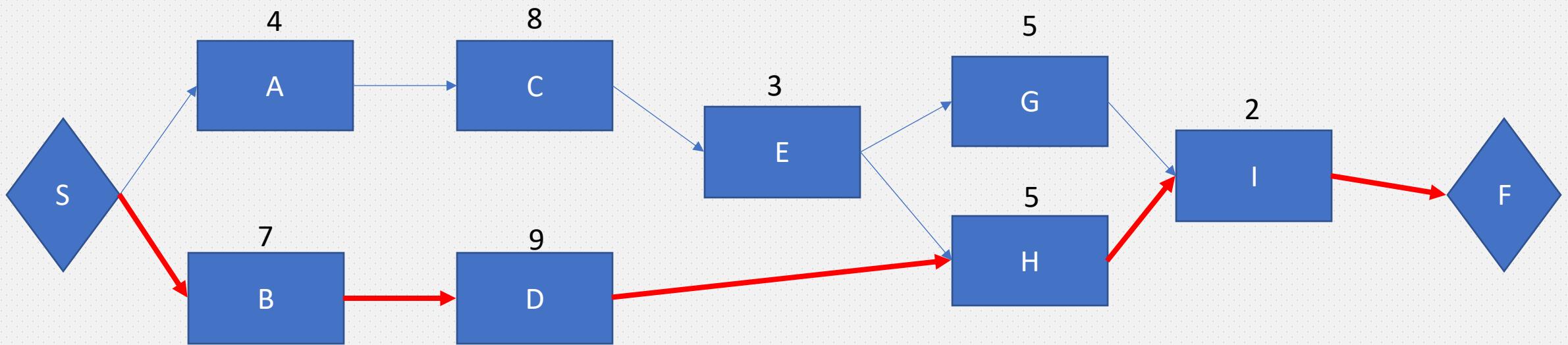
Resource Optimization

Finding ways to adjust the use of resources

Schedule compression

Adjusting the network diagram to fast-track

Critical Path



Resource Optimization

Resource levelling

Lengthening the schedule to adjust for the limited number of resources or resources availability

More stable number of resources will be used in project

Resource Smoothing

Levelling of resources only within the limit of Float.

Completion date of activities are not delayed

Schedule Compression



Trying to find out a way to do activities in parallel instead of sequentially

Increased Risk



Adding or adjusting resources in order to compress the schedule

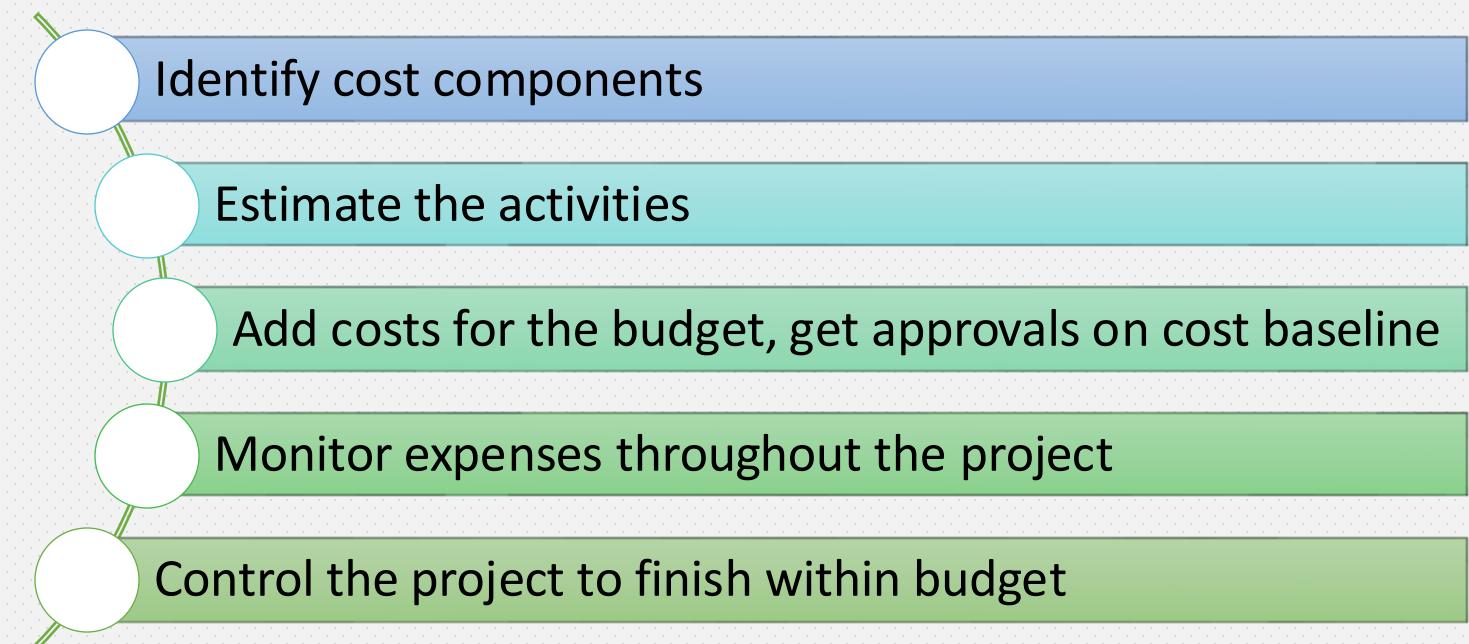
Increased cost

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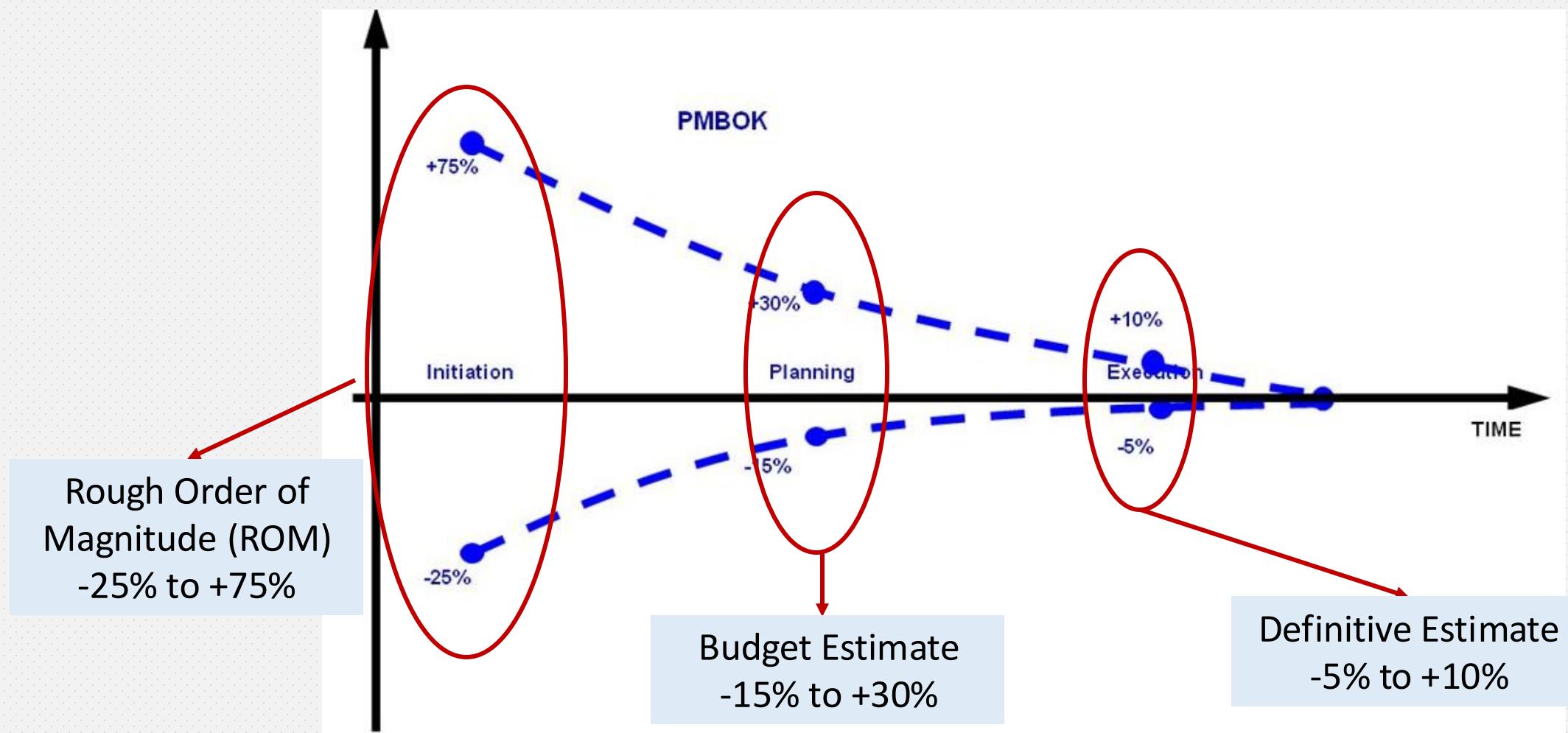
Managing Cost (Traditional)

Managing cost in Traditional project

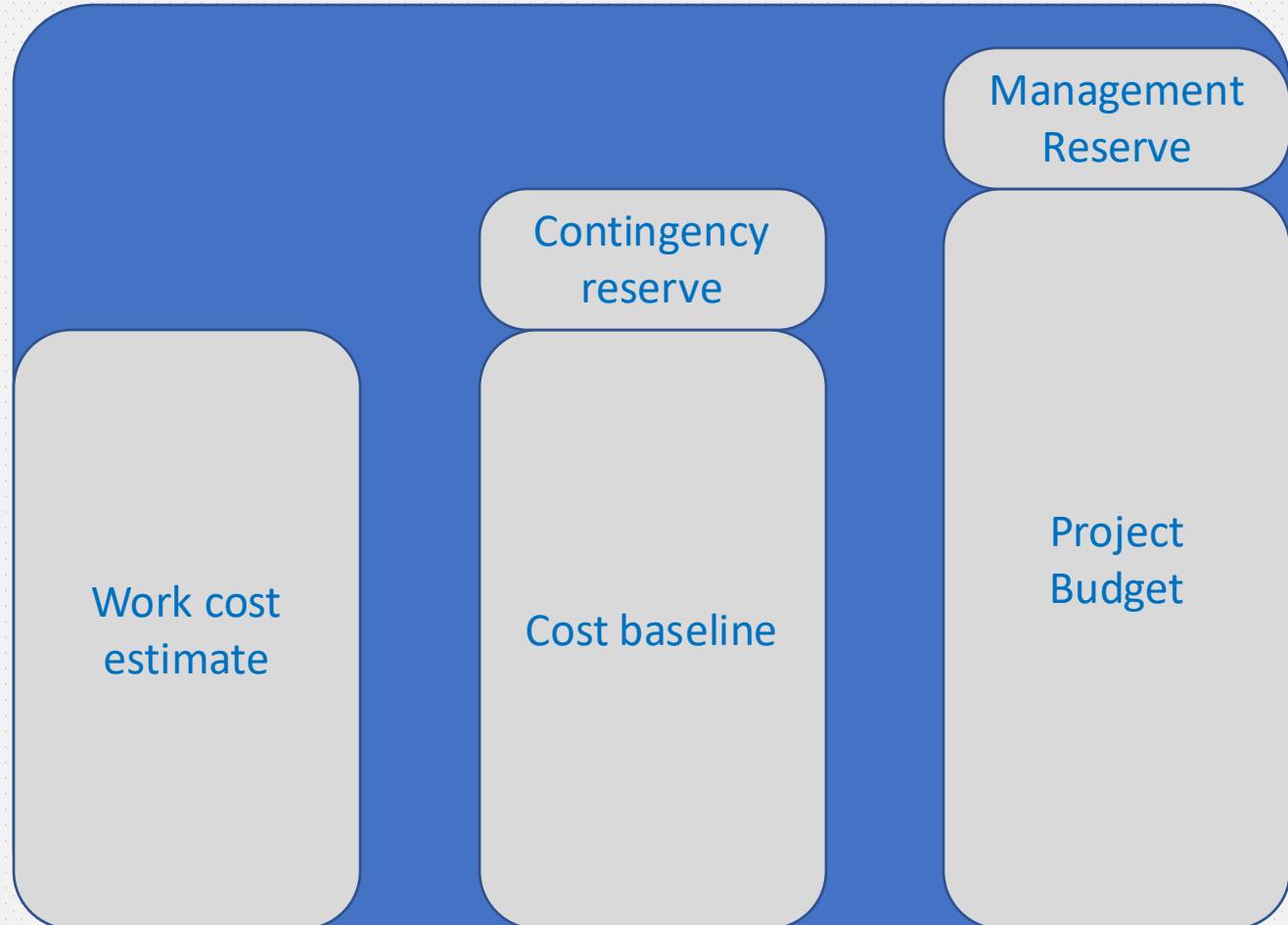
Project cost refers to the total financial investment required to complete a project. It includes all the expenses associated with executing the project, including resources, materials, labor, equipment, and any other direct or indirect costs incurred throughout the project's lifecycle.



Estimation ranges



Budget Build up

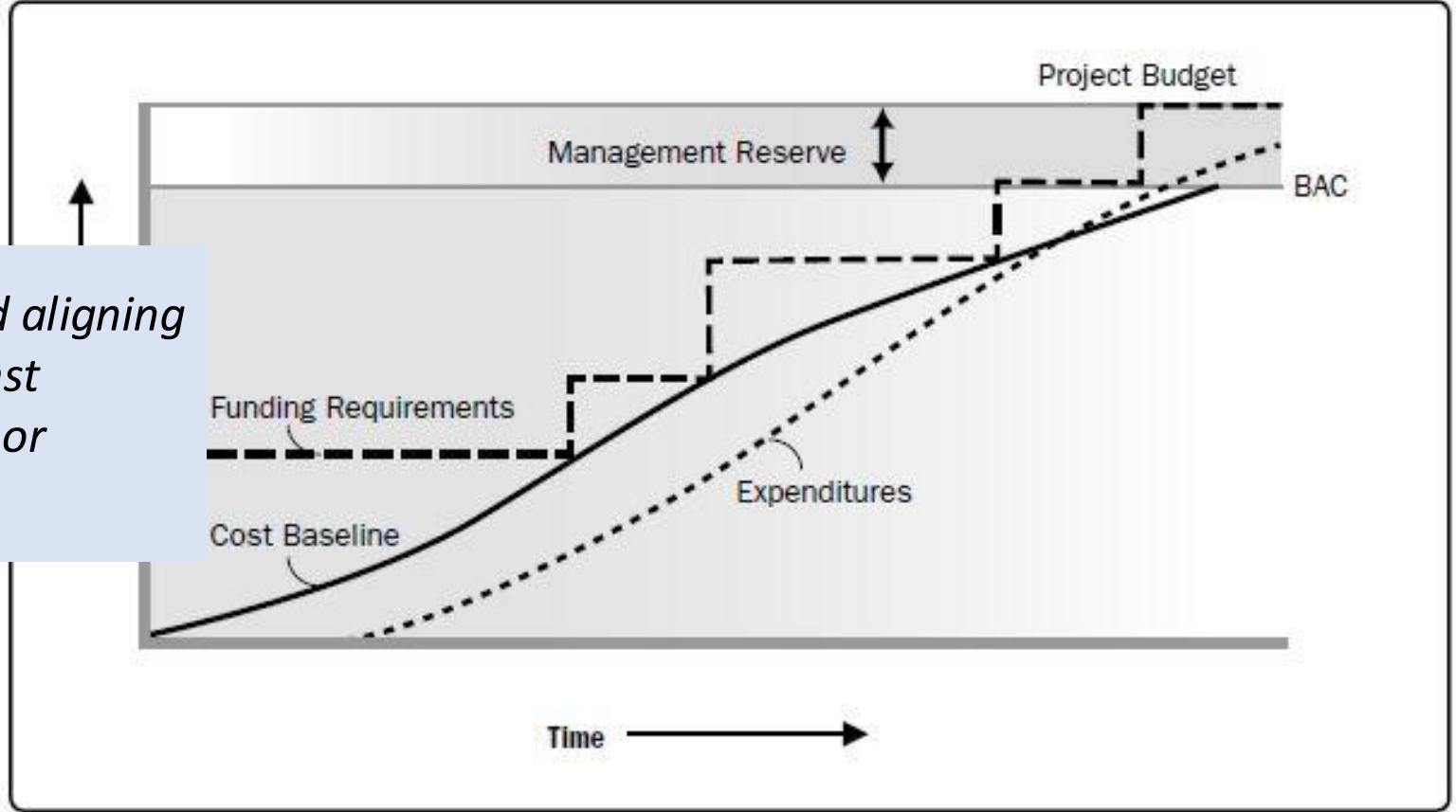


Management reserves are the amount beyond budget. Considered for any unanticipated mistakes that might happen in the project.

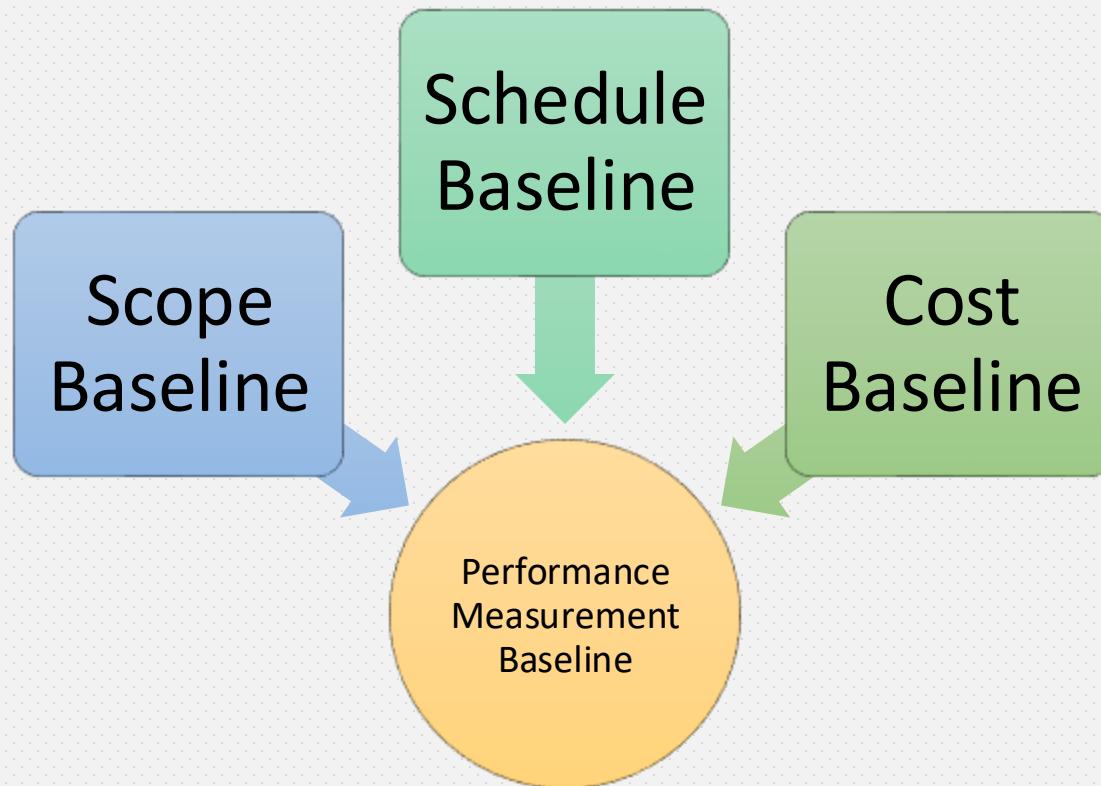
Contingency reserves are the amount within the project budget, determined by project managers for specific purposes- low priority risks or uncontrollable risks.

Funding Limit Reconciliation

The process of comparing and aligning the actual expenditures against predetermined funding limits or budgets set for a project.



Performance Measurement Baselines



All three baselines put together form a performance measurement baselines.

The performance in the project will be measured based on these reference.

Any changes to the baseline must go through change control process.

As the scope is not well defined or fixed in Agile projects, baselines are created only in traditional or hybrid approach projects.



Agile ways of working

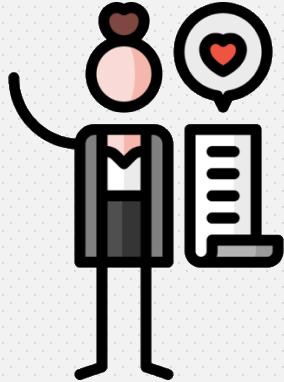
Agile approach

Agile approach of project management is an iterative and flexible approach in a VUCA environment that emphasizes teamwork, collaboration, and customer satisfaction through the continuous delivery of small, incremental deliverables.

Agile Mindset



**Defined
by
Values**



**Guided
by
Principles**



**Developed
With
practice**

Agile Values

We are uncovering better ways of developing software by doing it and helping others do it.

Through this work we have come to value:

- Individuals and interactions** over processes and tools
- Working software** over comprehensive documentation
- Customer collaboration** over contract negotiation
- Responding to change** over following a plan

That is, while there is value in the items on the right, we value the items on the left more.

Kent Beck
Mike Beedle
Arie van Bennekum
Alistair Cockburn
Ward Cunningham
Martin Fowler

James Grenning
Jim Highsmith
Andrew Hunt
Ron Jeffries
Jon Kern
Brian Marick

Robert C. Martin
Steve Mellor
Ken Schwaber
Jeff Sutherland
Dave Thomas

Principles of Agile

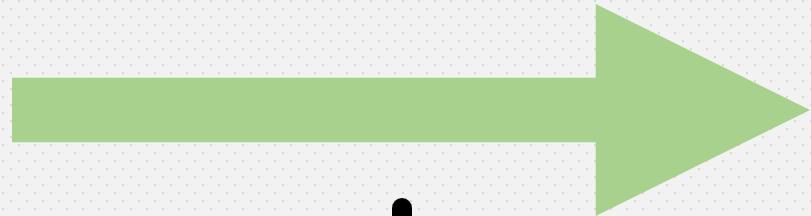
1. Our highest priority is to satisfy the customer through **early and continuous delivery** of valuable software
2. Welcome changing requirements even late in development.
Agile processes harness **change for the customer's competitive advantage**
3. Deliver working software frequently, from a couple of weeks to a couple of months, with **a preference to shorter time scale**
4. Business people and developers must **work together daily** throughout the project
5. Build projects around motivated individuals. Give them the environment and support they need, and **trust them to get the job done**
6. The most efficient and effective method of conveying information to and within a development team is **face-to-face conversation**

7. **Working software** is the primary measure of progress
8. Agile processes promote sustainable development. The sponsors, developers, and users should be able to **maintain a constant pace indefinitely**
9. Continuous attention to **technical excellence and good design** enhances agility
10. **Simplicity-** the art of maximizing the amount of work not done- is essential
11. The best architectures, requirements, & designs emerge from **self-organizing teams**
12. At regular intervals, **the team reflects on how to become more effective**, then tunes and adjusts their behavior accordingly

