

Project Management

2UCC701

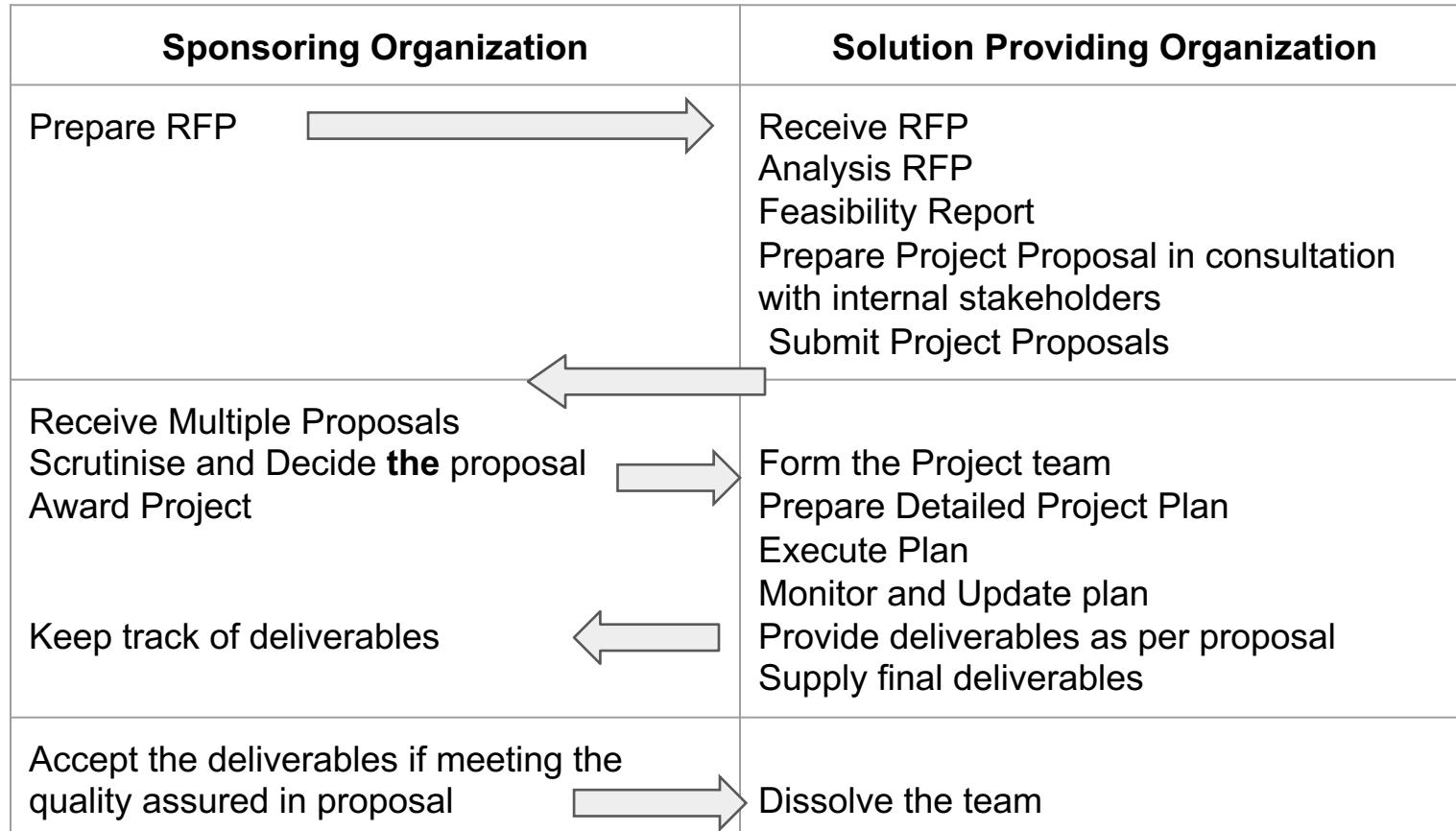
August 2022- December 2022

Module 2: Project Management Process (05)

CO2 : Plan various project activities based on efforts and duration estimations by analyzing risks involved in it.

- Project Process
- Process Groups
- Agile Methodology, Scrum, Kanban.
- Process Interactions, Customizing Process Interactions,
- Mapping of Project Management Process.
- Organizational influence.

2.1 Project Process



Project Management Processes

Project management processes can be arranged in the five process groups:

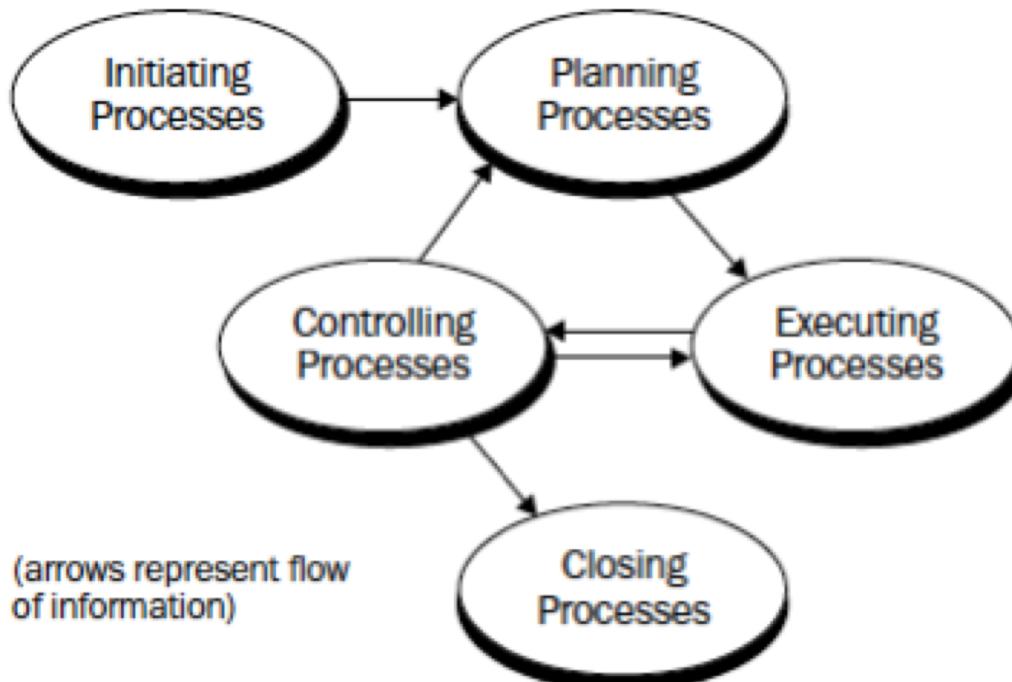
- **Initiating processes:** authorising the project & phases
- **Planning processes:** defining & refining objectives; select the best of alternative courses of action to attain the objectives that the project was undertaken to address
- **Executing Processes:** coordinate people & resources to carry out the plan
- **Controlling processes:** ensuring that the project objectives are met by monitoring & measuring progress regularly to identify variance from plan so that the corrective actions can be taken when necessary.
- **Closing processes:** formalizing acceptance of project or phase and bringing it to orderly end

2.2 Process Groups

Project management processes can be arranged in the