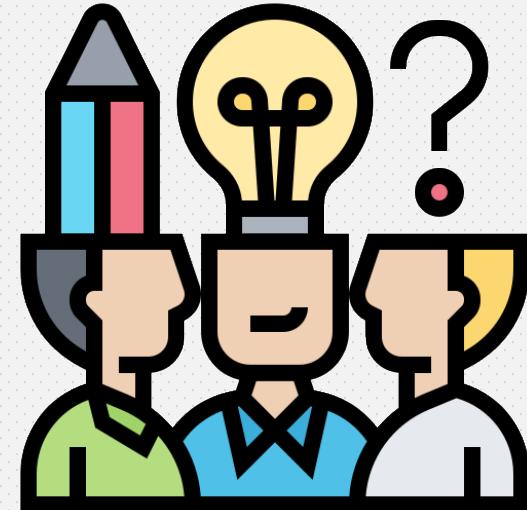
Roles in Agile



**Product
Owner**

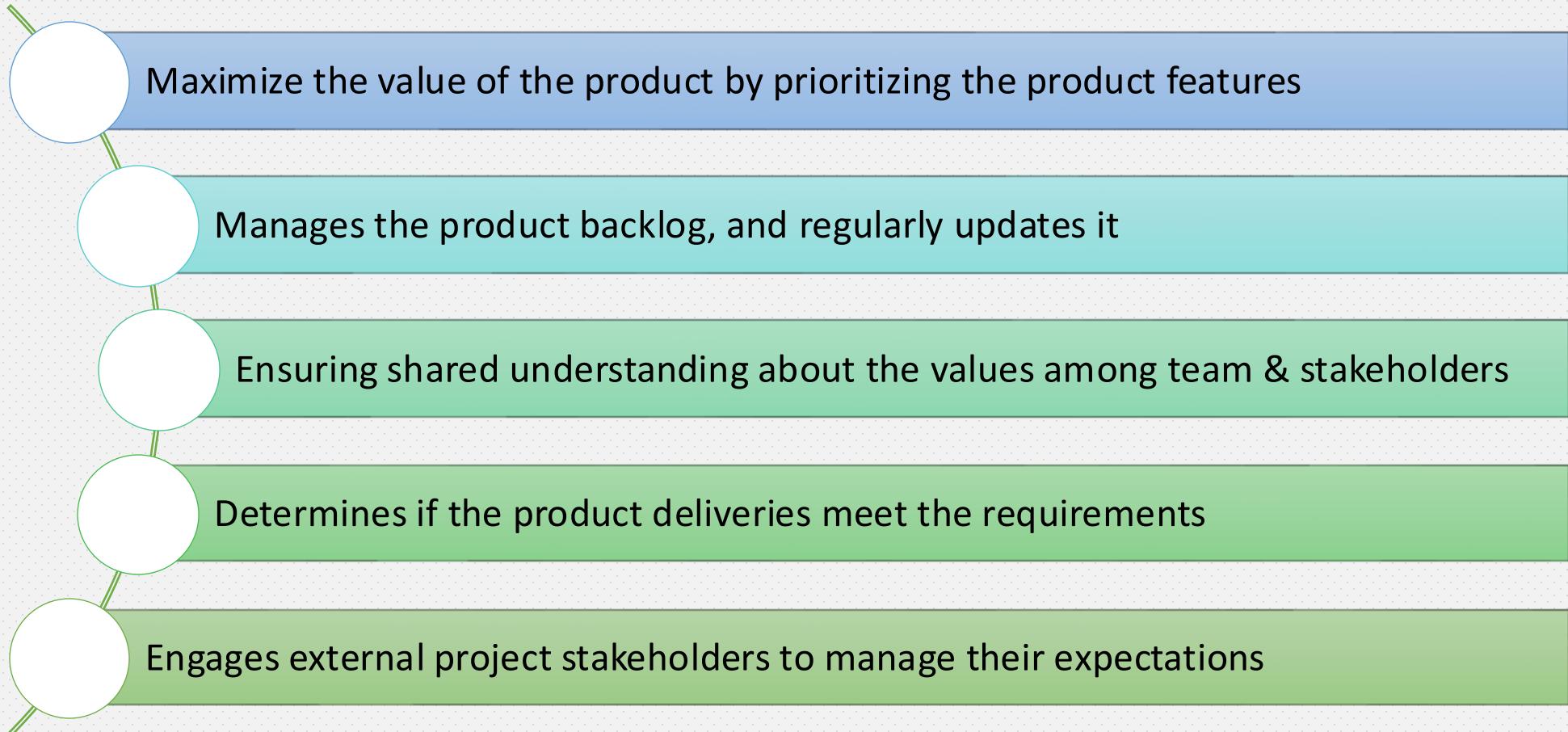


Facilitator

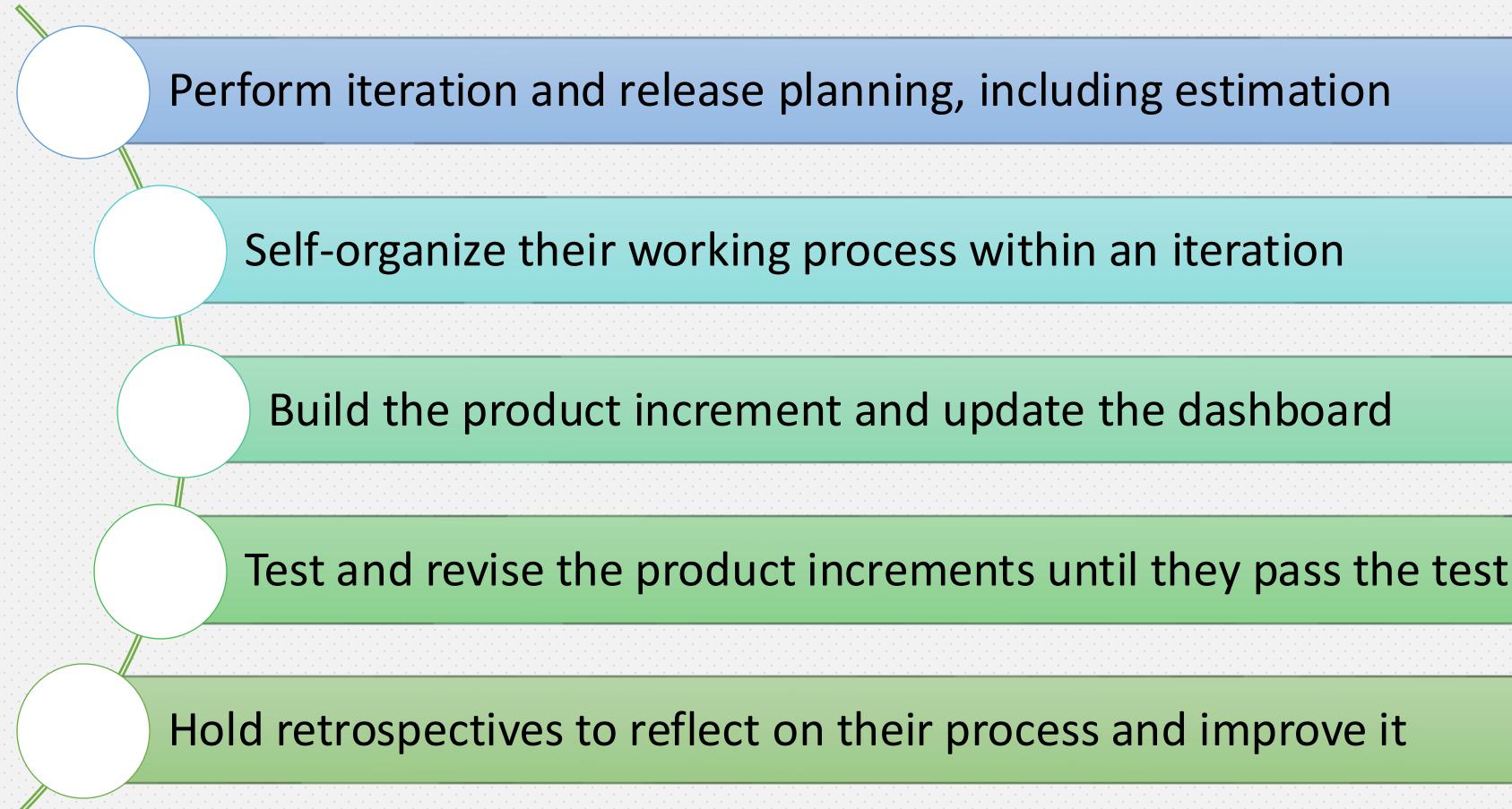
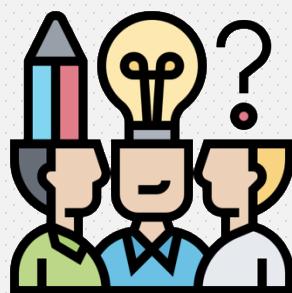


**Development
Team**

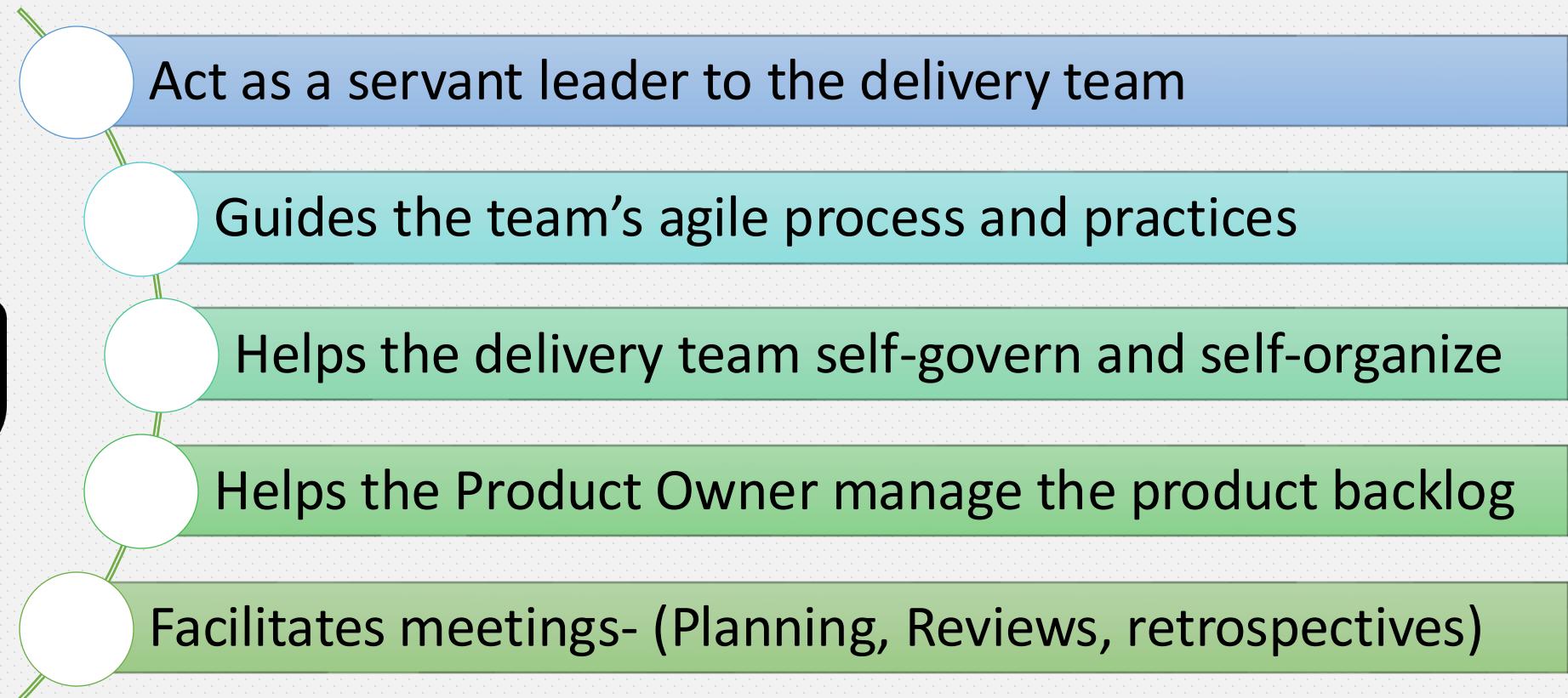
Product owner



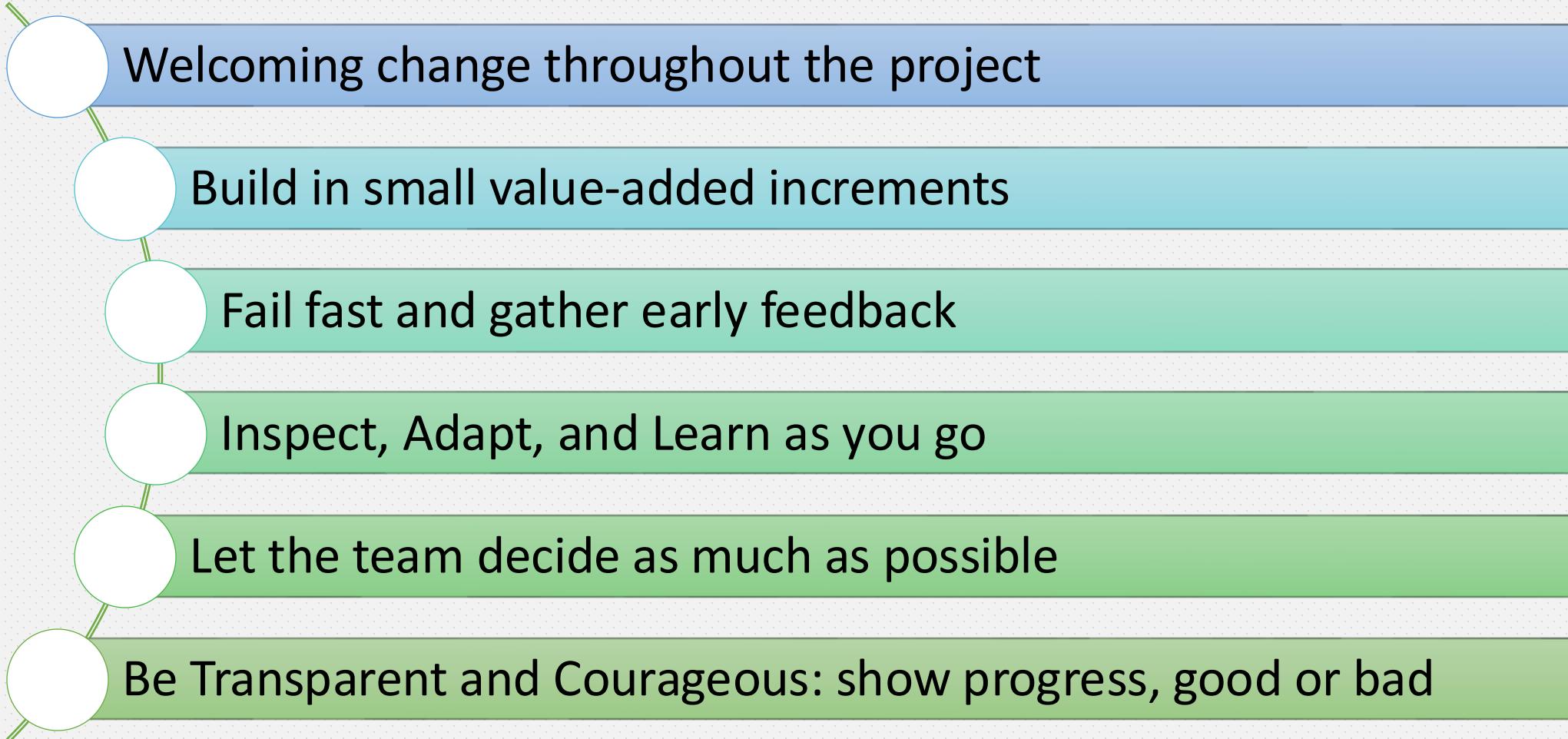
Development team



Facilitator



Agile Mindset



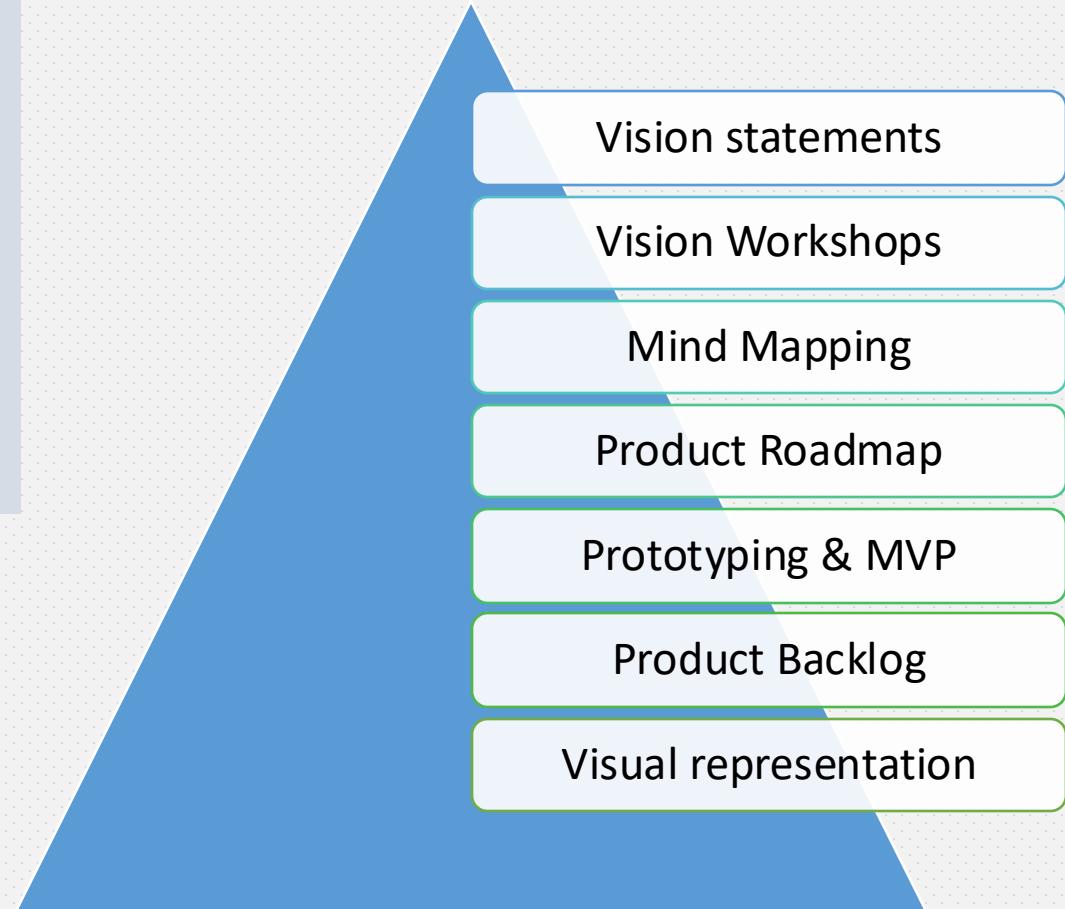
Managing Scope (Agile)

Managing Scope in Agile

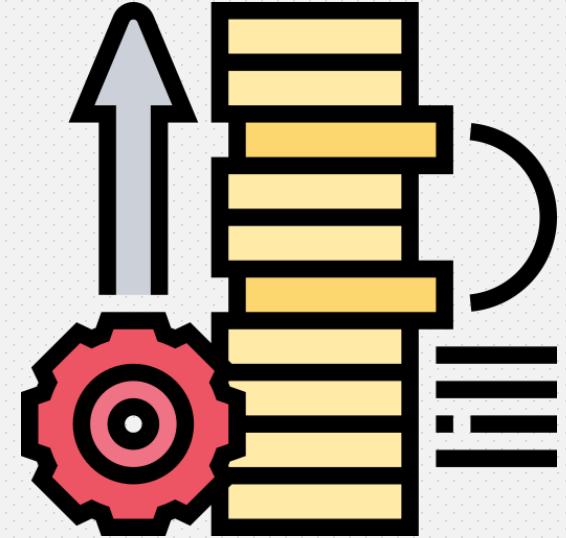
Team members deliberately spend less time trying to “define” the project scope.

*They meet regularly to **visualize the product** and refine their thinking about the product.*

Techniques to visualize scope >>>



Product Backlog



A prioritized list of requirements or features that are needed to be developed in order to achieve the product vision.

The product backlog typically includes user stories or user requirements that have been identified by the product owner and the development team.

User Story

- As a <*user*>, I want < *a functionality*>, so that <*a benefit*>
- As a *user*, I want *an option to save the products* so that *I can buy it later.*

User stories are measured in terms of collective effort by the team – called Story points

Estimating the efforts- Story Points

Unit of measurement used to estimate the effort required to complete a user story

Story points are a relative measure that helps teams assess the complexity, size, and effort of a particular work item compared to others.

Why Story Points?

Problems

People are not good at making absolute estimates

Lack of details of work to be done

Who will be doing it- not known

Different people working at different speed

Solution

People are better at making comparative estimates

Relative unit- **Story points**

Useful estimates at different stages of project

Allows the team to focus on work rather than “this would take me less time” kind of discussions

Product backlog example

User Story	Priority	Story points
As a customer, I want to be able to create an account and save my preferences, payment information, and order history, so that I can easily place orders in the future.	1	5
As a customer, I want to be able to search for products by keyword, category, and price range, and see relevant and personalized search results, so that I can find what I'm looking for	2	13
As a customer, I want to be able to browse and filter products by different attributes, such as size, color, brand, and rating, so that I can find products that meet my specific needs and preferences.	3	8
As a customer, I want to be able to see detailed product information, including photos, descriptions, specifications, and reviews, so that I can make informed purchase decisions.	4	3
As a customer, I want to be able to add products to my shopping cart and see the total price, including taxes, fees, and discounts, so that I can easily keep track of my purchases.	5	21



Managing Schedule (Agile)

Scheduling in Agile

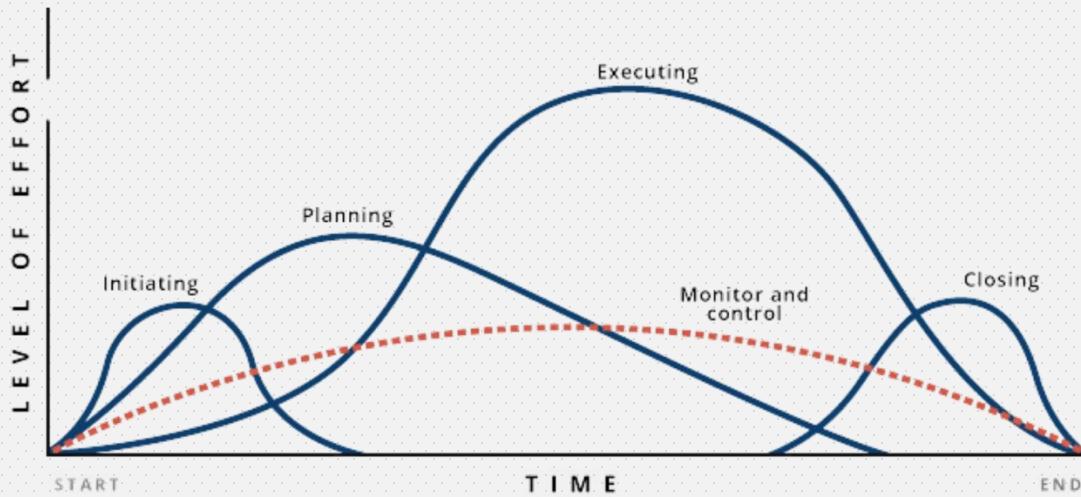
Iterative Scheduling

Progressive elaboration techniques to develop and schedule activities in a specified time window called Iterations

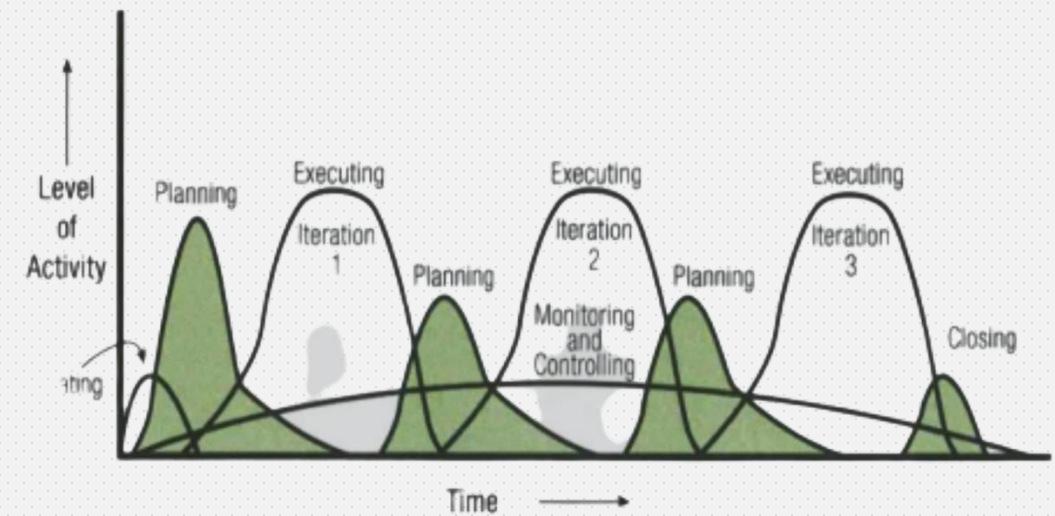
On-demand Scheduling

Pull the work from the queue as their availability allows and manage the flow

Predictive Scheduling

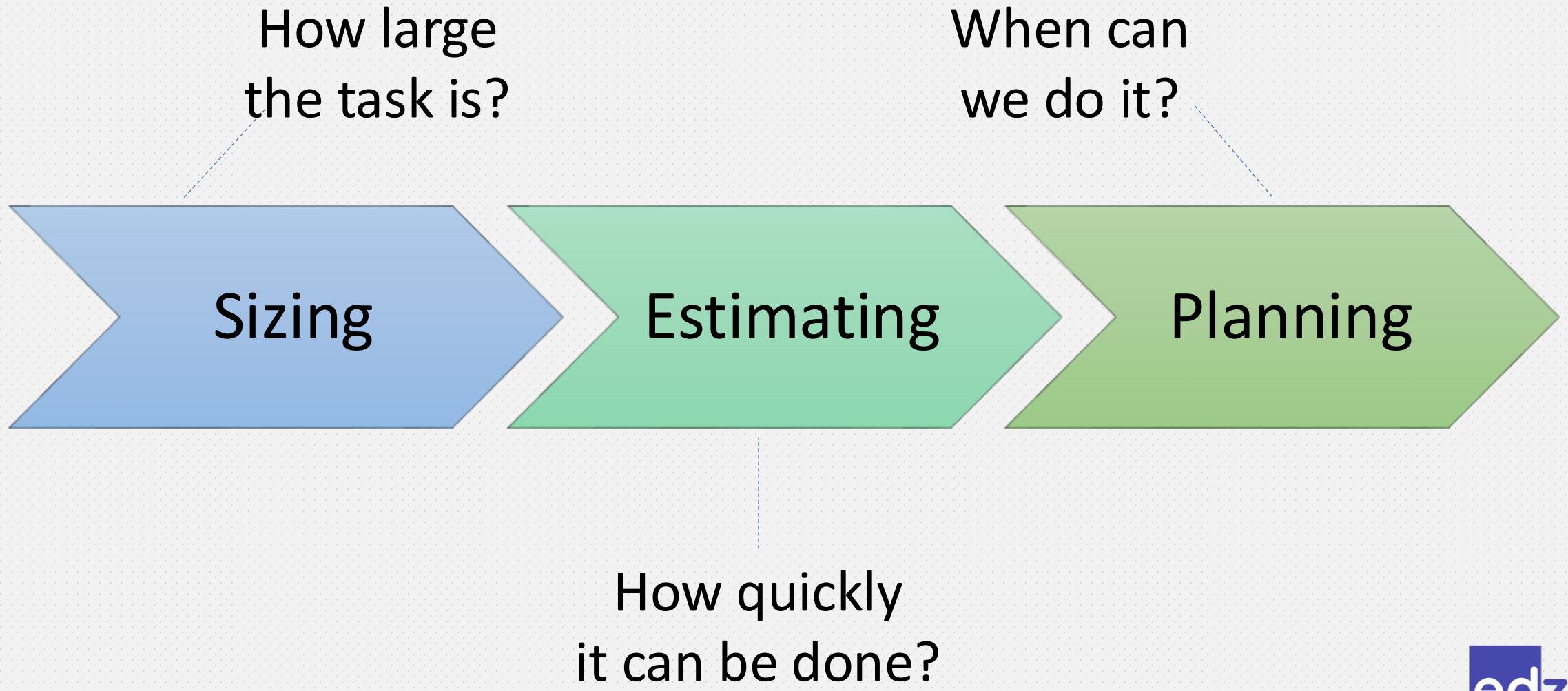


Iterative Scheduling

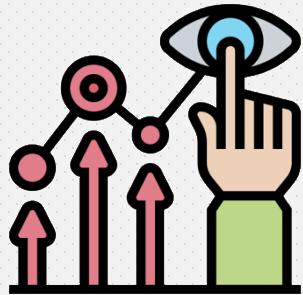


In Iterative Scheduling, the timeline of a project is divided into multiple cycles of timeboxed iterations.

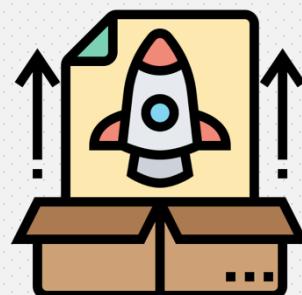
Progressive Elaboration (Planning at multiple levels)



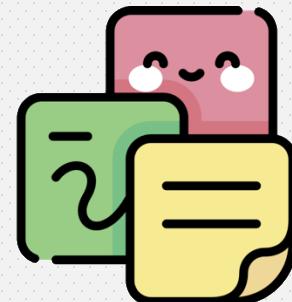
Multiple levels of planning



**Product
Vision/
Roadmap**



**Release
Planning**



**Iteration/
Sprint
Planning**



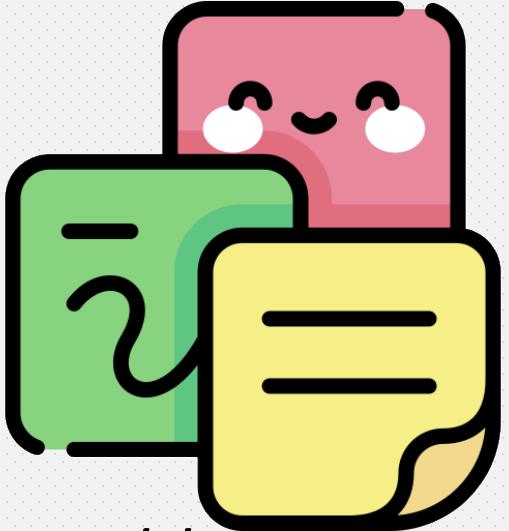
**Daily
Stand-up**

Iteration based Agile Scheduling

January	February	March	April	May	June	July	August	September	October	November	December
Product Vision/Roadmap											
Release 1			Release 2		Release 3			Release 4			
Iterations 1	Iterations 2	Iterations 3	Iterations 4	Iterations 5	Iterations 6	Iterations 7	Iterations 8	Iterations 9	Iterations 10	Iterations 11	Iterations 12
Daily meetings	Daily meetings	Daily meetings	Daily meetings	Daily meetings	Daily meetings	Daily meetings	Daily meetings	Daily meetings	Daily meetings	Daily meetings	Daily meetings

In Scrum, Iteration is called Sprint

Iteration/Sprint Planning



Iteration- a timeboxed period during which the development team works on a specific set of features or functionalities.

Iteration Planning- the process of planning and preparing for the work that will be done during an iteration in Agile project management.

Daily stand-up/Daily Scrum

A daily meeting held in Agile project management where the team members come together to discuss their progress and plan for the day ahead.



Questions discussed at daily standup

What did I do yesterday?

What am I planning to do today?

Any obstacles or blockers that are preventing me from making progress



Flow based agile scheduling

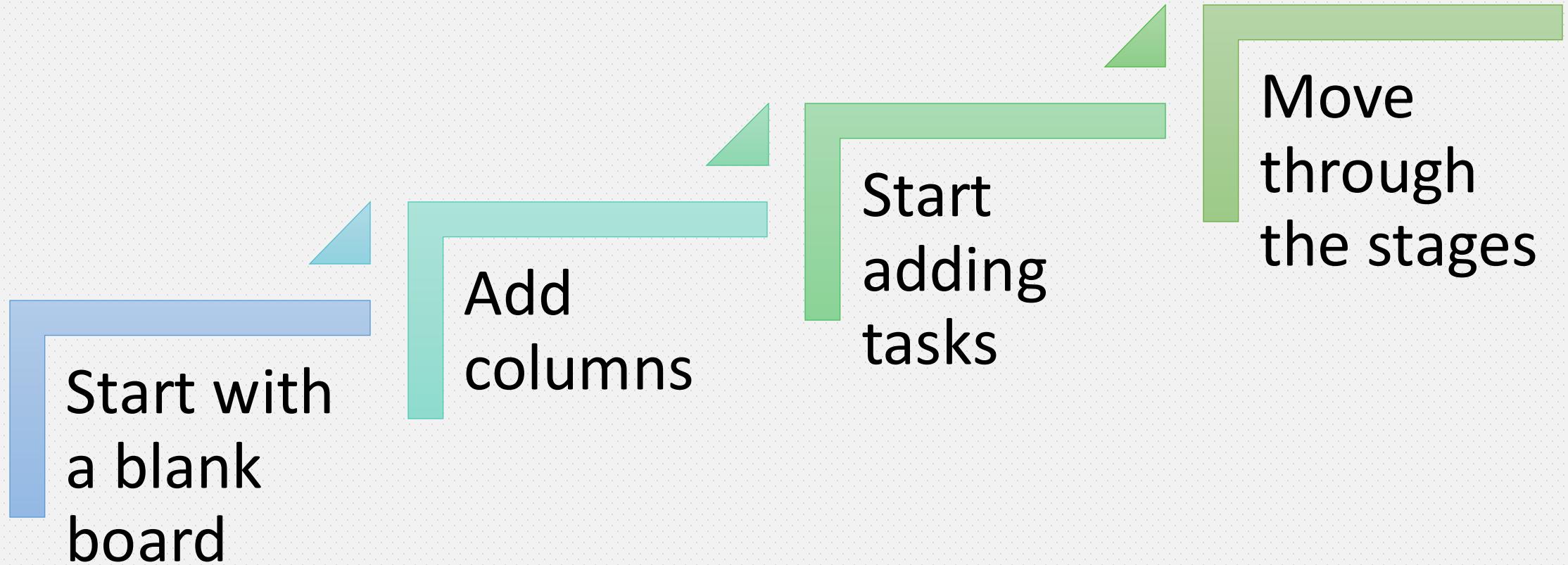
Kanban

A **visual management system and workflow methodology** that originated in Japan and has since been widely adopted in various industries around the world, particularly in the realm of project management and manufacturing.

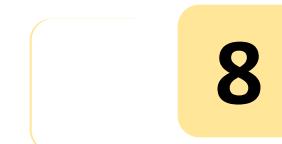
Kanban Practices



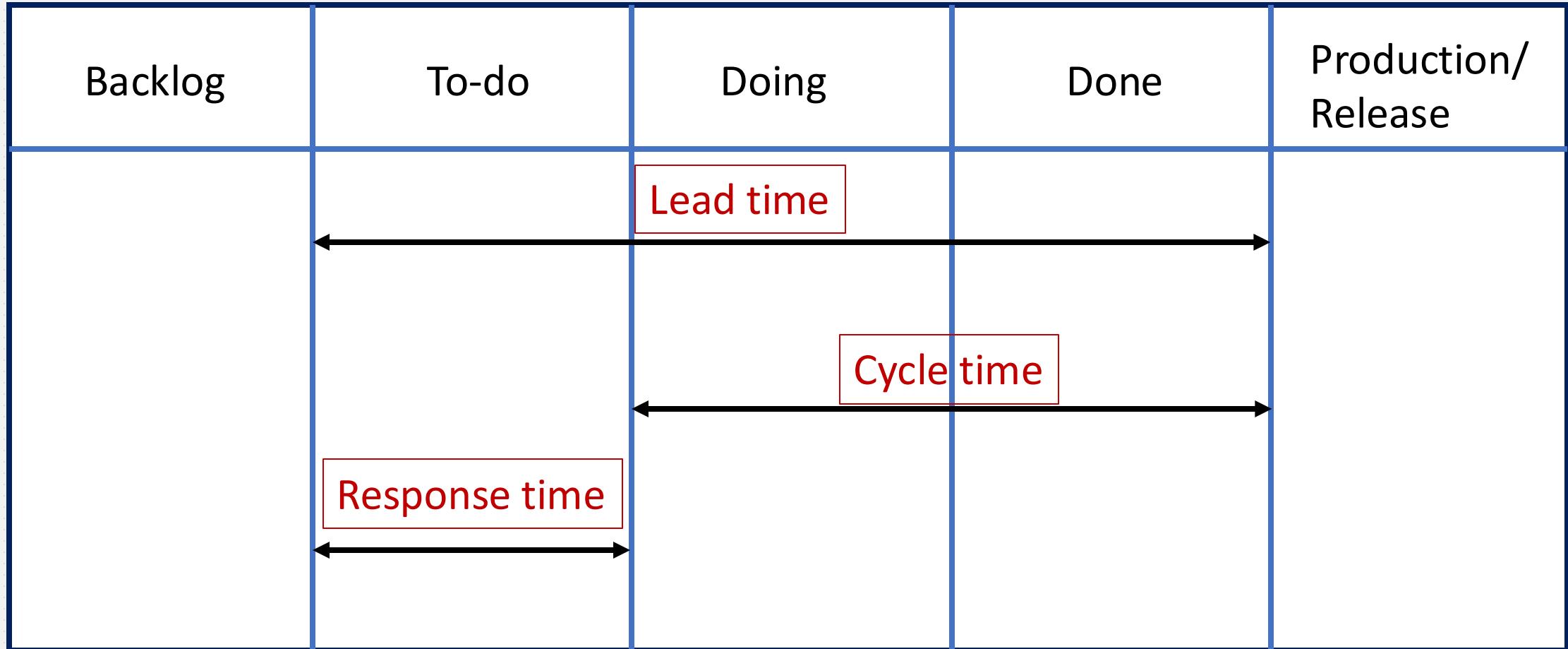
Applying Kanban



Move through the stages

Backlog	To-do	Doing	Done	Production/ Release
	3	2	2	
 10  8	6  7  9	 5  4	 3  2	 1

Measurements



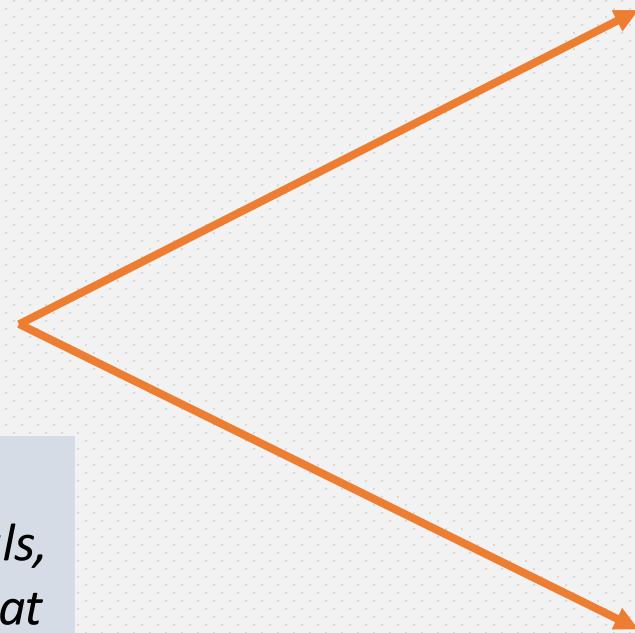
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Managing Resources

Resource Categories

Resources

Resources refer to the various assets, materials, personnel, and tools that are necessary for the successful execution of a project

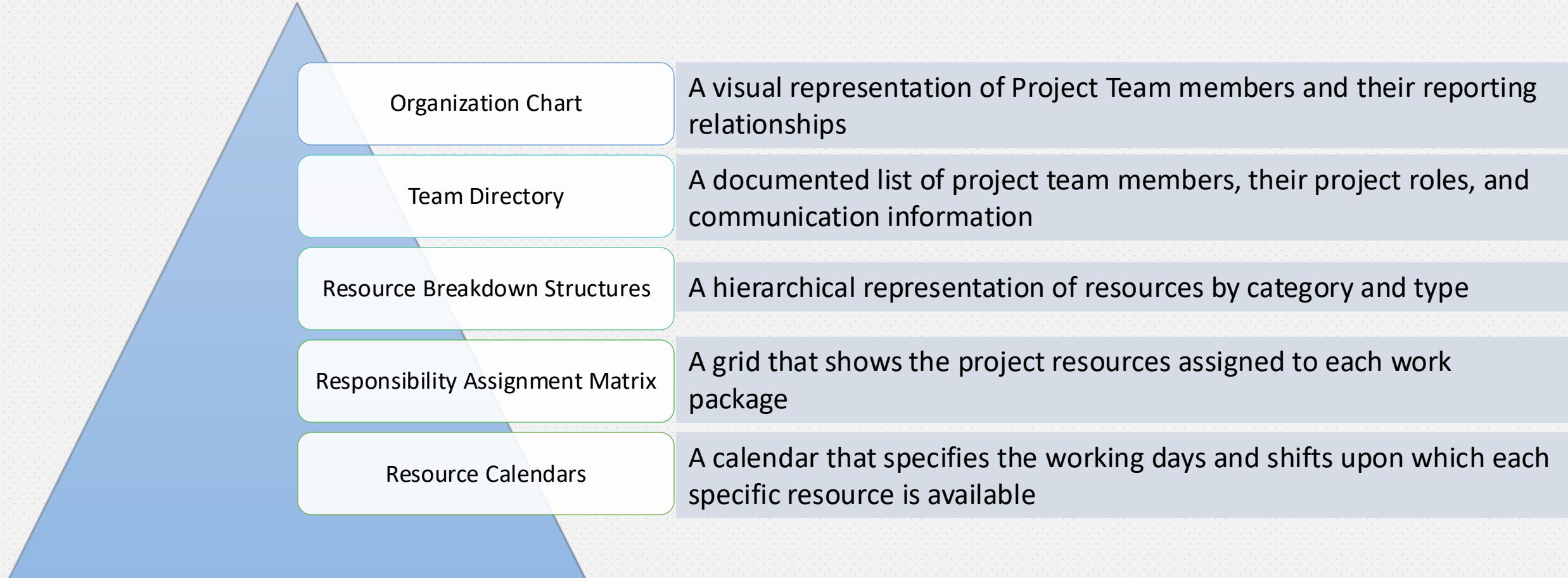


Human



Physical

Resources related Artifacts



R A C I

Responsible

- Performs work to complete the task or complete the deliverable (*min. 1*)

Accountable

- Delegates and Reviews the work involved in the project (*only 1*)

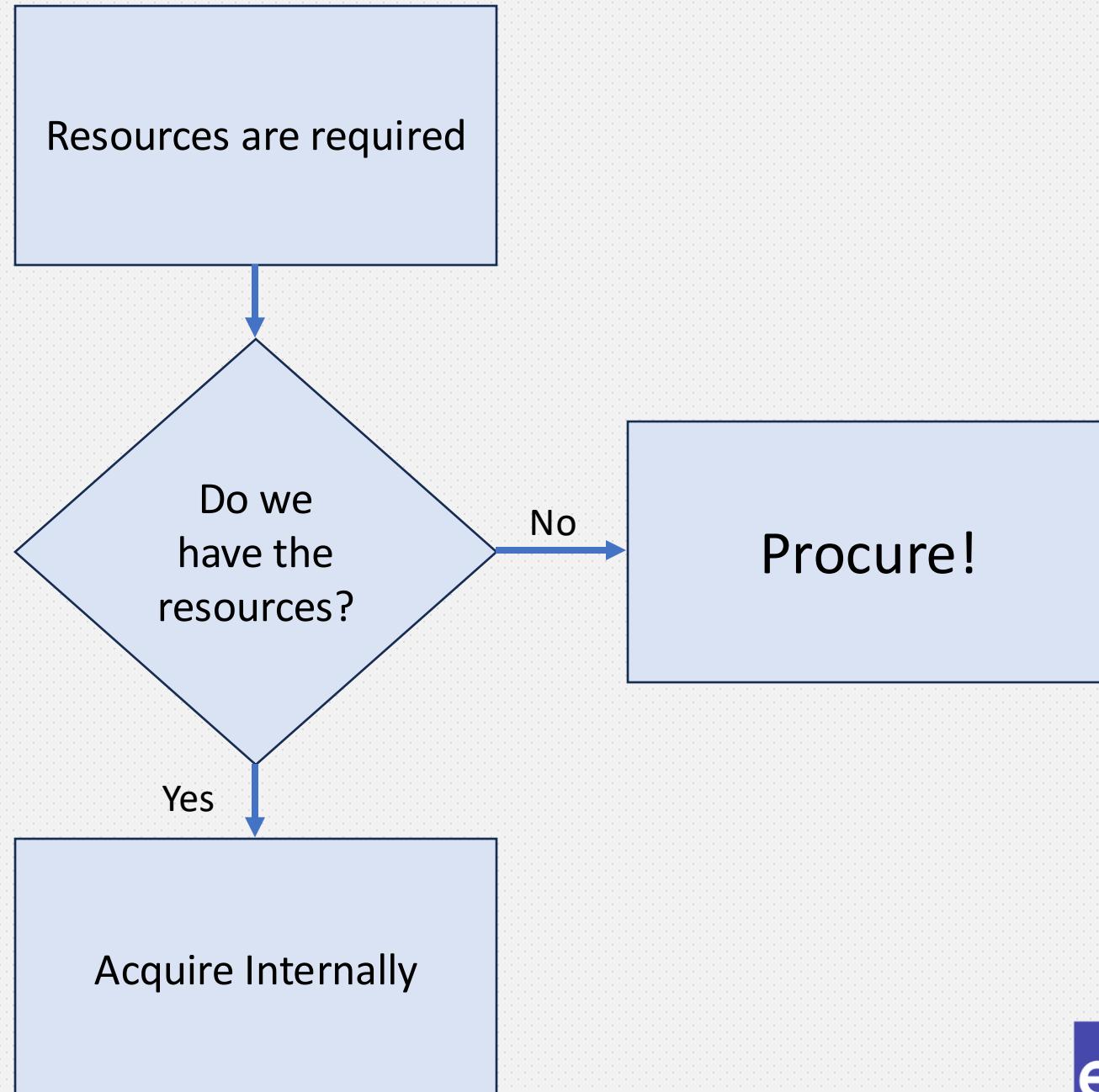
Consult

- Provides input and feedback on project (*as needed*)

Inform

- Needs to be informed because their work might get affected (*as needed*)

Where will the resources come from?



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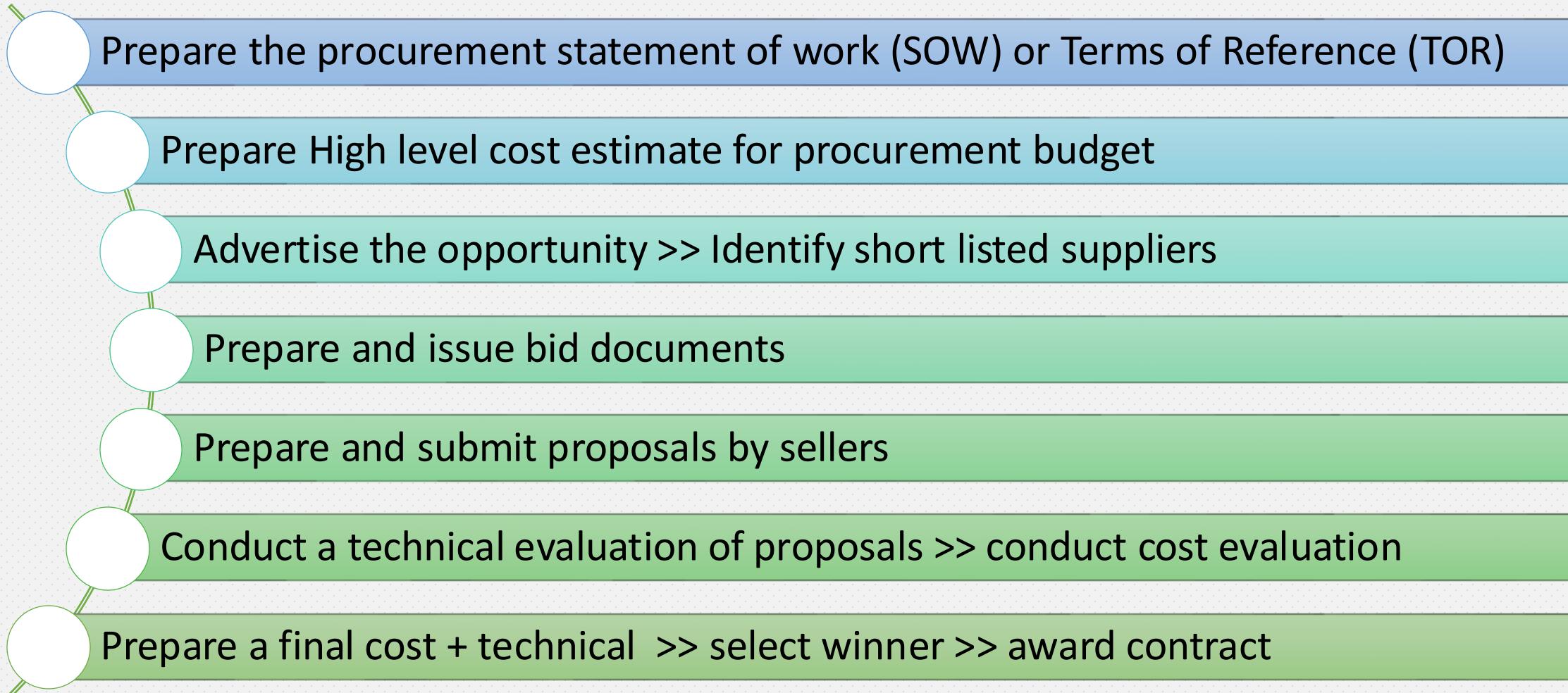
Managing Procurement

Procurement Strategy

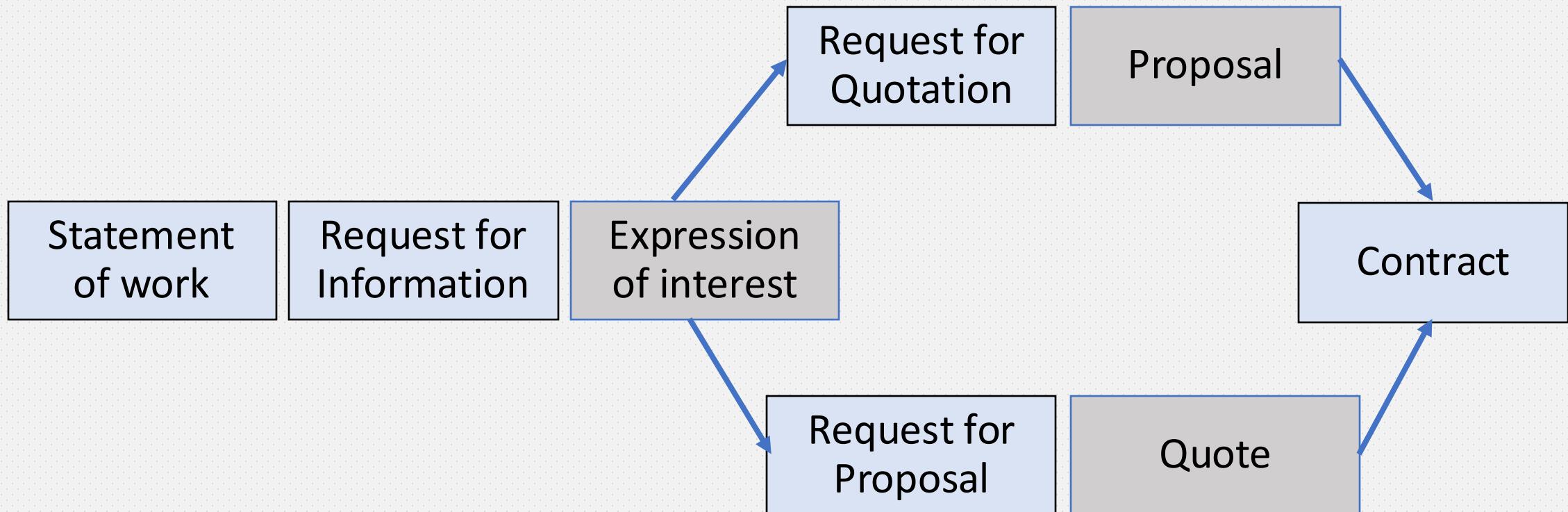
Procurement is Third party purchases of service, products- as a part or component of the project



General flow in Procurement



Bidding process

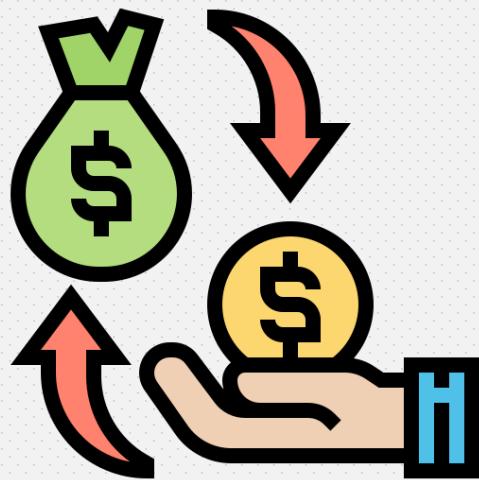


Type of contracts

Contracts are mutually binding agreement that obligate seller to sell as specified and buyer to pay as committed



**Fixed
Price**

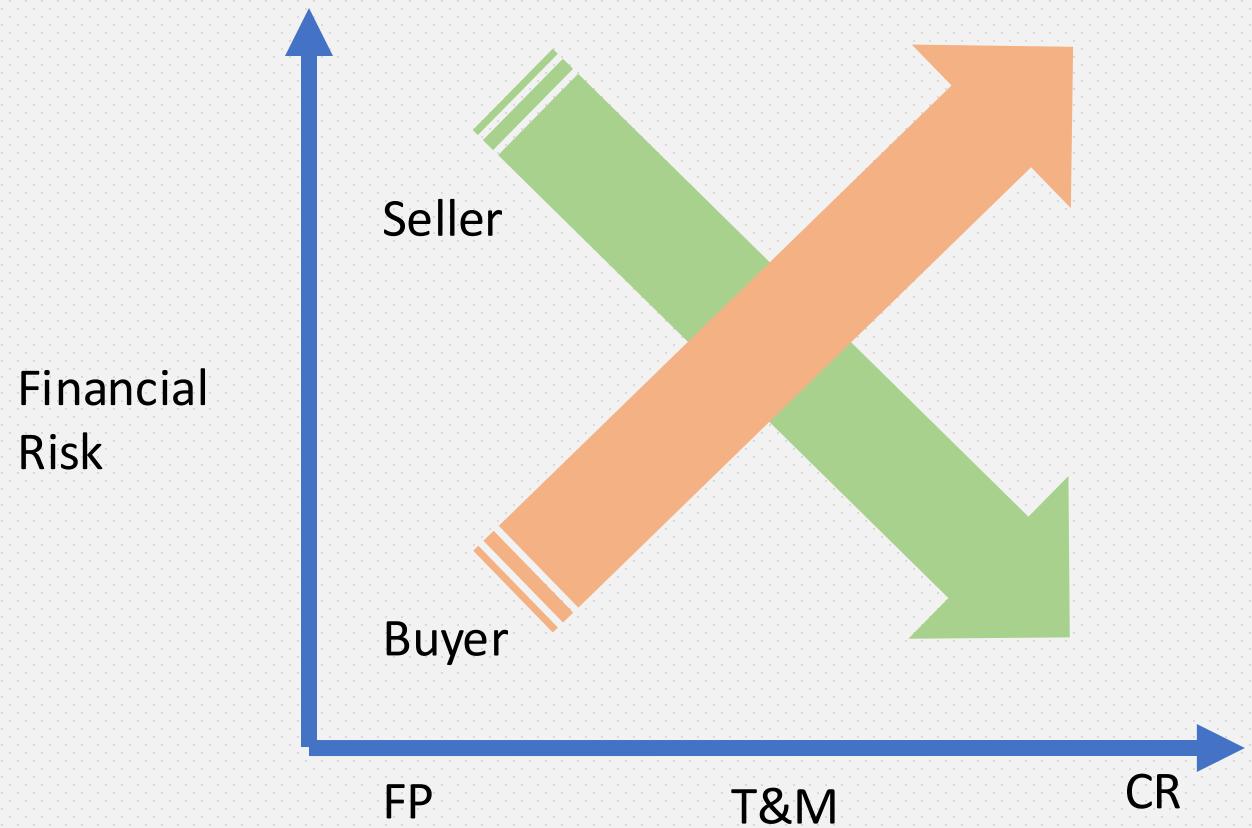


**Cost
Reimbursable**



**Time &
Materials**

Incentives & Awards



Incentives: Objective

Awards: Subjective

Contract Variations- Fixed Price

Firm Fixed Price (FFP)

- The price will remain firm for a given scope of work

Fixed Price Incentive Fee (FPIF)

- Provides flexibility to a limit, based on specified performance objectives

Fixed price with economic price adjustment (FPEPA)

- Allows for pre-defined flexibility based on inflation, cost increase/decrease

Contract Variations- Cost Reimbursable

Cost Plus fixed fee
(CPFF)

- Amount reimbursed for allowable expenses
(cost) + Fixed fee

Cost Plus Incentive Fee
(CPIF)

- Amount reimbursed + Fee as per predefined specific performance incentives

Cost Plus Award Fee
(CPAF)

- Amount reimbursed + Fee as per assessment by buyers, typically at the end of work

Procurement Guidelines



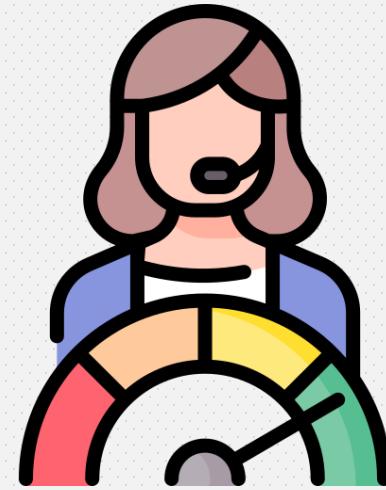
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Leading a team

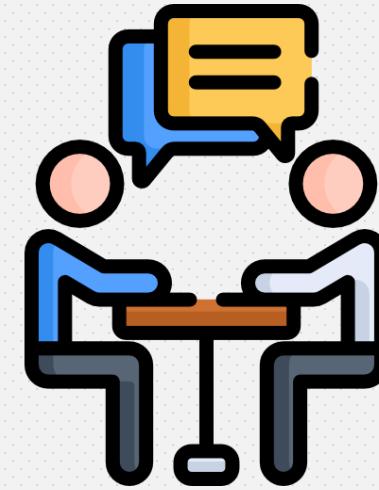
How to lead a team successfully



Tailor
Leadership



Support team
performance



Solve team
Problems

Leadership Styles

Transactional

Focus on goals, feedback, and accomplishment

Transformational

Encouraging for innovation & creativity

Charismatic

Able to inspire by carrying high energy, enthusiasm, and confidence

Interactional

Combination of Transactional, Transformational, and Charismatic

Laissez-faire

Allowing team to make their own decisions & establish goals

Servant Leader

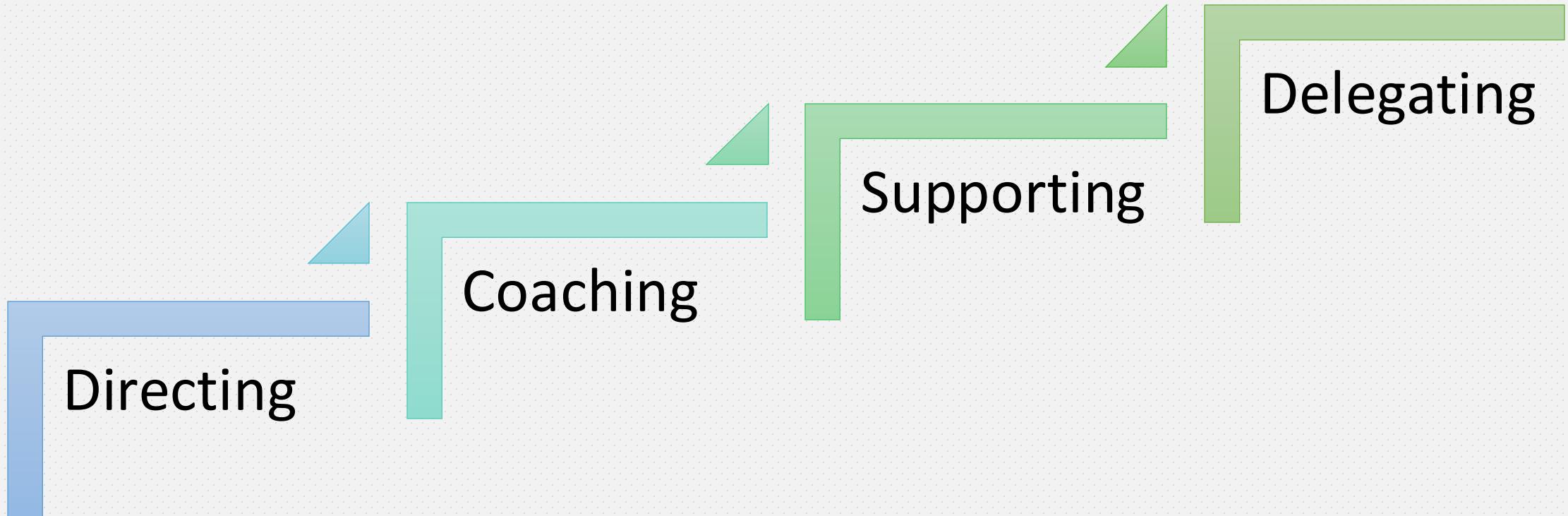
Focuses on people's growth, learning... leadership after service

Servant Leader Duties



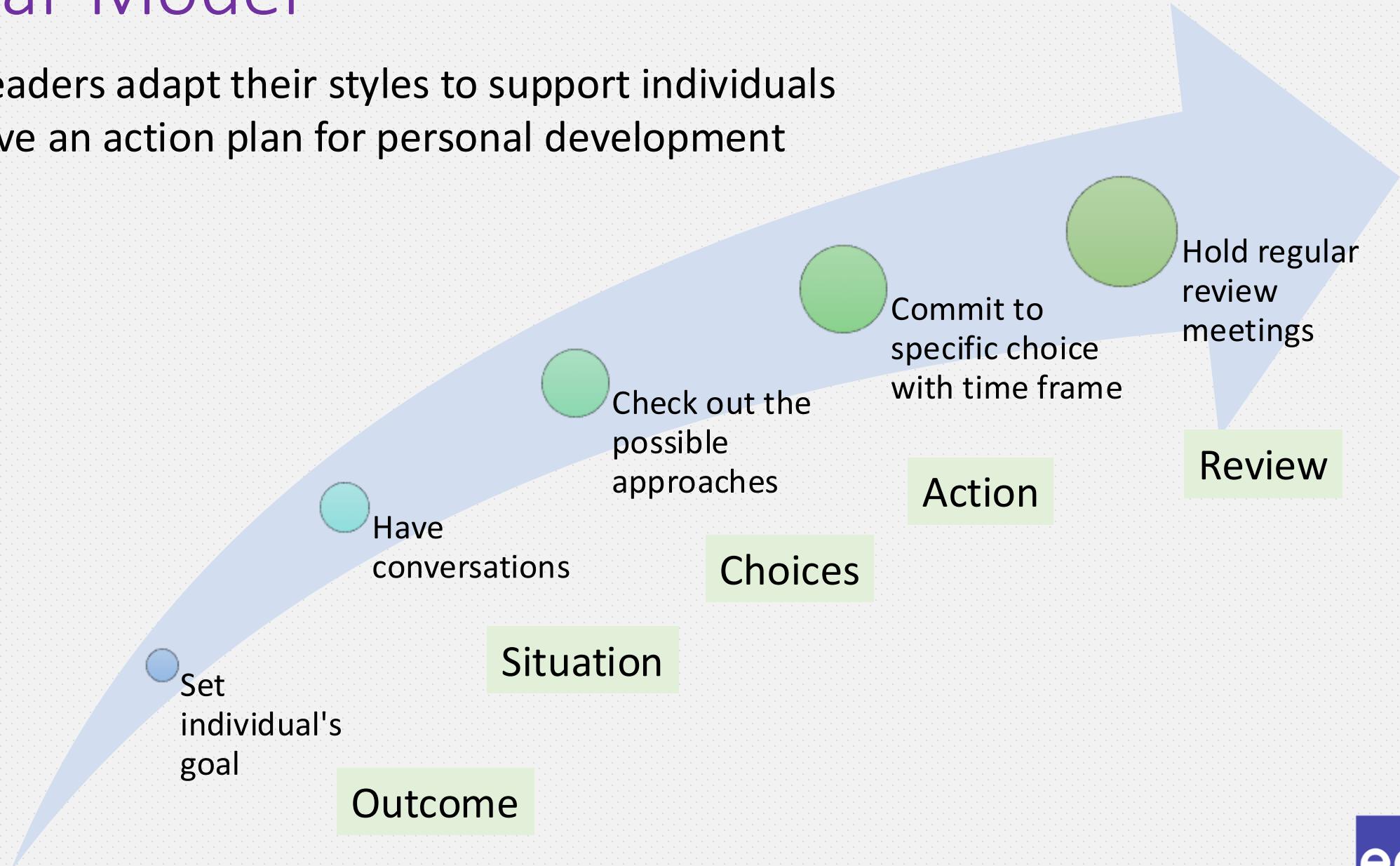
Ken Blanchard's Situational Leadership

Leadership evolves as the individual's competence and commitment evolves



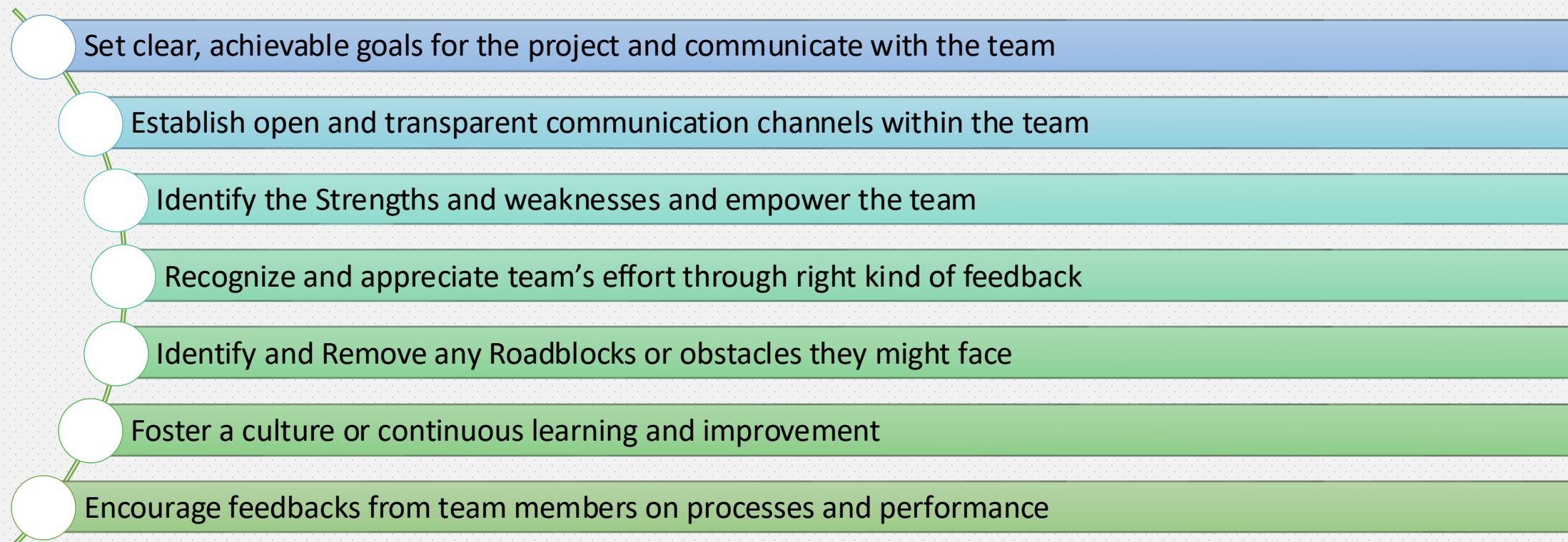
Oscar Model

Helps leaders adapt their styles to support individuals who have an action plan for personal development

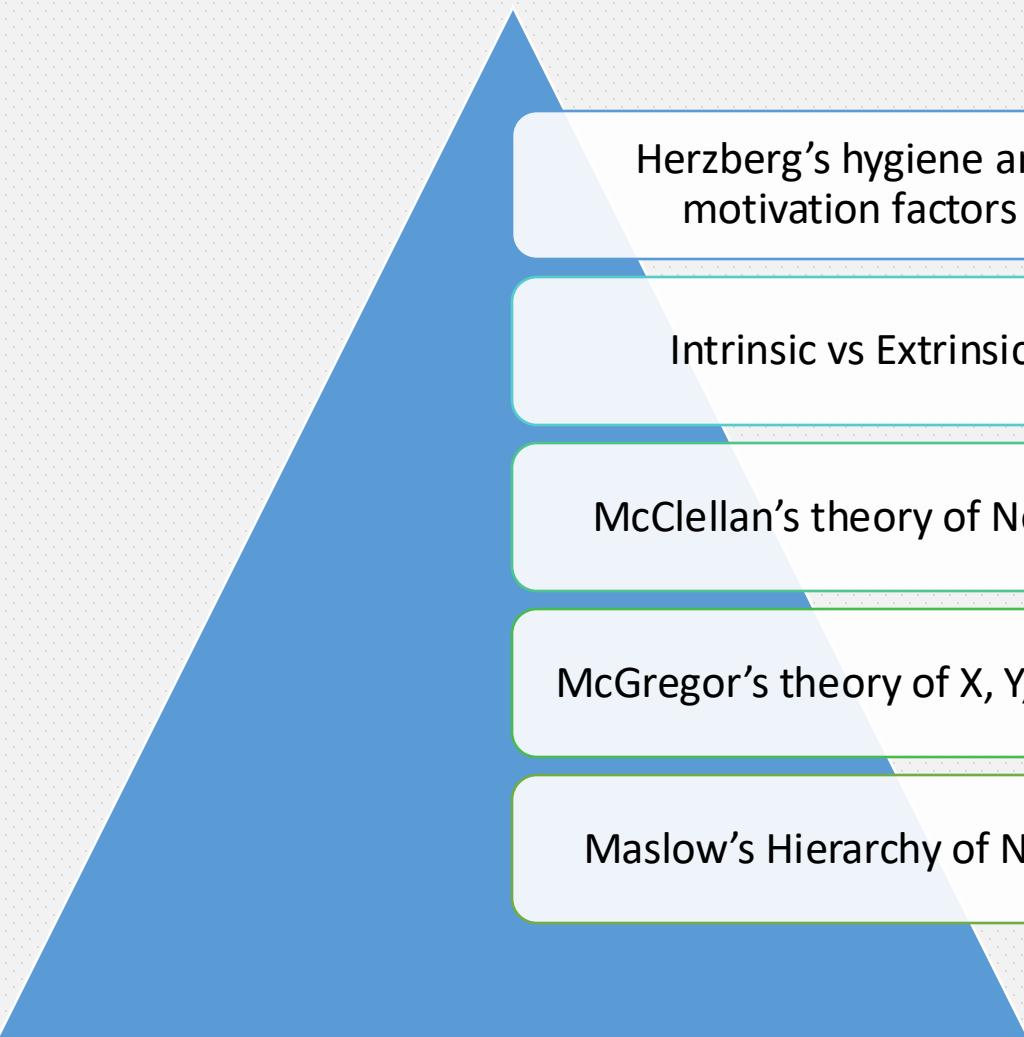


How to support team performance?

Performance measurement is beyond a dispassionate investment in measuring just the results and numbers. The idea is to support the performance by planning and taking care of team members.

- 
- Set clear, achievable goals for the project and communicate with the team
 - Establish open and transparent communication channels within the team
 - Identify the Strengths and weaknesses and empower the team
 - Recognize and appreciate team's effort through right kind of feedback
 - Identify and Remove any Roadblocks or obstacles they might face
 - Foster a culture of continuous learning and improvement
 - Encourage feedbacks from team members on processes and performance

Motivation Models



Herzberg's hygiene and motivation factors

Intrinsic vs Extrinsic

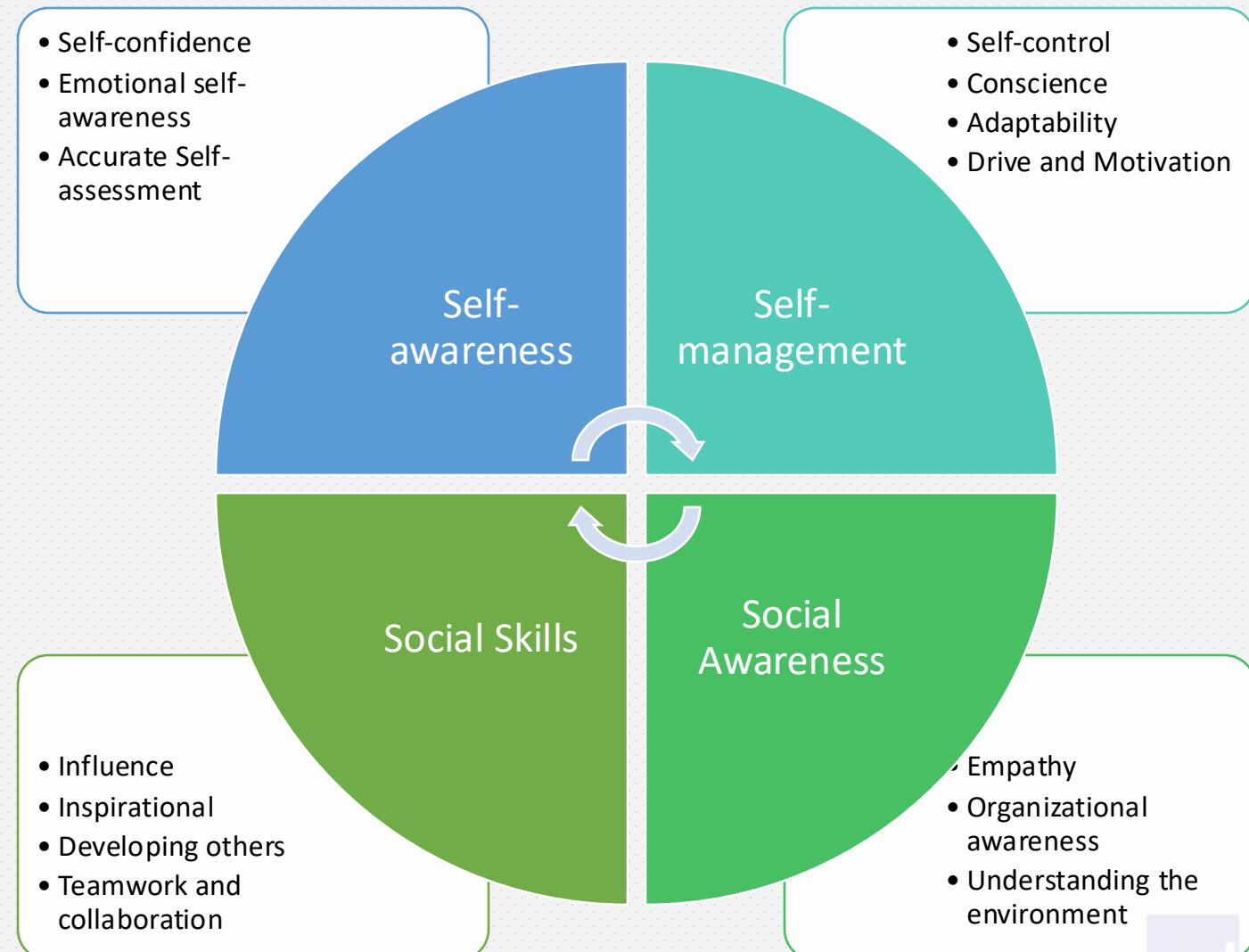
McClellan's theory of Needs

McGregor's theory of X, Y, and Z

Maslow's Hierarchy of Needs

Emotional intelligence

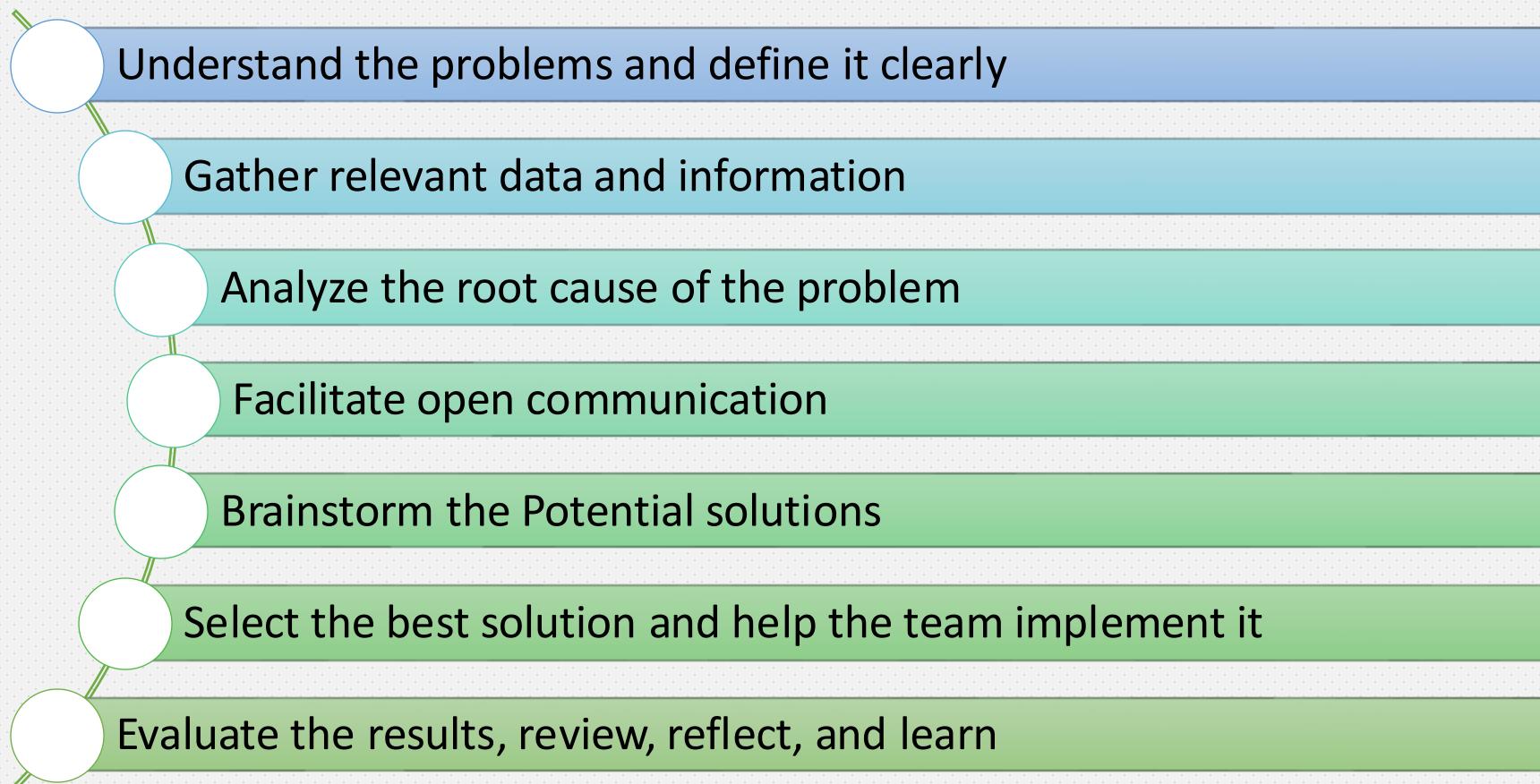
The ability to understand, use, and manage your own emotions in positive ways to relieve stress, communicate effectively, empathize with others, overcome challenges and defuse conflict.



Issues team members face

- Communication issues
- Conflicting personalities
- Lack of trust and cohesion
- Skill gaps and resource constraints
- Conflicts and interpersonal issues
- Lack of motivation and engagement
- Workload imbalance and burnout
- Resistance to change

Steps to solve team problems

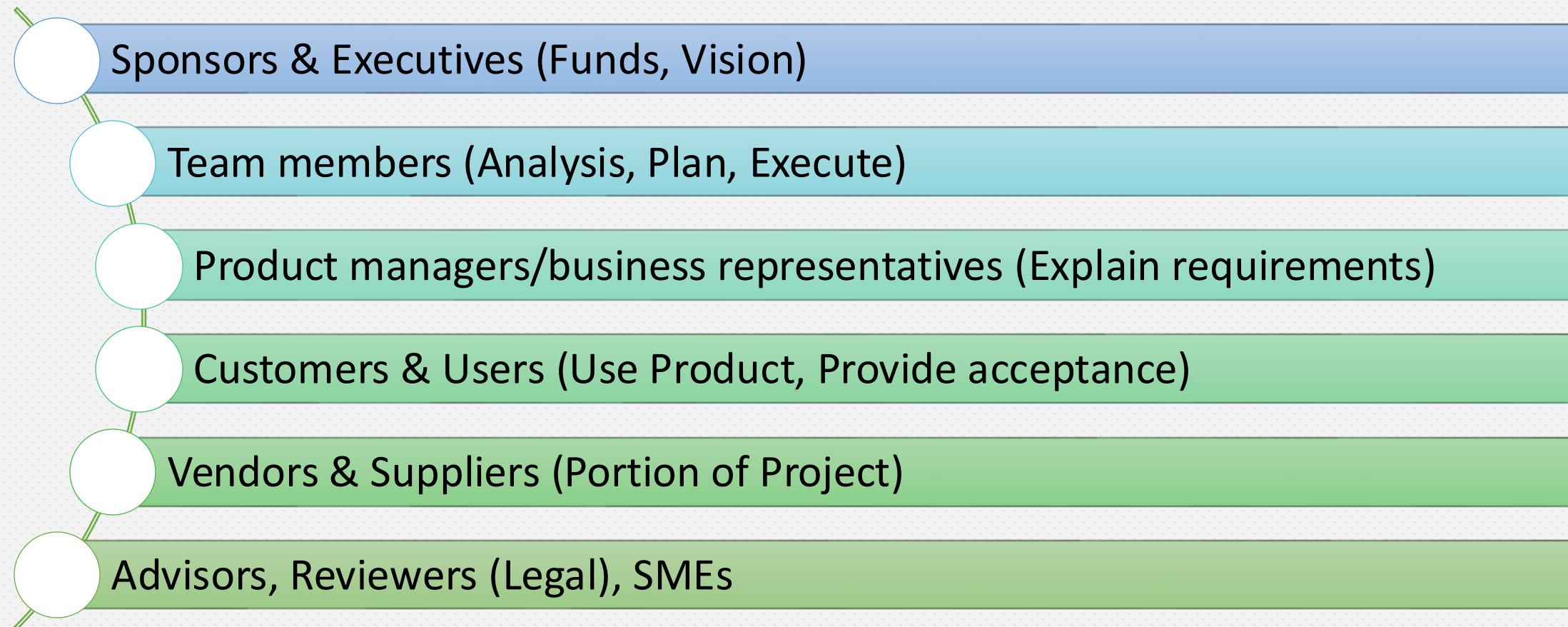


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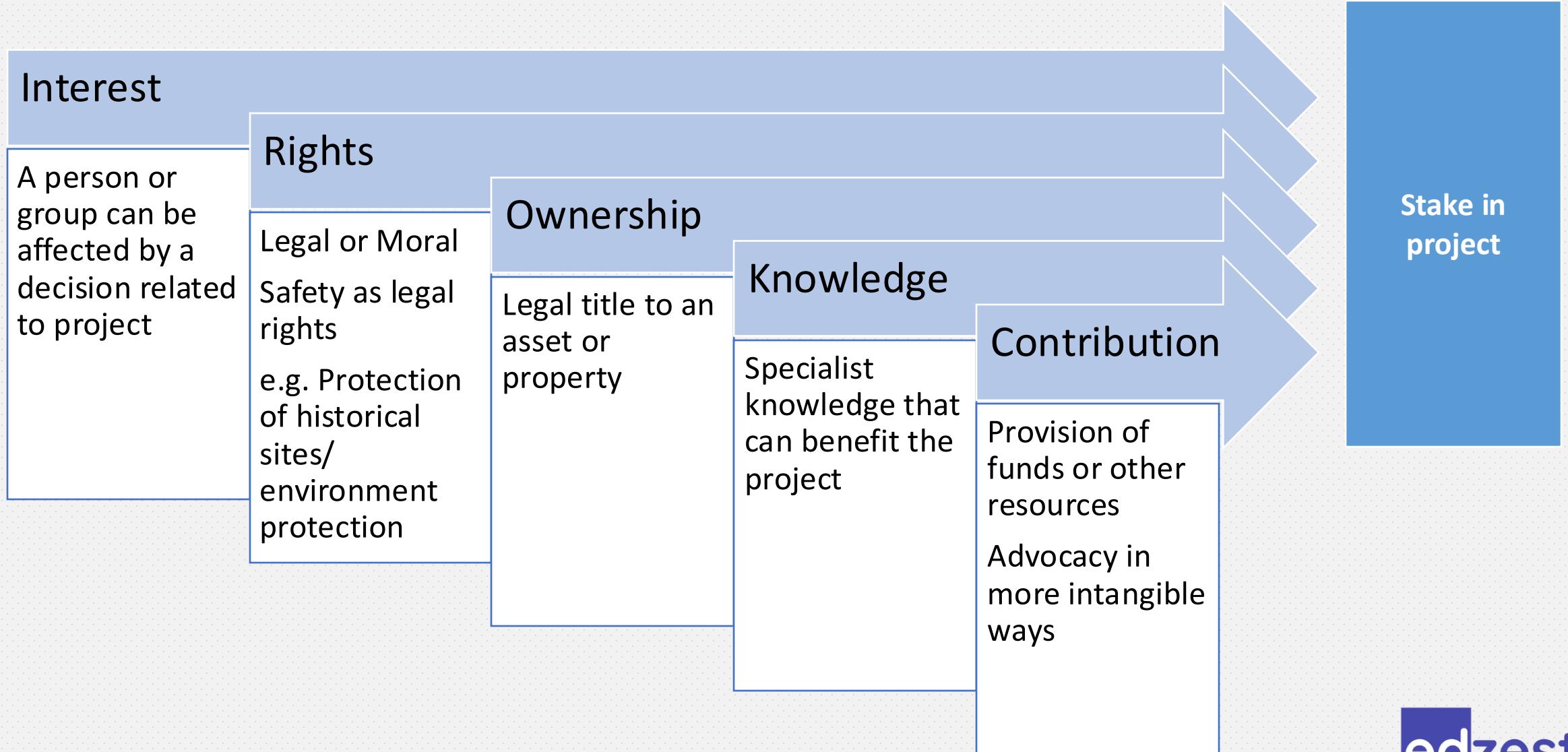
Engaging Stakeholders

Stakeholders

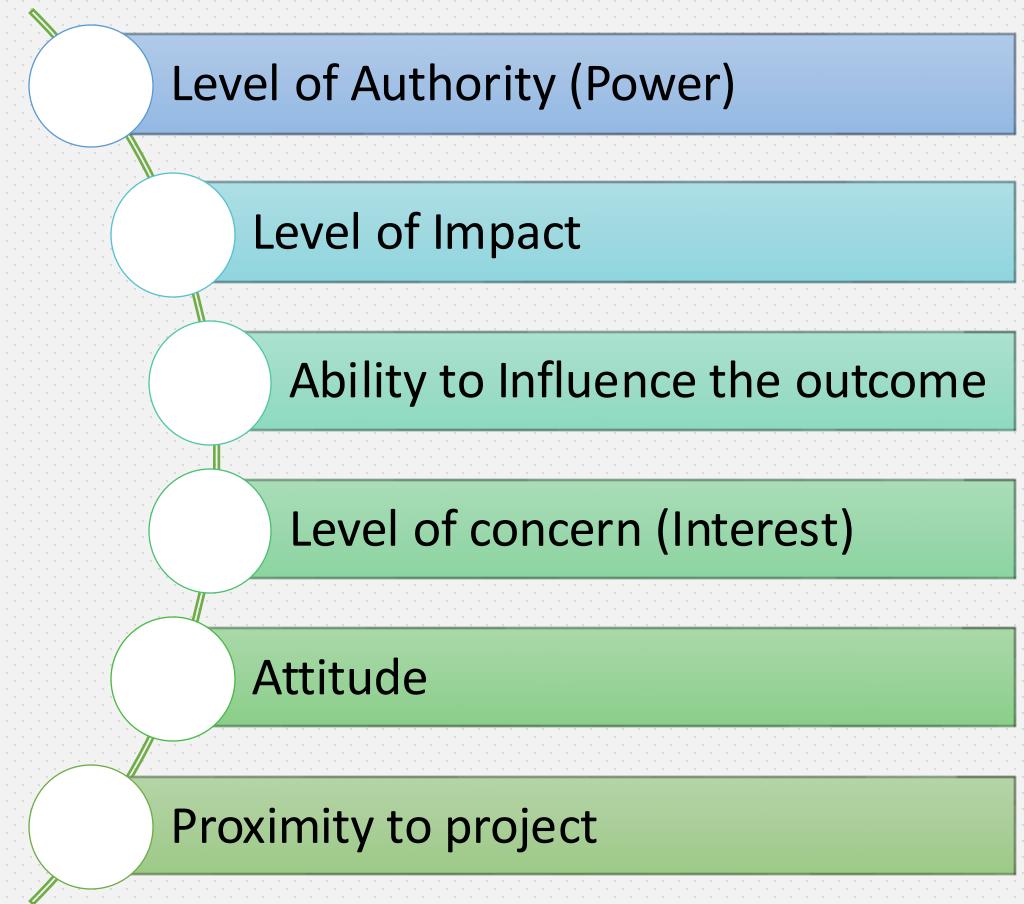
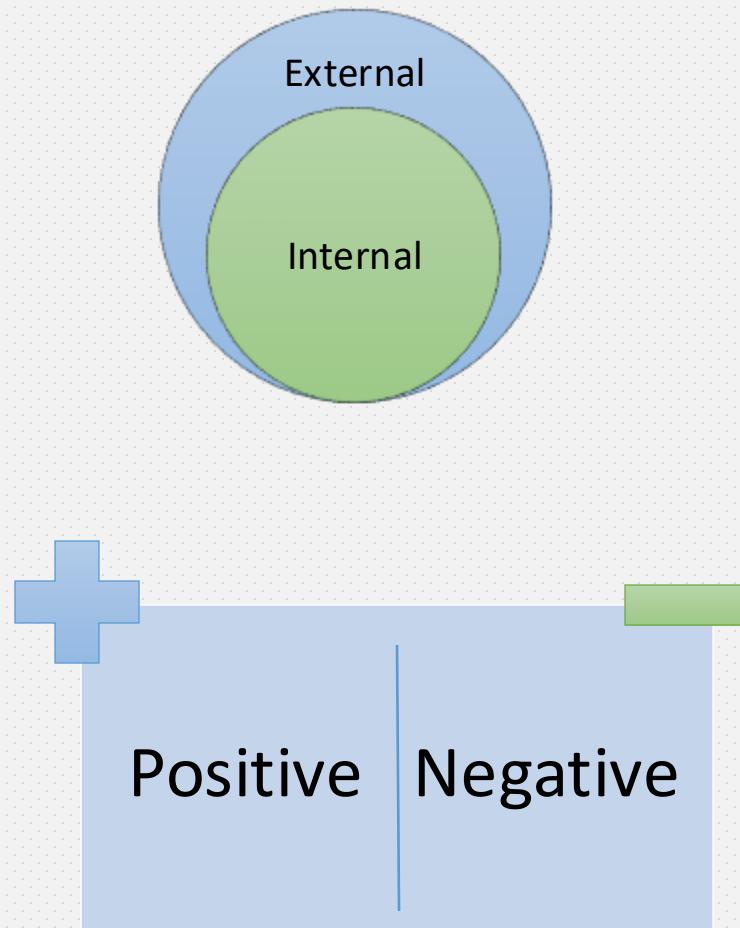
Any individual, group, or organization that may affect, be affected by, or perceive itself to be affected by a decision, activity, or outcome of a project.



“Stake” holders



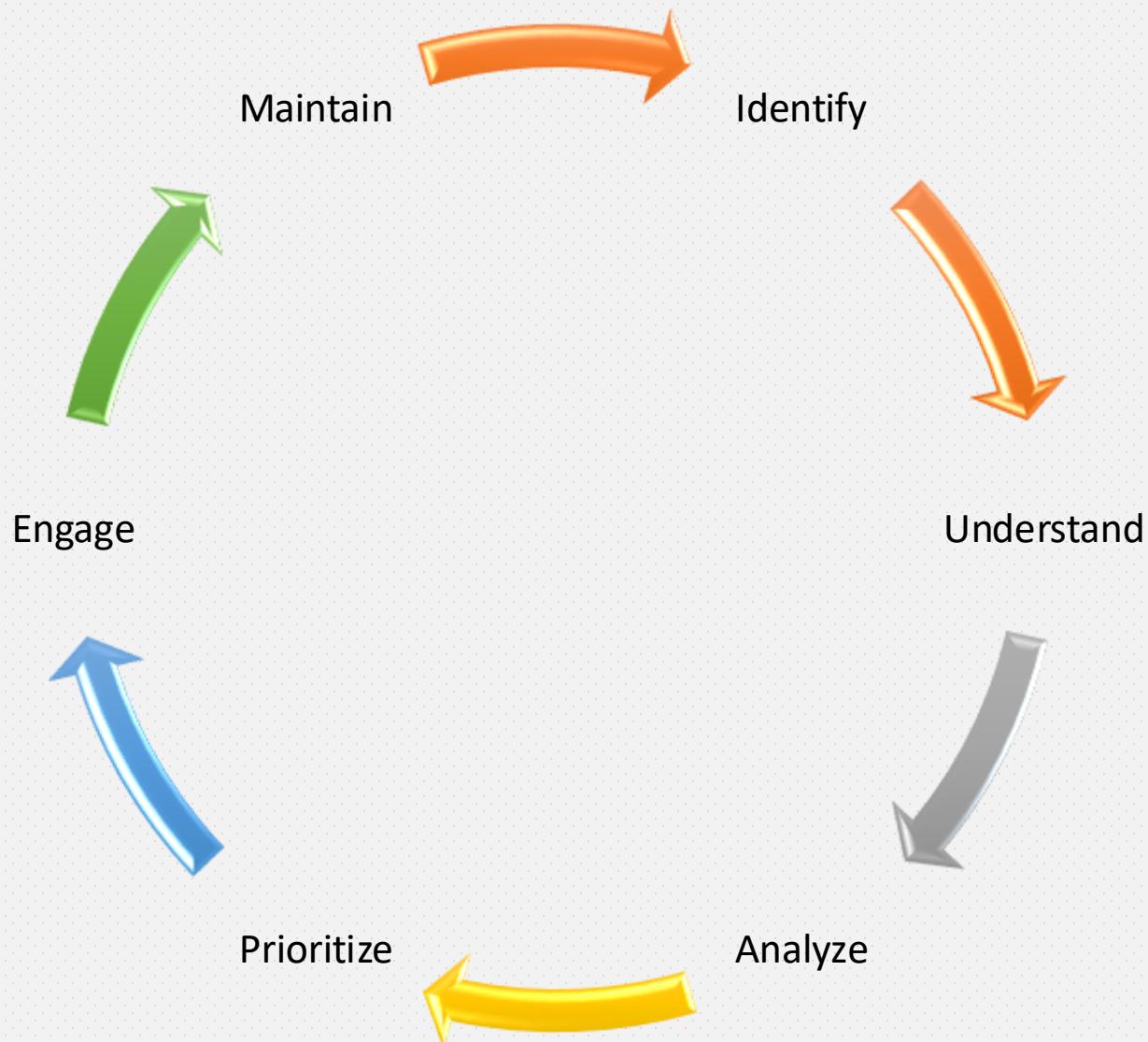
Categorizing Stakeholders



Stakeholder Register

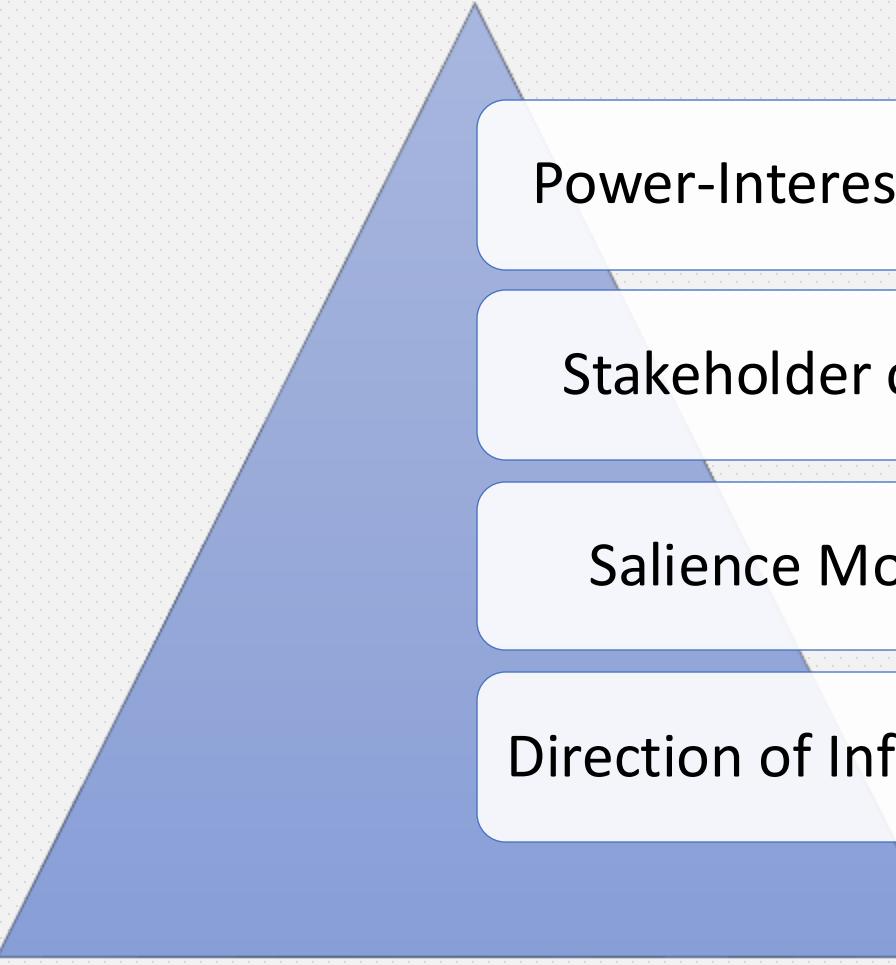
Stakeholders Groups	Power	Attitude	Impact	Influence	Overall Rank
Customers					
Sponsors					
Project consultants					
Shareholders		<i>Stakeholder Register is the central document used for managing Stakeholders through the project. It helps in prioritizing stakeholders to plan how to engage with them throughout the project</i>			
Users					
Vendors/Suppliers					
Government					
Resource Manager					
Competitors					
Local Charity					

Stakeholder Management



Stakeholders Mapping

A method of categorizing Stakeholders based on the analysis



Power-Interest Grid

Stakeholder cube

Salience Model

Direction of Influence

Stakeholder Engagement



Stakeholder Engagement Assessment Matrix

Stakeholders Groups	Unaware	Resistant	Neutral	Supportive	Leading
Customers				C D	
Sponsors				C	D
Project consultants			C	D	
Shareholders	C			D	
Users	C		D		
Vendors/Suppliers		C		D	

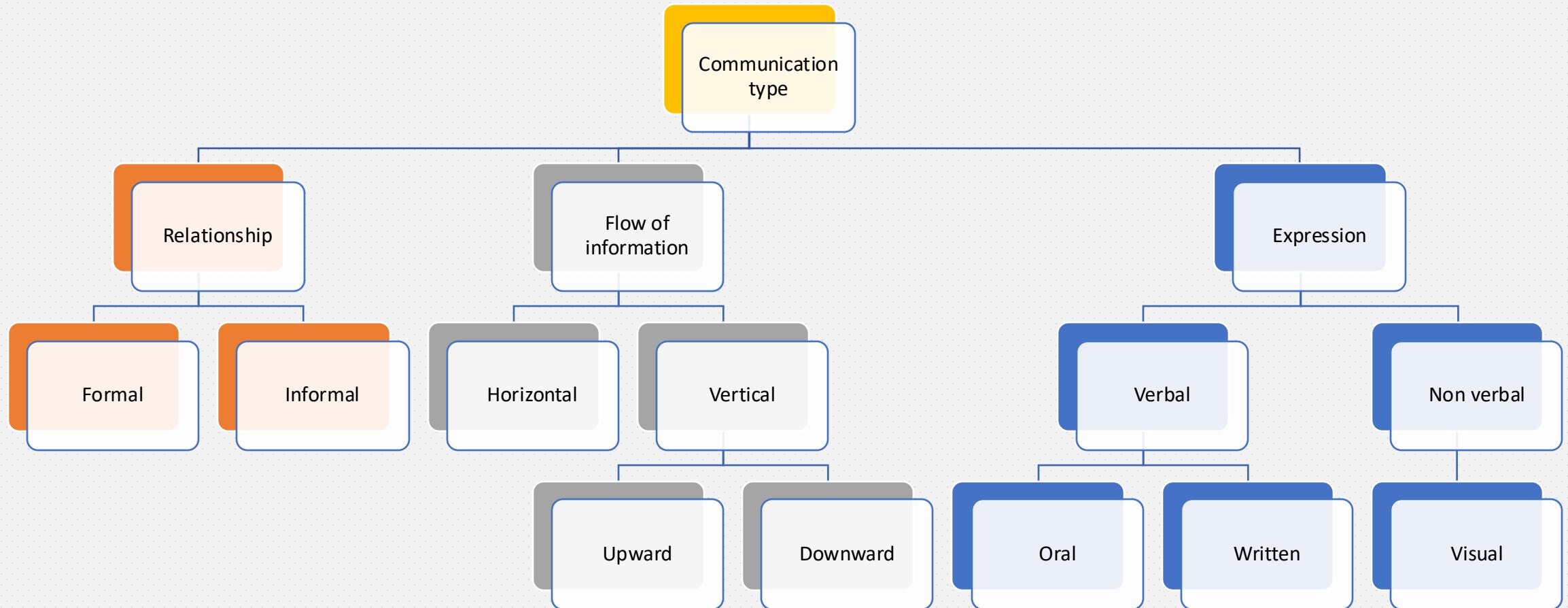
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Managing Communication

Communication

The imparting or exchanging of information by speaking, writing, or using some other medium.

Type of Communication



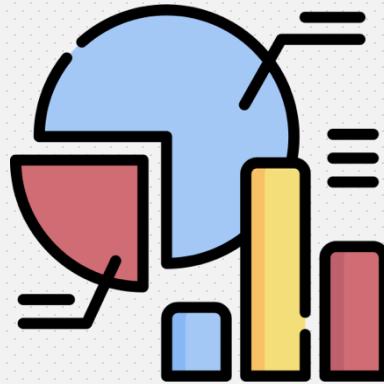
Communicating Project Information



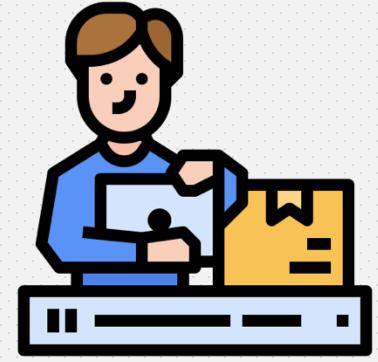
Push
Communication



Pull
Communication

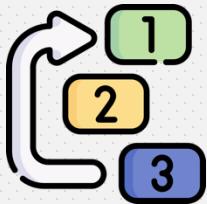


Information
Radiators



Product
Demonstrations

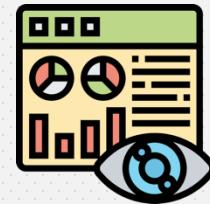
Guidelines to improve communication



Prioritize requirements



Choose your channel



Get visual & graphical



Use Multiple channels



Technology at discretion

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Managing conflict

Conflicts

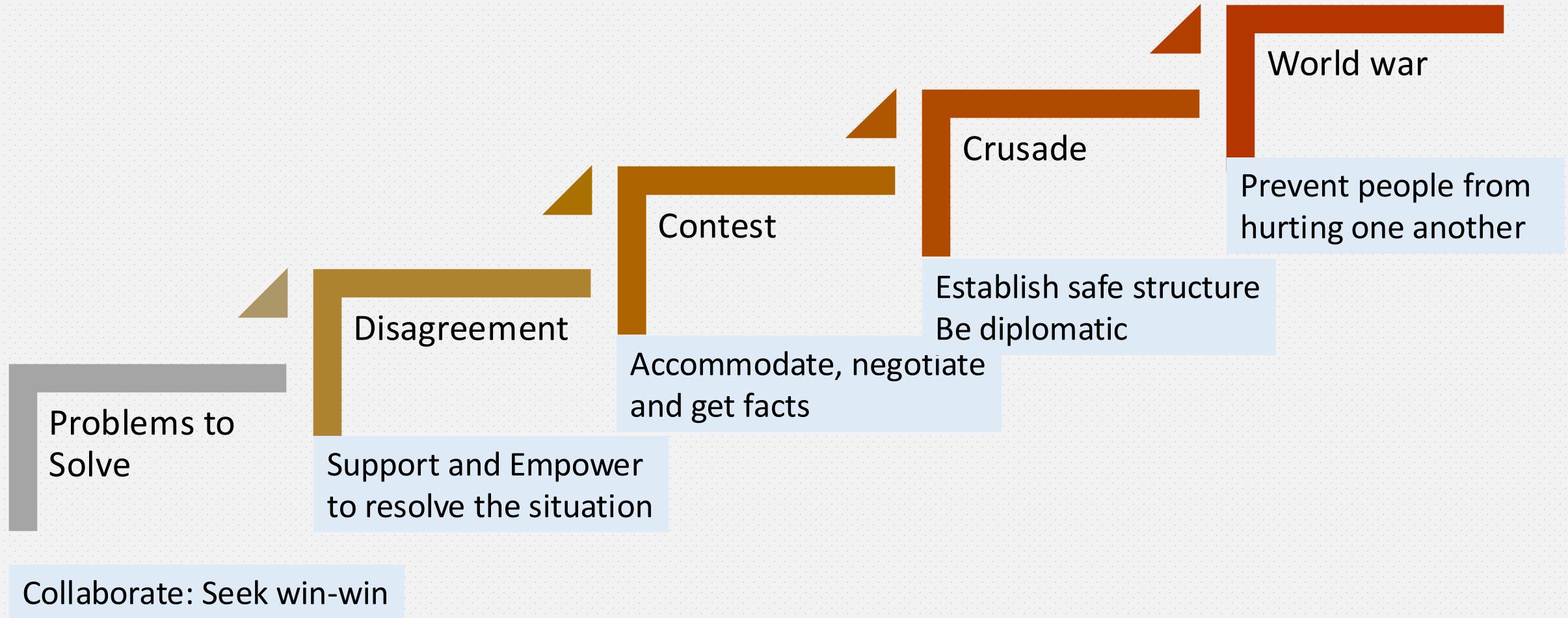
A difference in opinion

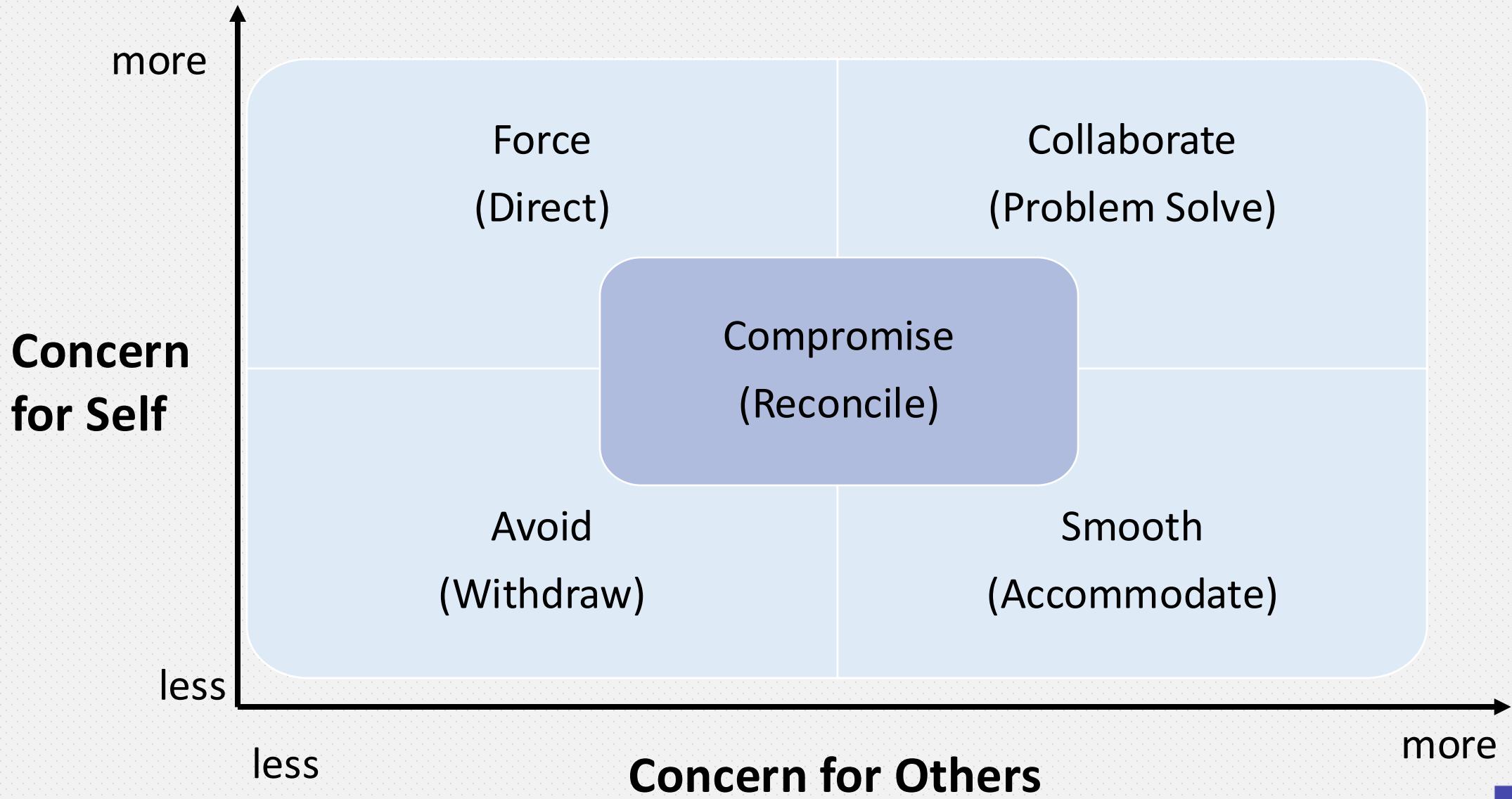
that's beneficial when the discussion is fact based,

but can reach **detrimental** levels for the project,

if not resolved effectively

Conflict stages and How to respond?





Managing Risks

Risks

Uncertain event or condition that may happen in a project to create Positive or Negative Impact



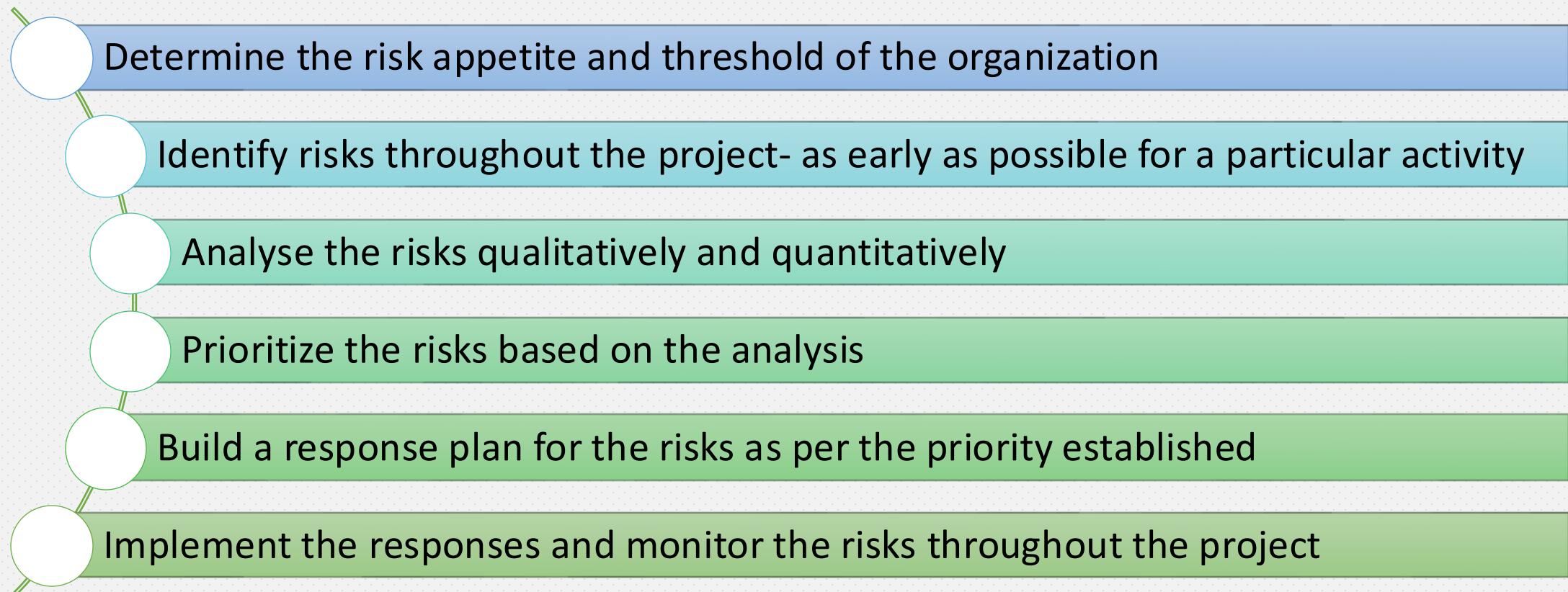
Threats example

- Concerns around potential security threats
- Late arrival of materials/services

Opportunities example

- Launch of new software library/framework that could improve speed to code
- Early arrival of materials/services

Risk Management flow of activities



Risk Strategy (Organizational Parameters)

Risk appetite

Whether the organization is generally risk-seeking, risk-neutral, or risk-averse?

Risk Threshold

How much of risk the organization is willing to take.

Risk register

A central document
that's updated through
every risk management
process

Lp.	The main of risks	Owner of risk	Reason/cause	Effect	Risk assessment			Risk response strategy	Cost of strategy
					Probability	Impact	Level of risk		
Designing risk									
1	Lack of acceptance by investor of design proposals	Investor	Delays in approval	Increase in costs due to the suspension of work of the design team	5-40%	50thous.-500thous.	Low	Market observation, alternative designing solutions	0
2	Delays and difficulties in obtaining opinions and permits	Investor	Delay of designing work, unknown scope of design	Disturbed designing process	5-40%	500thous.-2millions	Medium	Earlier diagnosis of the situation in local authorities offices, organization of meetings preceding designing process	50thous.
3	Conflict among designing team members	Designer office	Insufficient flow of information among team members	Disturbed designing process	0-5%	50thous.-500thous.	Low	Response of a team leader to all form of conflicts - mediation in a team	15thous.
4	Optimistic assessment of employee workload	Designer office	Approval of unrealistic deadlines for individual work	Delay of designing work	5-40%	50thous.-500thous.	Low	Proposing for employees to work overtime or ordering of part of work to another designing team	120thous.
5	Incorrect information from investor or lack of clear lines	Investor	Design may be issued with duplicate error or detected error can generate timing constraints	Verification of errors will increase costs and increase time due to the development of the next revision of design	40-70%	2-5 millions	High	Application to investor for extension of time to complete a design due to additional circumstances	20thous.
6	Designers do not have sufficient knowledge about the subject of design	Designer office	Errors in design	Verification of errors will increase time due to the repeated checks of designing work	5-40%	2-5 millions	Medium	Designing team leader strengthens control over work, providing for employees consultation with an expert	65thous.
Time risk									
7	Acceptance of unrealistic deadlines in contract	Designer office	Faulty contractual provisions	Deterioration of design quality or failure to meet the deadline	40-70%	2-5 millions	High	Employment of new employees or ordering part of work to another party during a contract	105thous.
Budget risk									
8	Underestimation of design budget	Investor	Budget may not be sufficient to carry out designing tasks	Deterioration of design quality	40-70%	2-5 millions	High	Limiting scope of design to necessary minimum	40thous.

Qualitative vs Quantitative Analysis

*Risk analysis is the process of identifying, assessing, and prioritizing potential risks and uncertainties in order to make informed decisions and take appropriate actions to mitigate or manage those risks. It involves a systematic evaluation of potential risks, their **probability** of occurrence, and their **potential impact** on an organization, project, or system.*

Aspect	Qualitative Analysis	Quantitative Analysis
Nature of Analysis	Subjective, based on opinions and descriptions	Objective, based on numerical data and models
Precision	Provides general insights and relative rankings	Provides precise and quantifiable measurements
Analysis Techniques	Expert judgment, interviews, brainstorming	Statistical analysis, modelling, data analysis
Examples	Probability: Low, Medium, High	Probability: 30%, 0.5, 3 out of 10
	Impact: Low, Medium, High	Impact: \$100,000, 5% decrease in revenue

Qualitative analysis: other aspects

Urgency	Period for risk response
Proximity	Period before risks start impacting objectives
Dormancy	Period before risks' impact is known
Manageability	Ease with which risk owner can manage
Controllability	Degree to which risk owner is able to control
Detectability	Ease with which results of risks can be identified
Connectivity	Extent to which one risk is related to another
Strategic Impact	Potential of having +ve or -ve impact on goals
Propinquity	Degree to which a risk is perceived to matter

Sample result of Qualitative Analysis

Risk	Probability	Impact
Delays in obtaining permits	High	Medium
Unforeseen ground conditions	Medium	High
Inadequate contractor capacity	Low	High
Adverse weather conditions	Medium	Medium
Changes in local regulations	Low	Low
Supplier or subcontractor failures	Medium	Medium
Occupational health and safety risks	High	Medium

Quantitative Analysis

Monte Carlo Simulations

A mathematical technique that uses random sampling to estimate the outcomes of uncertain events

Sensitivity Analysis

An analysis technique used to determine which individual project risks have potential impact on outcomes

Decision Tree Analysis

A type of diagram that clearly defines potential outcomes for a collection of related choices

Influence Diagram

A graphical tool that shows how each of the risk factors are connected and interact with each other

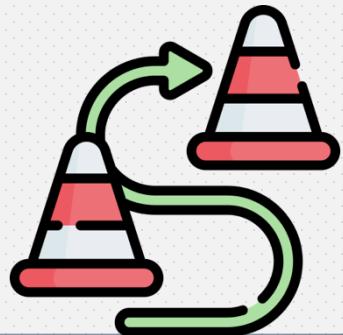
Expected Monetary Value

A way of quantifying the expected loss or gain from undertaking a project, given the probability of different outcomes.

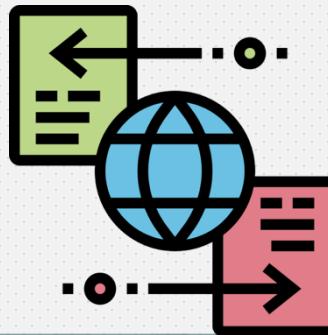
Result of Quantitative Analysis

Risk	Probability	Impact	EMV
Delays in obtaining permits	0.8	\$150,000	\$120,000
Unforeseen ground conditions	0.5	\$900,000	\$450,000
Inadequate contractor capacity	0.2	\$800,000	\$160,000
Adverse weather conditions	0.5	\$100,000	\$50,000
Changes in local regulations	0.1	\$30,000	\$3,000
Occupational health and safety risks	0.8	\$360,000	\$288,000

Risk Responses for Threats



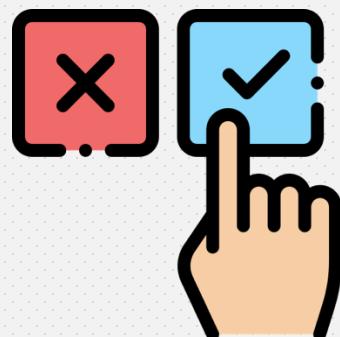
Avoid



Transfer



Mitigate

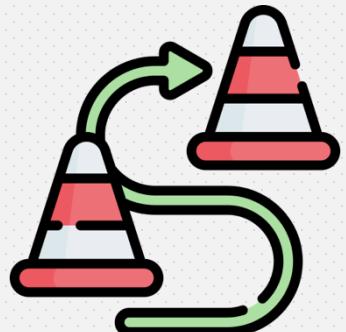


Accept

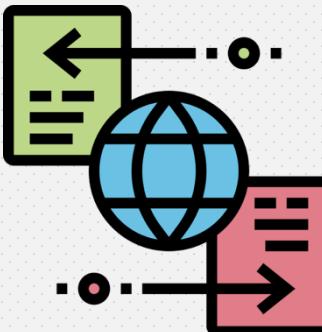


Escalate

Risk Responses for Opportunities



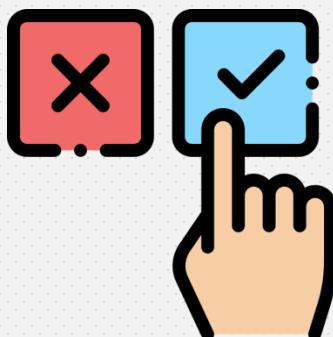
Exploit



Share



Enhance



Accept

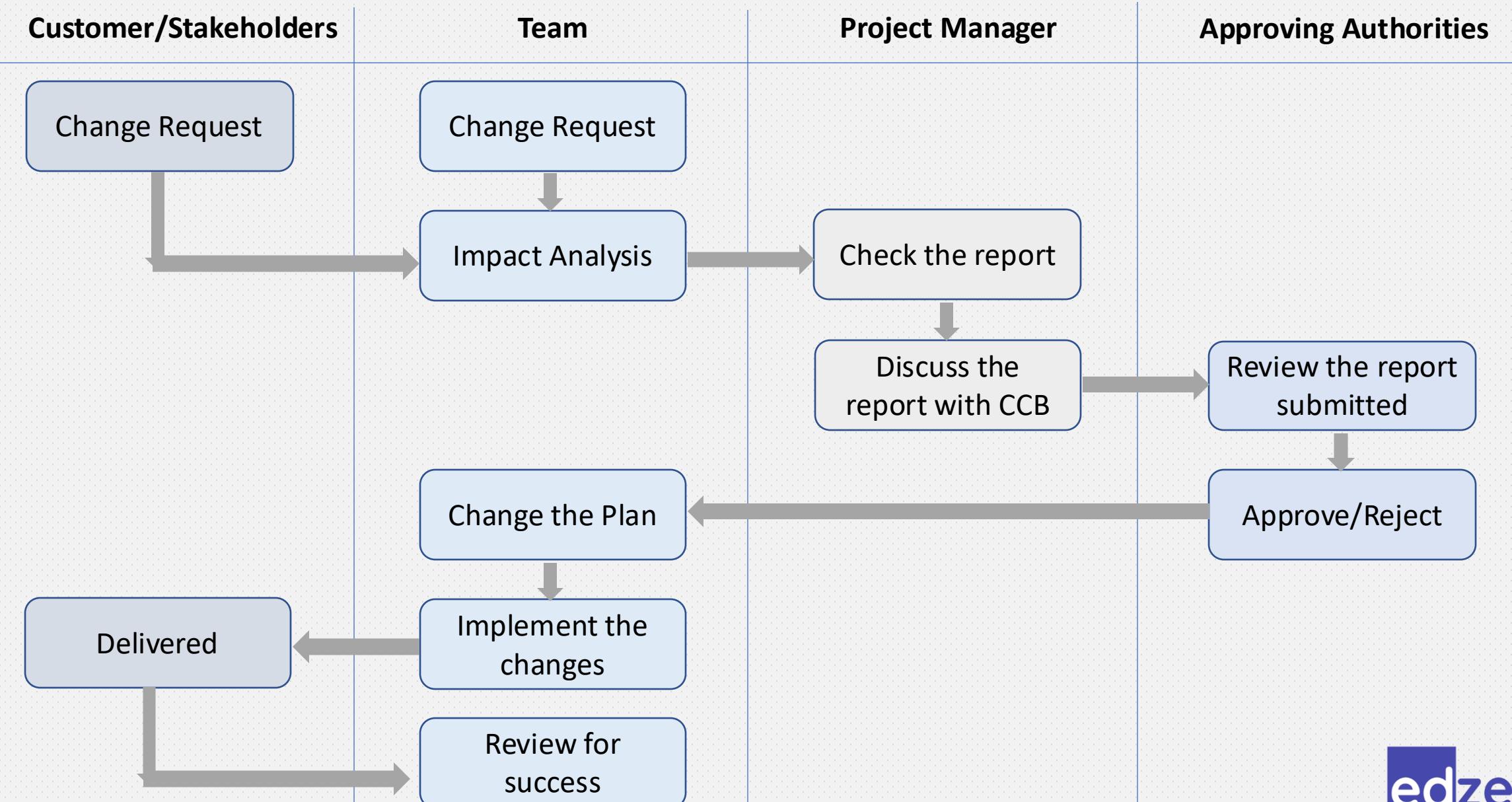


Escalate

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Managing Changes

Integrated Change Control



Managing Issues

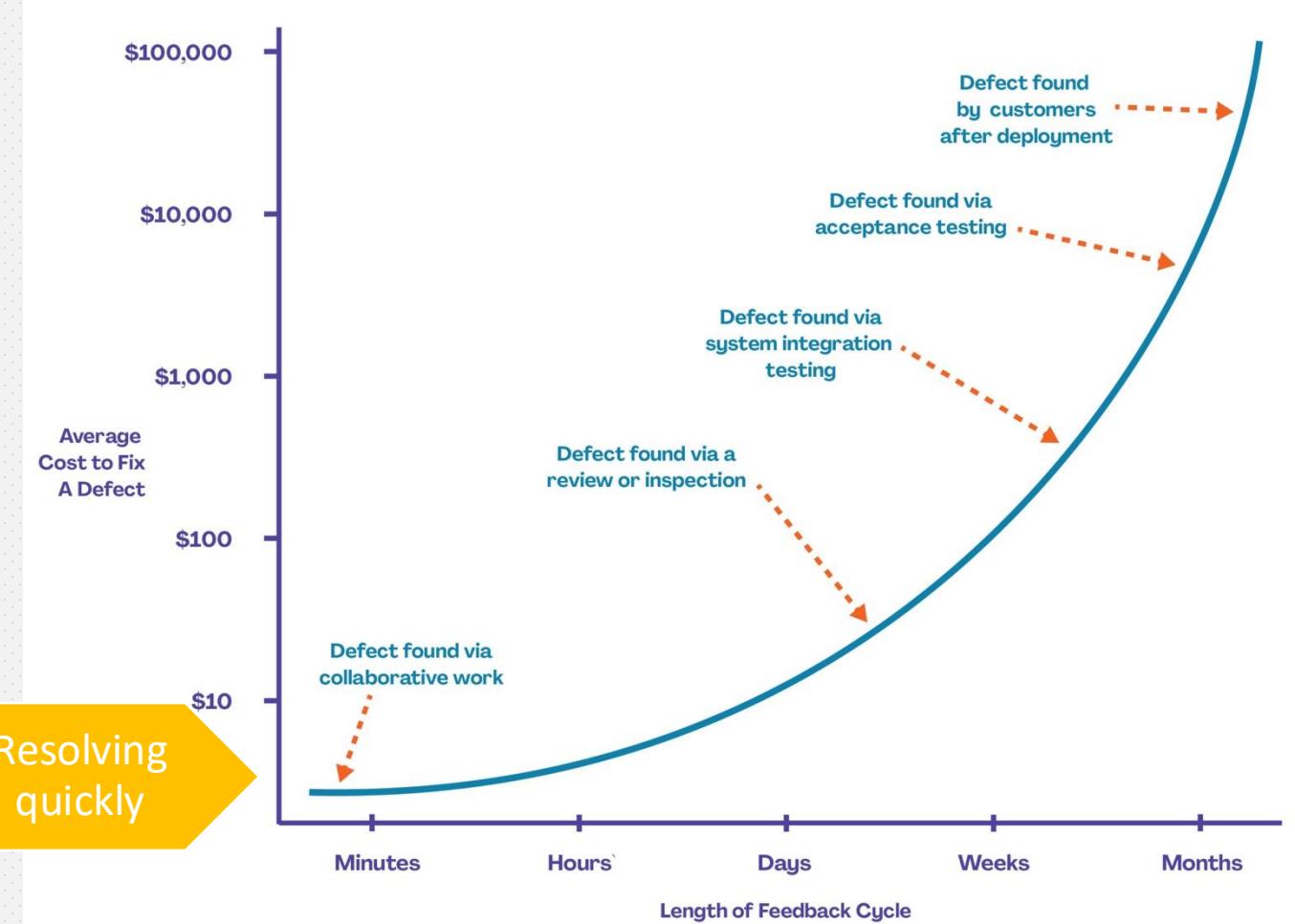
The earlier the better

A Project Manager must ensure to create a culture where team members are able to discuss within themselves, collaborate to find the problems while working itself. The earlier the problems are identified, the cheaper it is to resolve those.

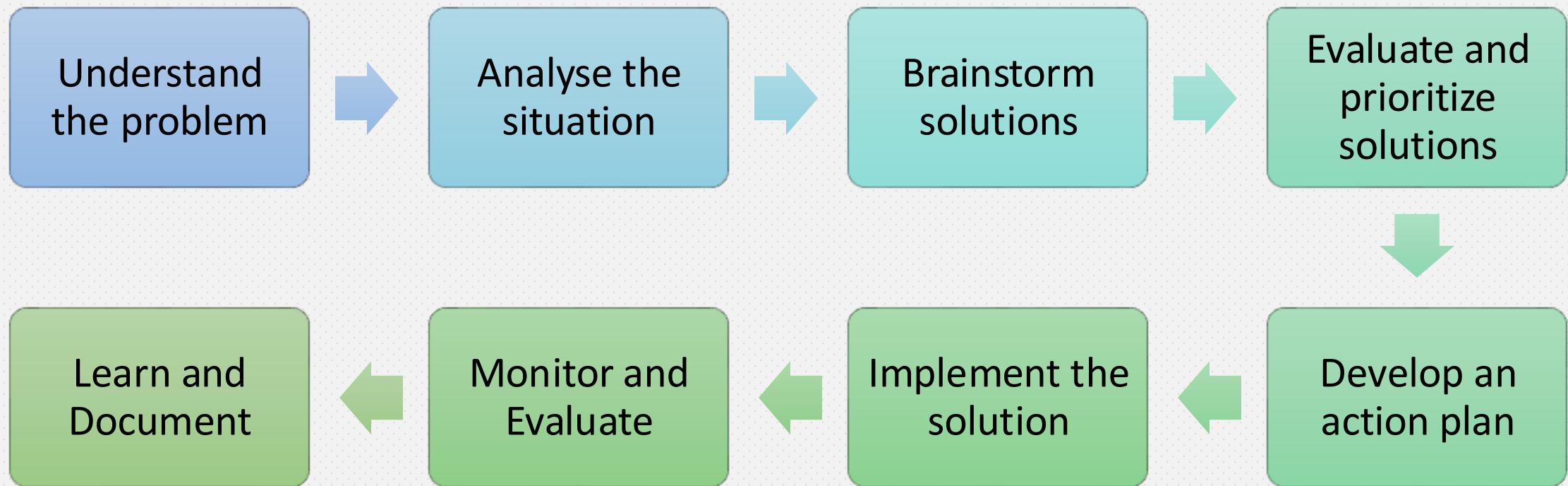
Preventing problems

Detecting early

Resolving quickly



How do we solve problems?



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Earned Value Management

Earned Value Measurements

- *Measure variation between actual and planned performances of schedule and cost.*
- *Understand and Evaluate the cause of variation.*
- *Control the Schedule and Cost variation by taking appropriate action.*

Planned value

Estimated value of work to be done, as of today.

Earned Value

Estimated value of work actually completed, as of today

Actual Cost

Cost of actual work completed, as of today

Schedule and Cost Variance

Schedule Variance

Earned Value – Planned Value

$SV = EV - PV$

Cost Variance

Earned Value – Actual Cost

$CV = EV - AC$

Schedule Performance Index

Earned Value divided by Planned Value

$SPI = EV / PV$

Cost Performance Index

Earned Value divided by Actual Cost

$CPI = EV / AC$

Forecasting

Estimate at Completion

Actual cost + Revised Estimate

$EAC = AC + ETC$

Estimate at Completion

Budget at Completion divided by CPI

$EAC = BAC / CPI$

Estimate at Completion

Actual cost + (Budget at Completion – EV)

$EAC = AC + (BAC - EV)$

Estimate to Complete

Total project cost as of today minus actual cost

$ETC = EAC - AC$

Variance at Completion

Budgeted minus revised estimate

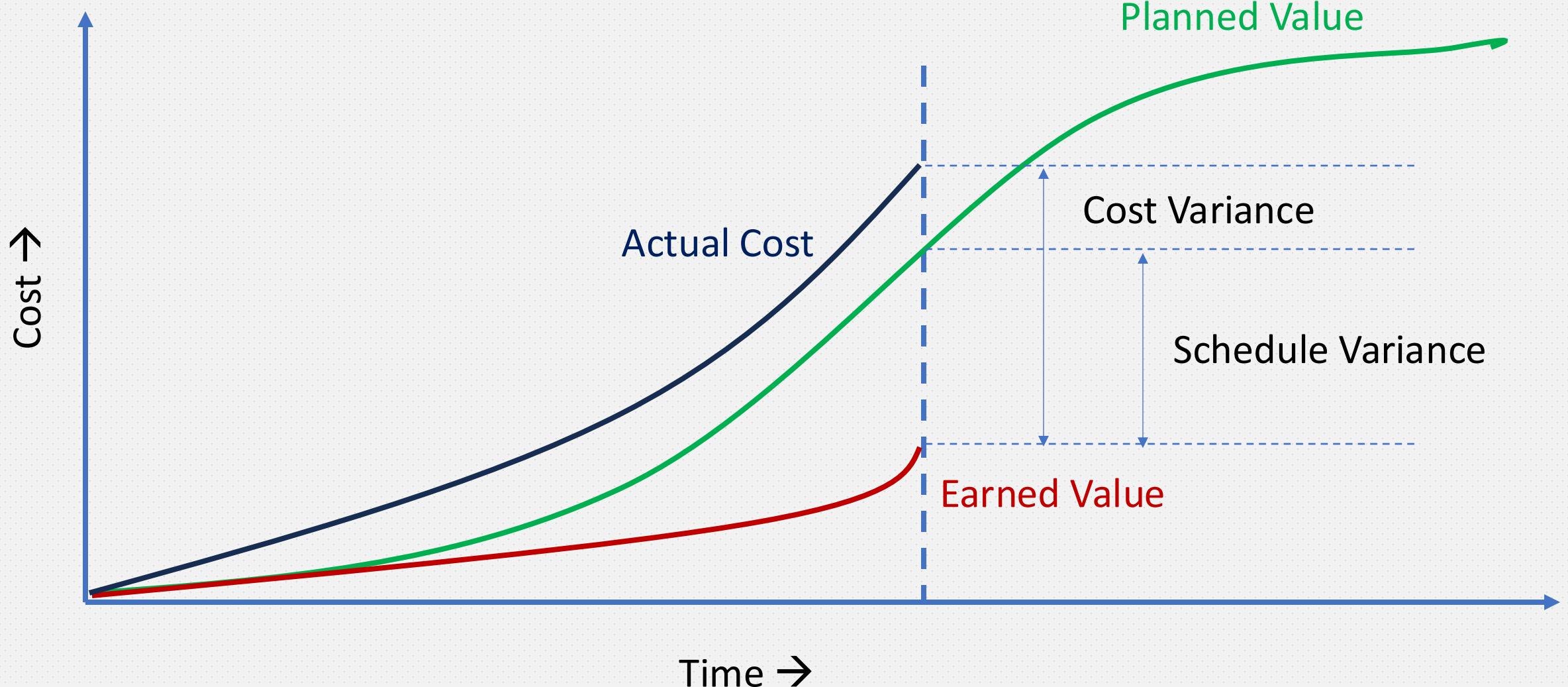
$VAC = BAC - EAC$

To-Complete
Performance Index

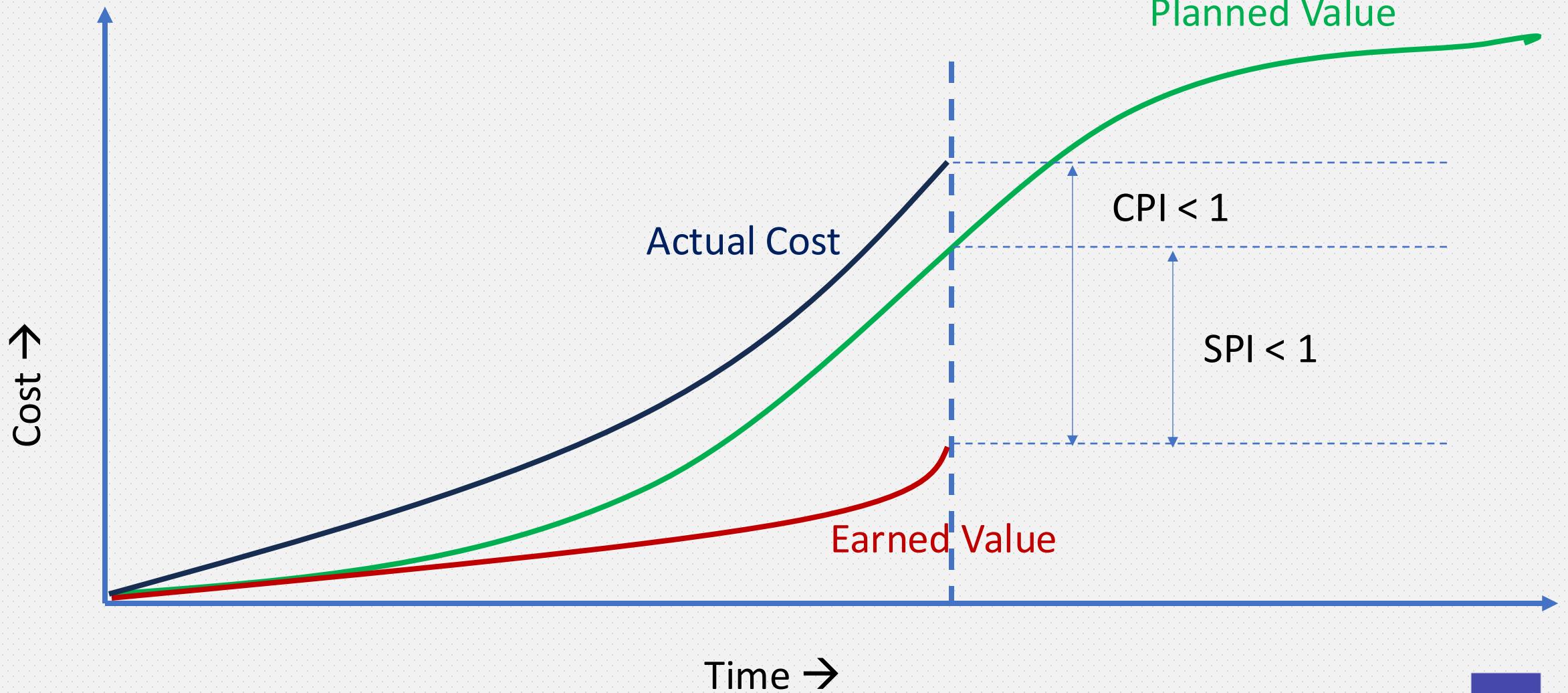
What rate do you need to stay within budget

$TCPI = (BAC - EV) / (BAC - AC)$

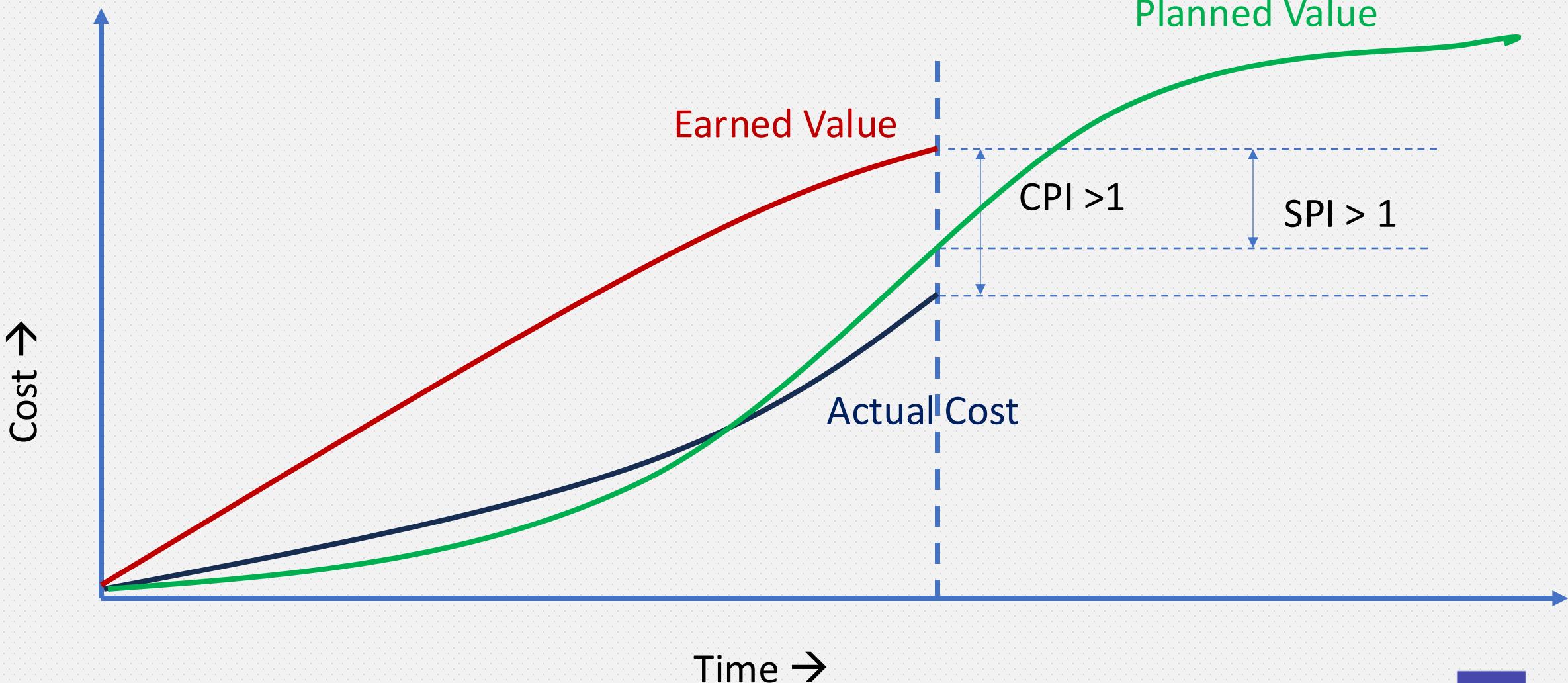
Schedule and Cost Variance



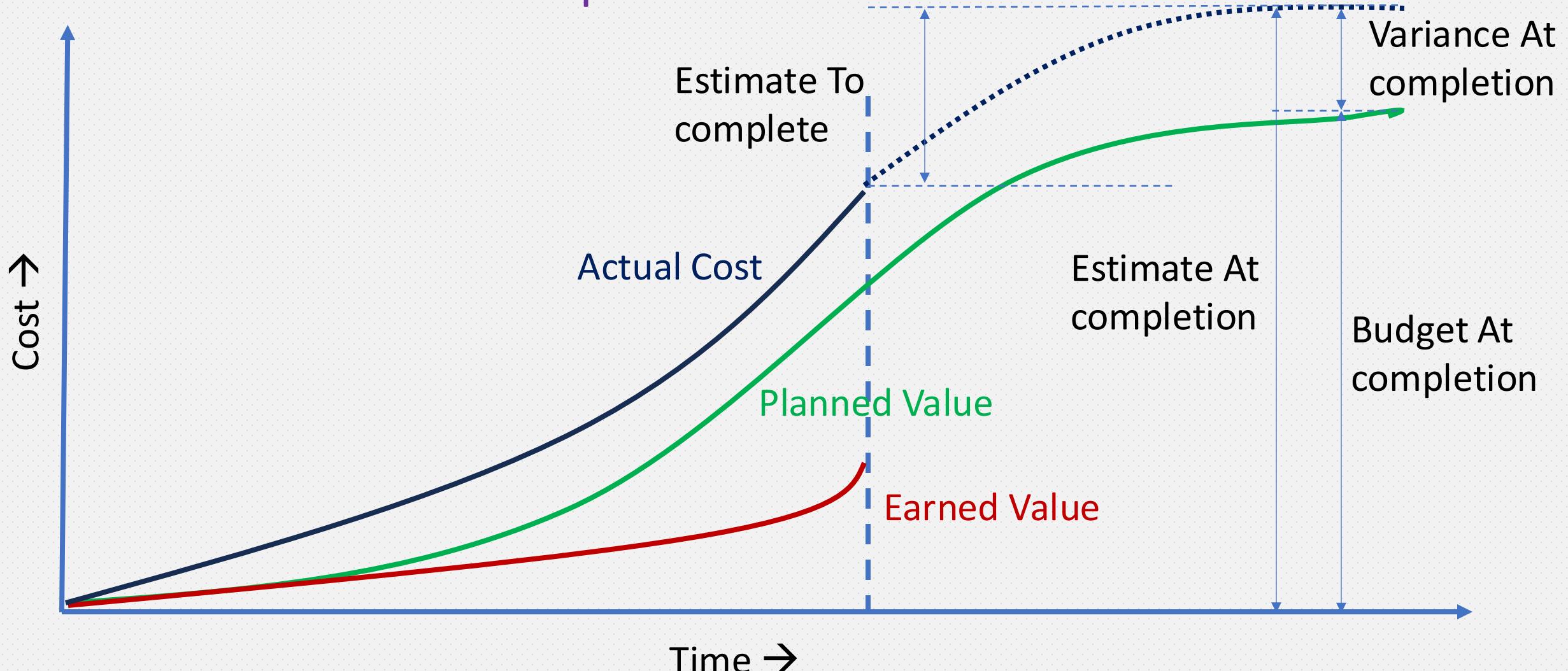
Schedule and Cost Performance index



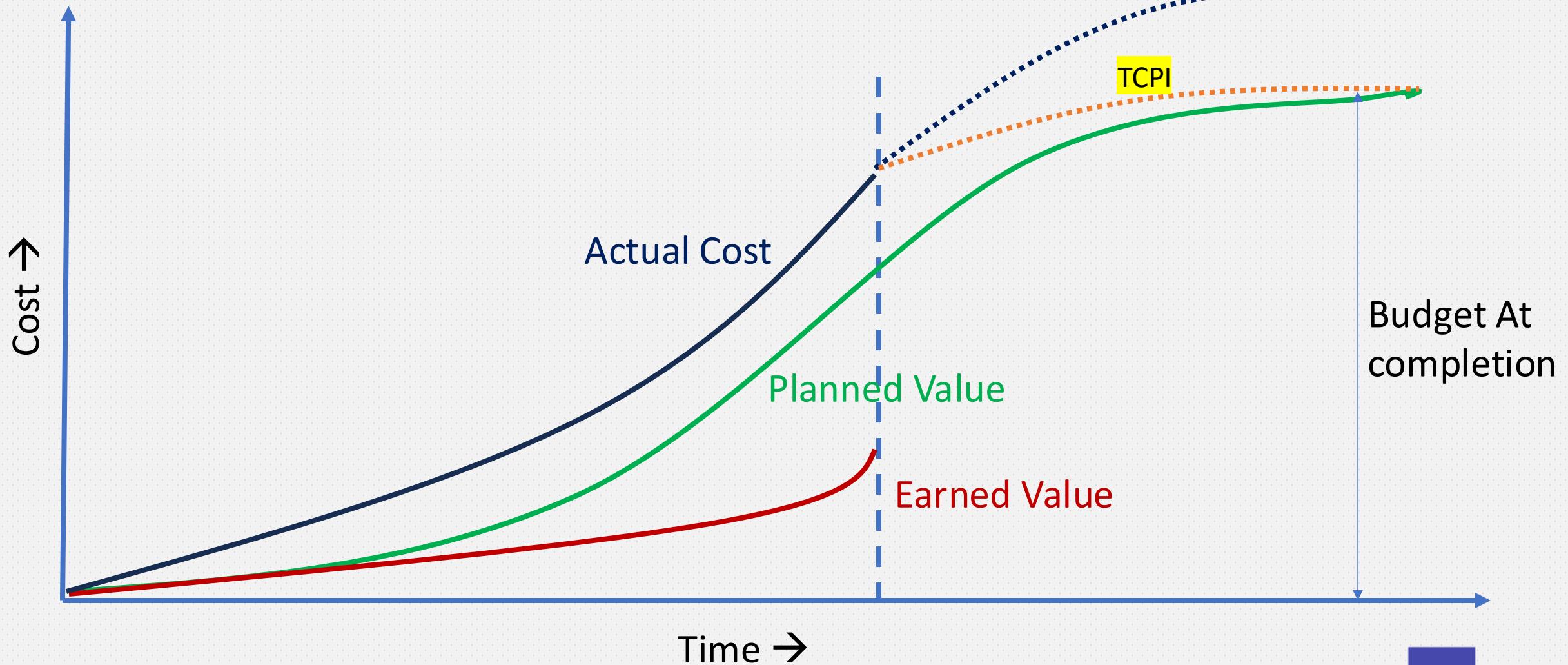
Schedule and Cost Performance index



Estimate At Completion



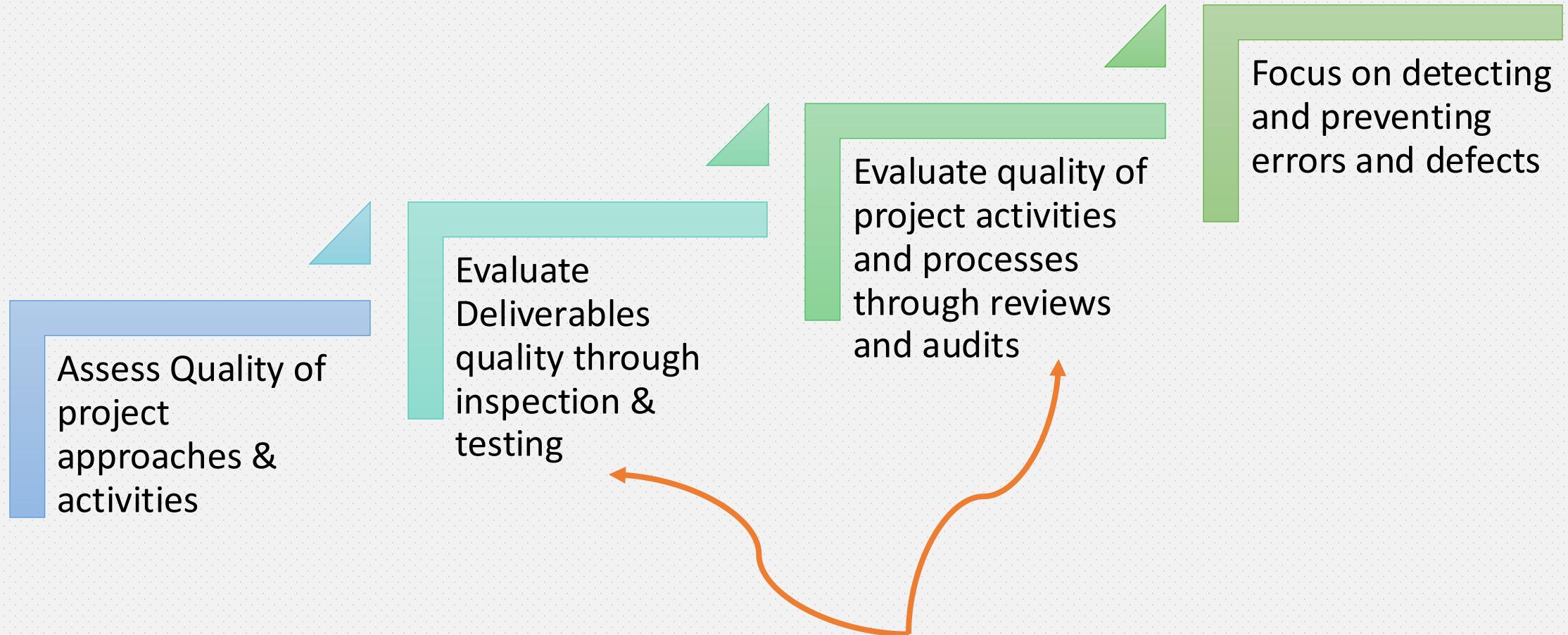
To-complete performance index



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Measuring Quality

Manage Quality



Quality Terms

- **Standards:** Benchmark or Model created by an authority, or by general consent
- **Regulations:** Requirements imposed by government body
- **De-facto regulations:** Widely accepted but not officially sanctioned

Cost of Quality

Prevention cost

- Cost related to prevention of poor quality

Appraisal cost

- Cost related to measuring, auditing, testing

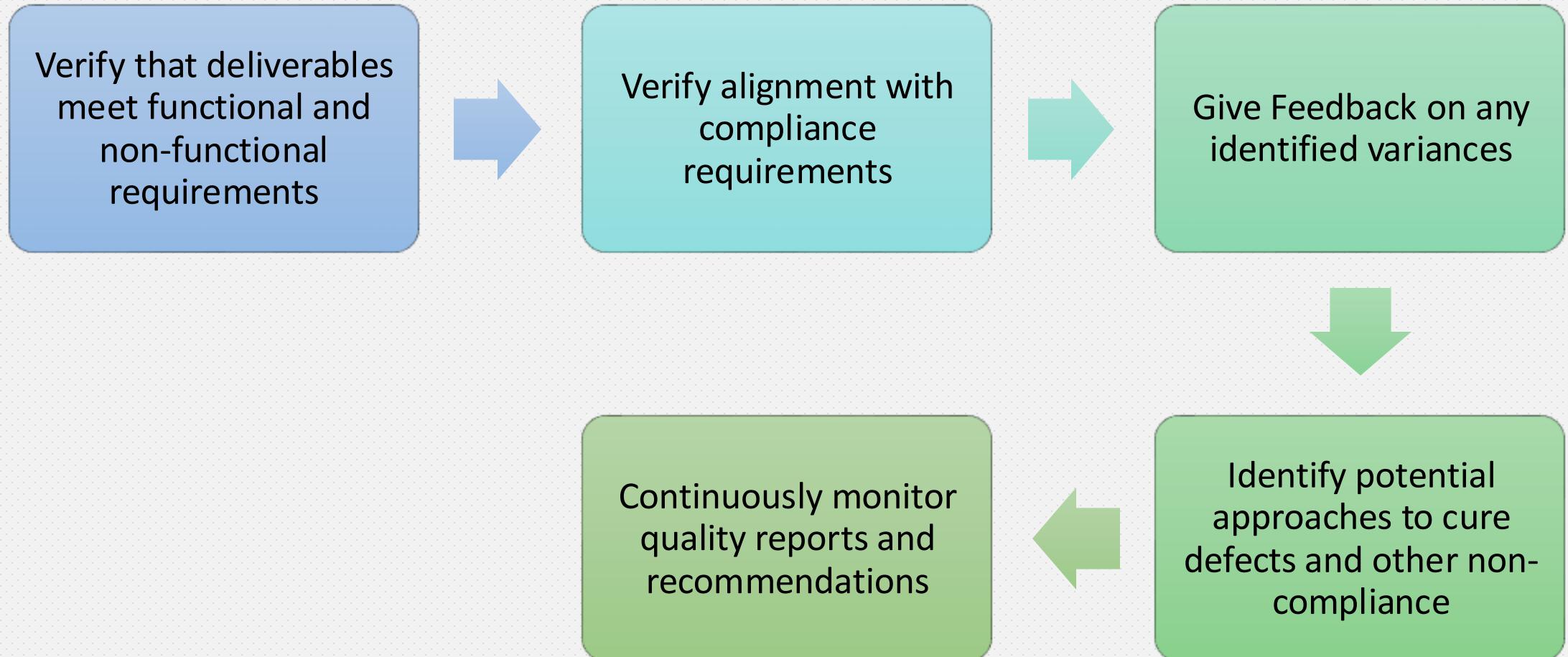
Failure cost

- Cost related to non-conformance

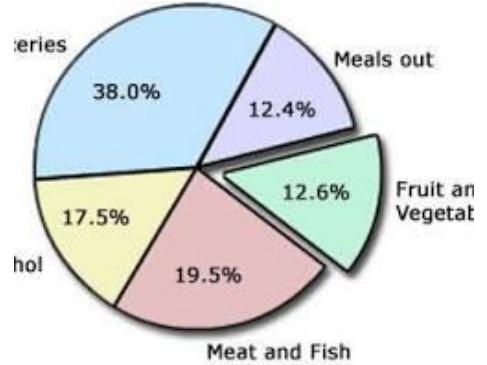
Quality terms

Quality Activity	Definition	Purpose
Inspection	Systematic examination of work products or processes	Identify and correct defects, errors, or deviations from specified requirements.
Testing	Systematic evaluation of a product or system	Verify that the product or system functions correctly, meets specified requirements.
Review	Collaborative examination of project documents/processes	Improve the overall quality of project deliverables and processes through discussions and feedback.
Audit	Systematic and independent examination of processes and activities	Ensure compliance with defined policies, procedures, and standards, and identify areas for improvement.

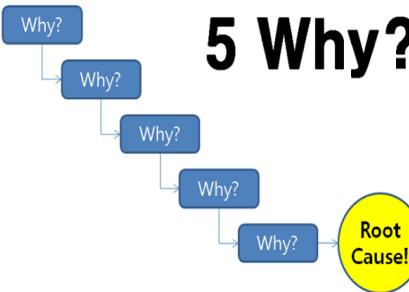
Quality control activities



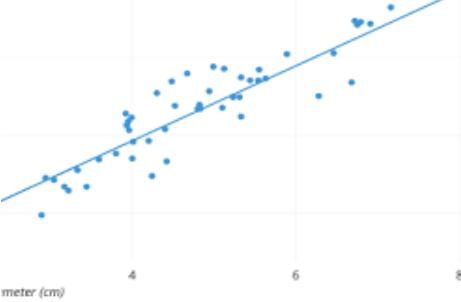
Data gathering tools

Terms	Definition	Image												
Statistical Sampling	<p>Selecting a representative subset of a population instead of the entire population for analysis.</p> <p>Provides data to assess the quality of the entire population without having to inspect everything</p>	 <p>A pie chart illustrating the distribution of food expenditure across five categories:</p> <table border="1"><thead><tr><th>Category</th><th>Percentage</th></tr></thead><tbody><tr><td>Meals out</td><td>12.4%</td></tr><tr><td>Fruit and Vegetables</td><td>12.6%</td></tr><tr><td>Meat and Fish</td><td>19.5%</td></tr><tr><td>Bread and Cereals</td><td>38.0%</td></tr><tr><td>Holiday meals</td><td>17.5%</td></tr></tbody></table>	Category	Percentage	Meals out	12.4%	Fruit and Vegetables	12.6%	Meat and Fish	19.5%	Bread and Cereals	38.0%	Holiday meals	17.5%
Category	Percentage													
Meals out	12.4%													
Fruit and Vegetables	12.6%													
Meat and Fish	19.5%													
Bread and Cereals	38.0%													
Holiday meals	17.5%													
Questionnaire and Surveys	<p>Collecting data from individuals through a set of questions.</p> <p>Gather feedback on customer satisfaction, employee engagement, or other quality-related factors</p>	 <p>An illustration of a person in a blue shirt and teal pants holding a large clipboard. The clipboard has a checklist with several items marked with red checkmarks. The person is standing next to a pink potted plant and a small blue balloon. A red pushpin is pinned to the top of the clipboard.</p>												

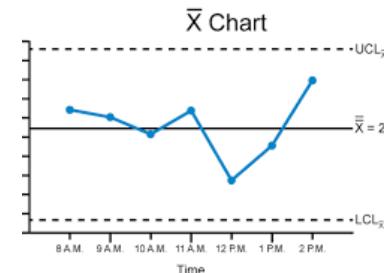
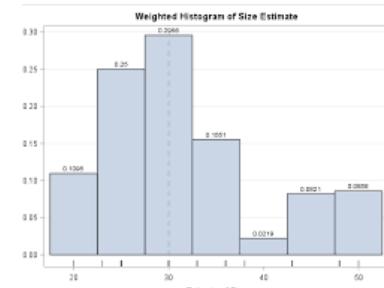
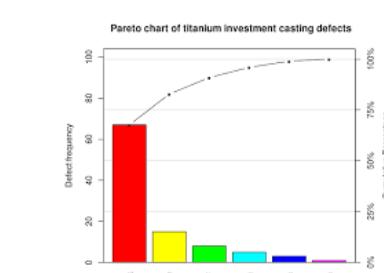
Data Analysis tools

Terms	Definition	Image
Performance Reviews	<p>Evaluating the effectiveness of individuals, teams, or processes.</p> <p>Identify areas for improvement and promote continuous improvement</p>	 <p>The image shows a digital form titled "LENNOX EMPLOYEE PERFORMANCE REVIEW". It has sections for "EMPLOYEE INFORMATION" (Employee Name, Review Period, Department, Date of Review), performance metrics ("Ability to Accomplish Responsibilities", "Good Achievements", "Suggested Areas of Improvement", "Demonstration of Core Values", "Additional Comments"), and a "REVIEWED BY" section (Reviewer Name, Reviewer Position). The entire form is presented in a light green color scheme.</p>
Root Cause Analysis	<p>Identifying the underlying cause of a problem.</p> <p>Prevents similar problems from happening again and ensures lasting quality improvements</p>	 <p>The diagram illustrates the "5 Why" analysis method. It shows a vertical sequence of five blue rounded rectangular boxes, each containing the word "Why?". Arrows point from the bottom of one box to the top of the next, representing the iterative process of asking why a problem occurs. To the right of this sequence, the text "5 Why?" is written in large, bold, black letters. In the bottom right corner of the diagram area, there is a yellow circle containing the text "Root Cause!".</p>

Data Representation

Terms	Definition	Images
Cause and Effect Diagram (Ishikawa Diagram)	<p>Visually mapping out the potential causes of a problem.</p> <p>Organizes brainstorming and helps identify root causes</p>	
Scatter Diagram	<p>Plotting two variables on a graph to see if they are related.</p> <p>Identifies relationships between variables that may be affecting quality</p>	

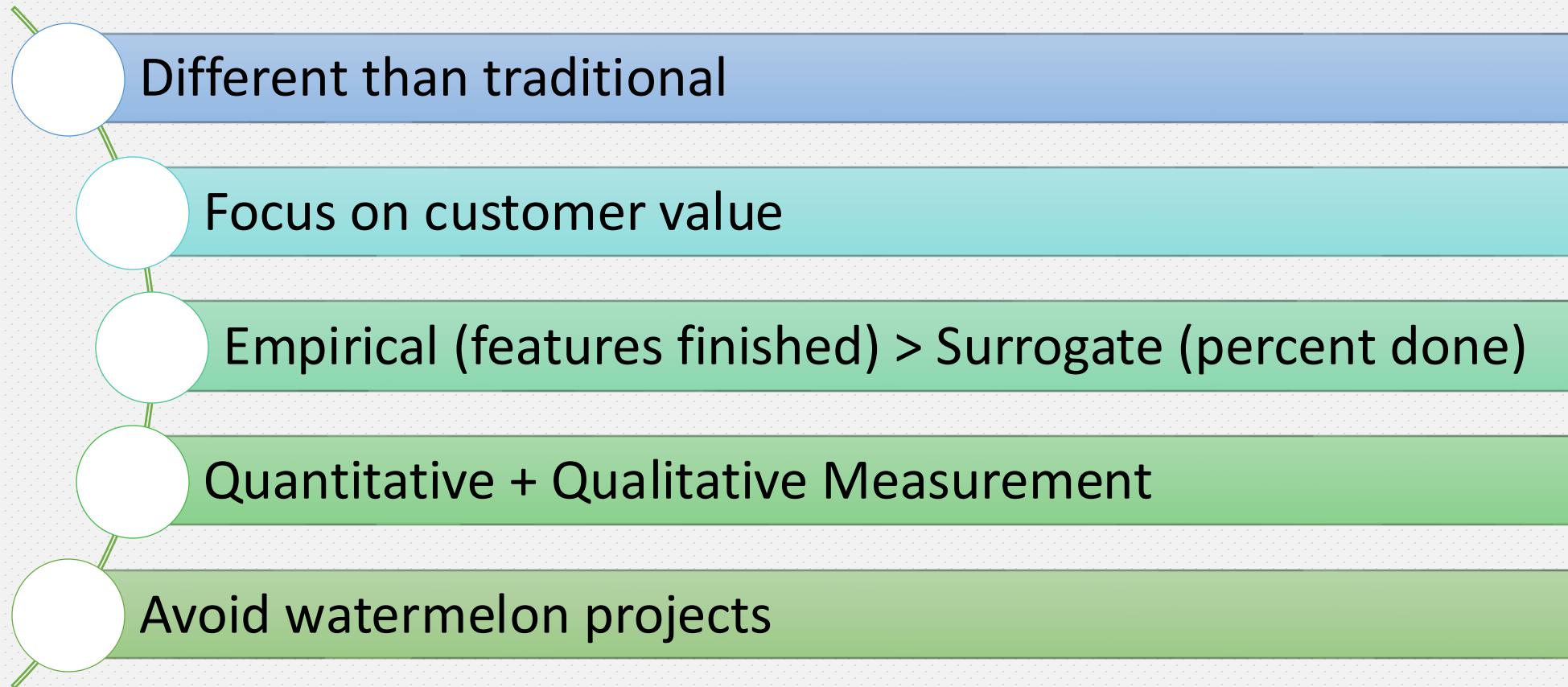
Data Representation Tools

Terms	Definition	Images
Control Charts	<p>Monitoring a process over time to detect out-of-control variations.</p> <p>Ensures processes are stable and predictable, leading to consistent quality</p>	 <p>An X-bar chart titled "X Chart". The vertical axis represents the mean value $\bar{X} = 20$. The horizontal axis represents time from 8 A.M. to 2 P.M. The chart shows a series of data points connected by a line, with upper and lower control limits (UCL and LCL) indicated by dashed lines.</p>
Histogram	<p>Displaying the distribution of data in a frequency table or bar chart.</p> <p>Helps understand the variability of a process and identify potential quality issues</p>	 <p>A weighted histogram titled "Weighted Histogram of Size Estimate". The vertical axis ranges from 0.00 to 0.35. The horizontal axis is labeled "Estimate of Size" with categories 20, 30, 40, and 50. The bars represent frequencies: 0.1308 (at 20), 0.25 (at 30), 0.1651 (at 40), and 0.0219 (at 50).</p>
Pareto Chart	<p>Ranking problems or defects by frequency to identify the most significant ones.</p> <p>Focuses improvement efforts on the "vital few" that have the biggest impact on quality</p>	 <p>A Pareto chart titled "Pareto chart of titanium investment casting defects". The left Y-axis is "Defect frequency" (0 to 100). The right Y-axis is "Cumulative Percentage" (0% to 100%). The X-axis lists defect types: YR, SFR, OF, ION, and ION. The first defect, YR, has the highest frequency at approximately 75, contributing to about 50% of the cumulative total.</p>

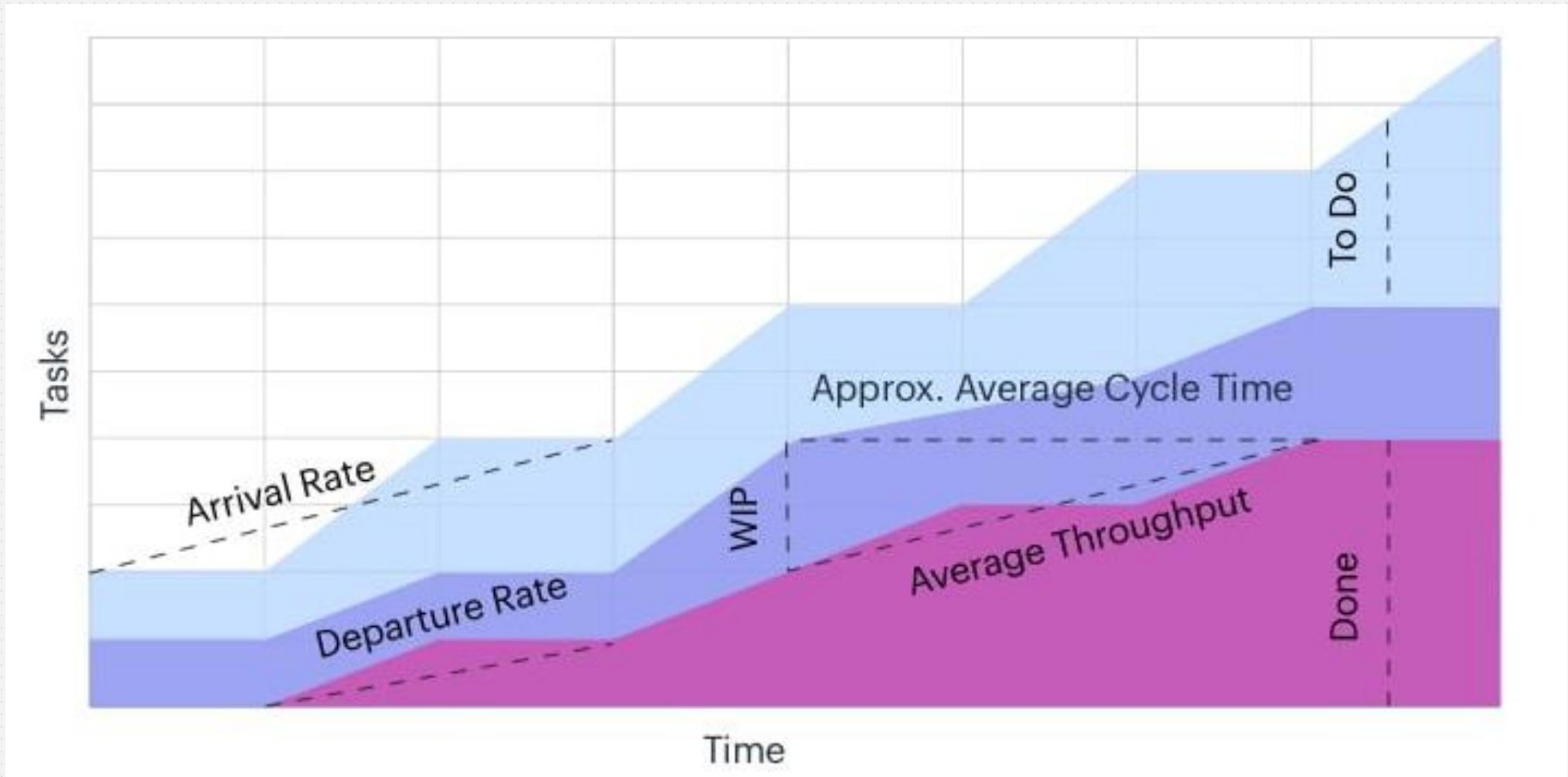
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Measurement in Agile

Agile Measurement

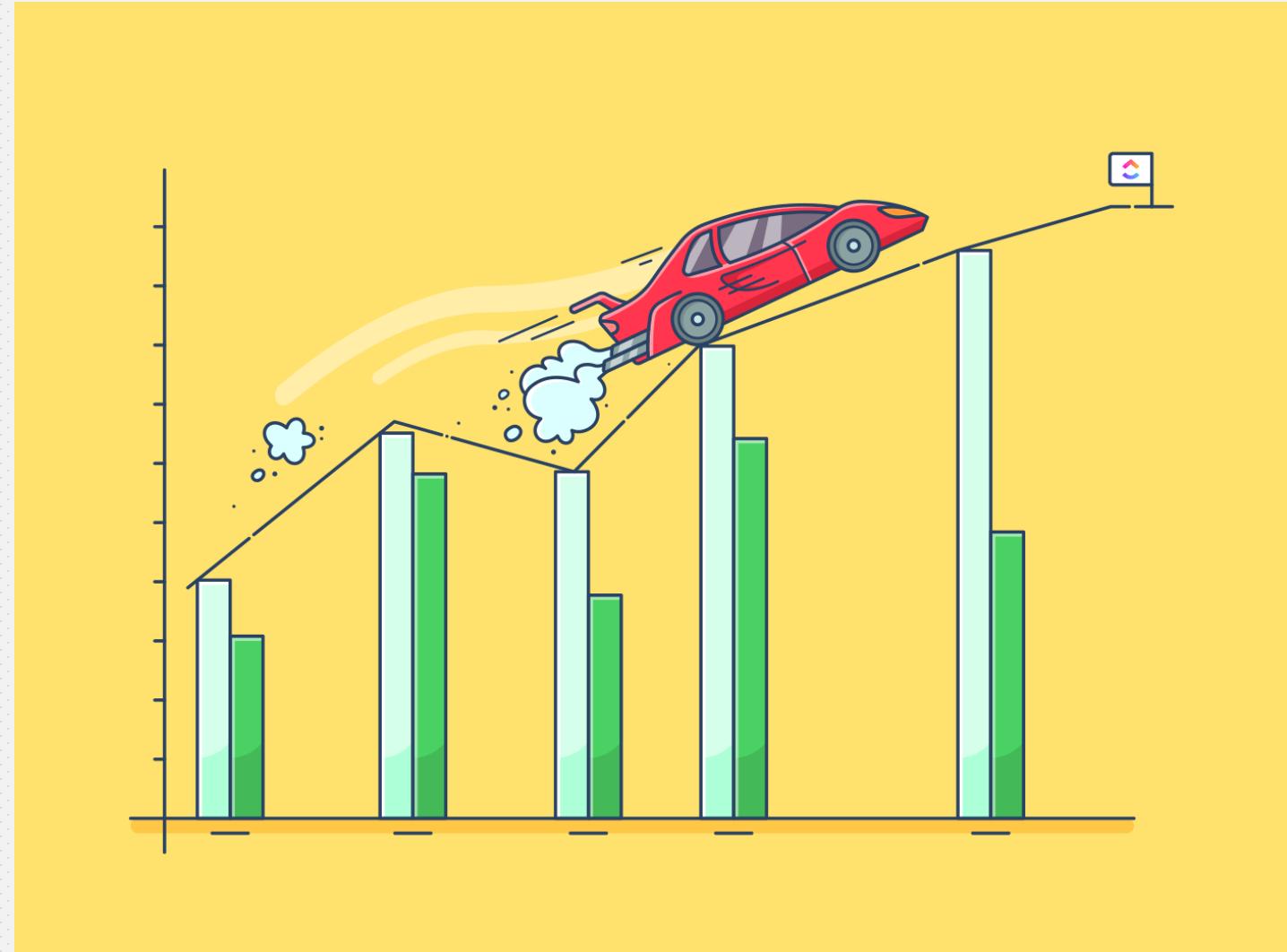


Cumulative flow diagram

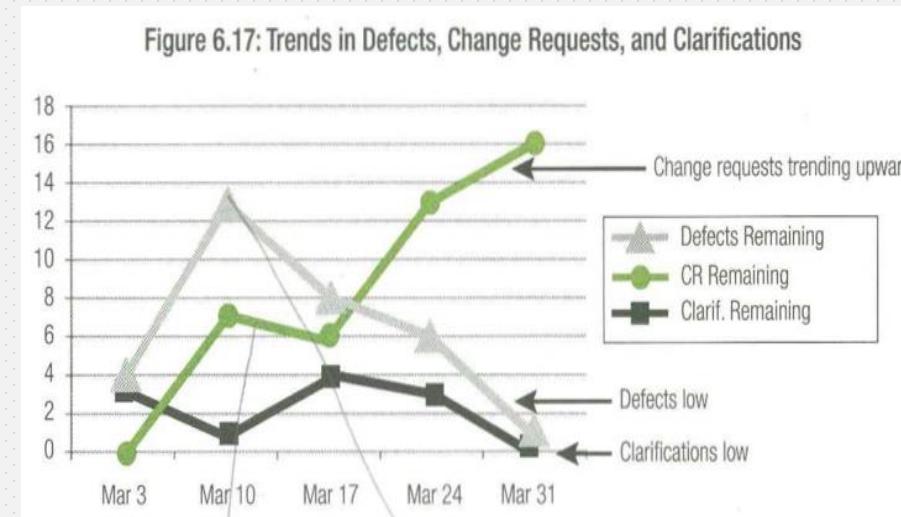
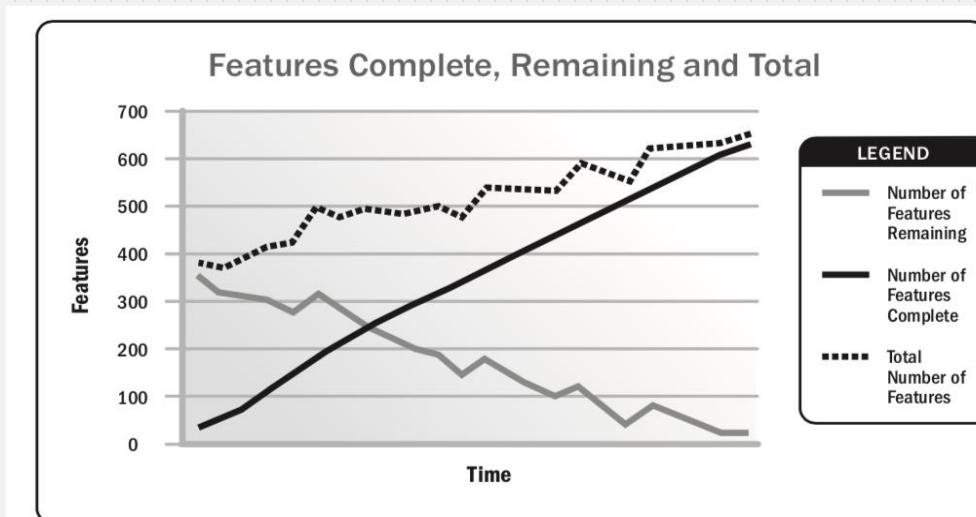
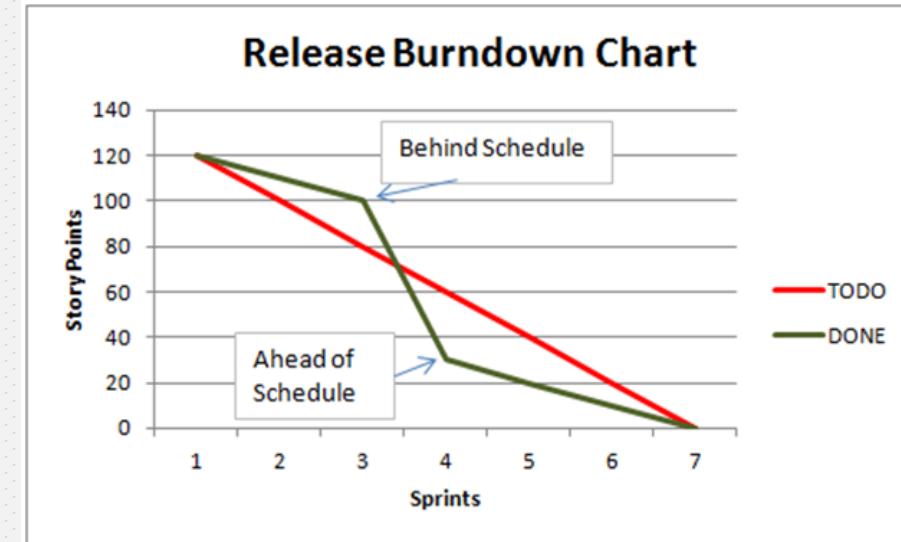
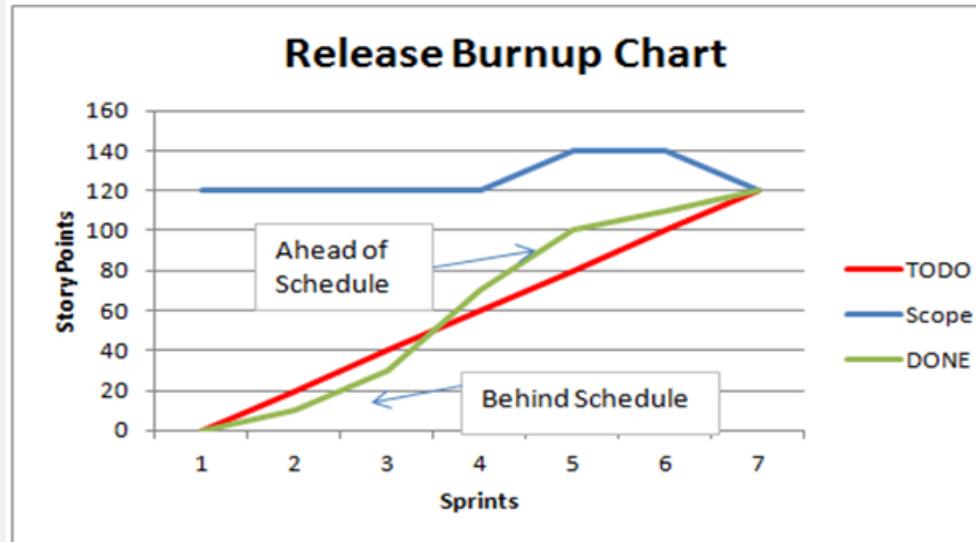


Velocity

Number of Story points
completed per iteration



Burn-down charts



Managing Knowledge and artifacts

Knowledge Management

Knowledge is the learnings from the way project is being managed- about business problems, technical domain, and specifics of the product or service being created.

Explicit Knowledge- Knowledge that can be stored with documentation, models, diagrams, and notes, then shared with others

Tacit Knowledge- beliefs, Experience, Intuition, and insights- Personal knowledge that is difficult to share or describe.

Techniques for knowledge transfer

- Networking & social events
- Organizing special interest groups and communities of practice
- Conferences, workshops, In-person/virtual events
- Interactive Training sessions
- Assigning buddies, work shadowing, and assigning mentors
- Reverse mentoring- Asking young team members about new technologies

Artifacts Management

Any document, model, or design related to project management.

Configuration Management

Process of managing changes to a product or service being created

Store, Track, and control artifacts

Ensure product specifications are current

Version Control

A system that records changes to file to retrieve previous modifications made to it.

Save and assign a new version number

Date, Time, Name of user

Build your own
Artifact
Management Plan

Learn about OPAs

Ensure to use
version controls

Share the
knowledge &
understanding

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Managing project closure

Closing

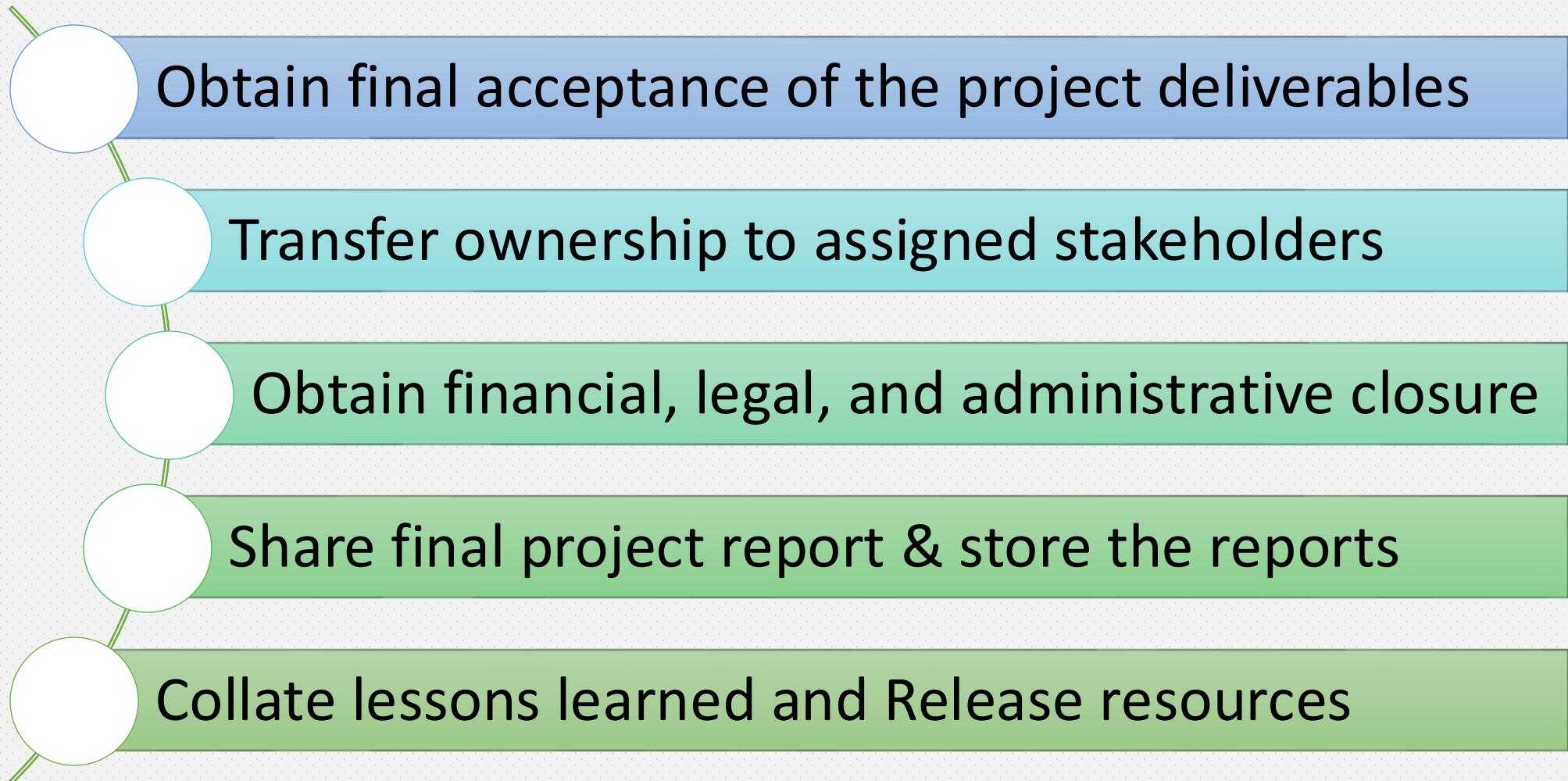
No Checking

No
completing
the work

Closing process group contains activities involved in wrapping up things that are completed, consolidating them, and closing the project financially and administratively.

No
documents
creation

How do we close a project?



Guidelines for closing the project

- Ensure that operations/downstream is **ready for takeover**
- Ensure that the project has satisfied the strategic goal(s) for which it was undertaken.
- Ensure that the whole scope of work has been completed, and make sure to receive formal documented acceptance from the client and sponsor.
- Review all contracts with the project team and suppliers.
- Review project management practices and ensure information is archived.
- Document lessons learned for future reference.
- Disband the project team and officially return resources to their functional locations.

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Exam mindset

Problem Solving

- **Understand the problem first > Analyse** for the reason of problems > Discuss and Collaborate for potential solution > understand and compare the impact of potential solution > **Take action**
- **Help the team arrive at a solution**, even when you are the expert in the field of their problem. This develops their problem-solving skills
- Select that **action which has least negative impact** in your project
- Just creating a document doesn't ensure resolution of problem- taking action does
- Whenever there's an issue between two members, **third person's involvement/escalation must be justified** by question, only then select an option that suggests their intervention.

Decision Making

- Consult with the project team before making decisions, as they will have a **practical approach** to solve problems: Participatory decision making
- Take decisions for the **benefit of the project**- always!
- Use **inclusive tools for collaboration** such as a whiteboard with a marker versus complex software. (**Low Tech and high touch**)
- **Always make an informed decision**- information in the question must justify the action taken

Conflict Management

- **Collaboration** is the best and most effective/long lasting conflict resolution technique
- Before attempting to resolve a conflict between team members, be sure to **understand the reason** of the conflict.
- Conflicts between team member should always be **resolved for the benefits of the project** objectives not to satisfy one member over another.
- Positive conflicts (difference in opinion) develop innovation and creativity. Provide a safe environment for disagreements. **Do not punish anyone** for having a difference of opinion.
- In case of any conflict within or beyond the teams, the conflict is **resolved first within the conflicting members**, and is escalated only if the members are not able to resolve the conflict

Risk Management

- Identify **as many risks as early as possible** on a project.
- **Flow of activities will be tested:** Identify > Analyse > Prioritize > Plan response > Implement response > Monitor response
- A negative risk is known as a threat while positive risk is known as an opportunity. Questions will be asked on **both these type of risks** and their responses.
- Know the Risk responses well- when to take which response
- Identify the **difference between risk and issue**
 - Risk is probable- it might or might not happen
 - Issue is certain- it has already happened

Initiating a Project

- While developing a Project Charter, **only high-level information** are captured. Words like detail, subjective, comprehensive are not suited for Project Charter.
- Formal initiation of a project **helps in providing clarity** to all relevant Stakeholders and reduces Risks
- Project Charter is the first thing you should check **when you join a project in between** to learn about the project. If project charter is not mentioned in the option – Project Objective/Product vision/goals etc might be mentioned

Planning

- **Every activity** that happens on a project, **is planned**. If anything extra is to be done, first the plan will be changed with necessary approvals and then the work will be carried out
- Involve **Team members AND Stakeholders** in planning for clarity and better suggestions
- Plan for **regular work**, changes, and mistakes in the project, not just for regular flow of work
- Create **Realistic estimates** in the plan- it builds trust; Padding/Buffer is a big NO
- Define Quality requirements **early in the project** and check regularly to ensure those are met
- **Never change plans** without approved Change request

Executing

- **Gold Plating**- adding additional feature or higher quality than required- not a wise choice
- **Knowledge transfer** of data generated during execution must be completed – use multiple ways to share knowledge- Explicit- Videos, PDFs etc. Tacit- team building, meeting, discussions.
- When everything is going right in the project, you may still need to talk to the team about upcoming task to ensure they're prepared and to **influence them for taking action**
- **Execution means following what was planned**; if it was not planned, it must not be executed. (Planning doesn't always mean plan document)
- Help the team do their work; **be cautious with words** like direct/command/control/tell; words like help/support/guide/coach are better

Closing the Project

- When closing the project ensure that **contracts are closed** and resources are released.
- Those projects that are terminated early for any reason, **still need to be closed formally.**
- Update the Lessons learned register **throughout the entire project**. This way it can be transferred to future projects in the organization.
- **Premature closure is a BIG decision;** the justification must also be huge. Just because you face a problem or performance is down- you will not terminate the project. (Illegal, unethical or no money are more likely reasons for premature closure).

Agile Mindset

- Be a **Servant Leader** throughout the project.
 - **Help** them solve their problems; don't leave them alone
 - **Prevent** the team from any interruptions to their work
 - **Keep** talking to them about how their work is aligned to project objective
 - **Proactively** look for what your team might need, and provide them that



Agile Mindset

- **Take emotionally intelligent decisions**- don't get angry, don't get involved in conflict, don't participate in fights
- **Engage stakeholders** - seek their advice/suggestions, involve them in planning/problem solving, show the product completion, share progress reports, ask for guidance
- **Don't shy away from educating** Stakeholders/Sponsor/or any one from management/customer side if they have not developed the Agile mindset

Agile Mindset

- All 3 Agile roles are distinct and in no circumstances the responsibilities are exchanged.
 - Product owner- provides the requirements
 - Team works on the requirement
 - Facilitator/Project Manager/Agile lead ensures that the everything runs smooth
- Product owner **OWNS** the backlog. Only a product owner can prioritize the features in the product backlog. **DO NOT** ever prioritize the features yourself, this is the job of the product owner.
- Use co-location and Face-to-face communications whenever possible.
- **Face-2-Face** is the richest form of communication. white board and markers – even better
- Provide agile teams with lots of wall space so they can write on them and use sticky notes

Agile Mindset

- Information should always be radiated through the use of large charts and graphs (**Information Radiator**), such as the use of a burn-up or burn-down chart.
- Any problem that occurs on a project should be resolved by the project team. Always help the project team choose a solution while coaching and supporting their solutions. But don't leave them alone.
- Look for feedbacks from everyone and as early as possible. While working, after completion of work, after integration, after release. At multiple levels.

Exam Mindset

- Upon completion, the result of projects (Products, Services, or Results) are always handed over to operations team (internal or external) upon completion. Project Managers (You) must ensure that the operations team is ready for taking over.
- As a Project Manager, every decision that you will take should be beneficial or least impactful in negative sense for the project. Always check impact on the 6 major constraints before taking a decision.
- A Project Manager must always be pro-active in anticipating and taking necessary action to reduce mistakes in project.
- A Project Manager must think of the whole system, and ensure the relation between the project and its environment is smooth

Thank you!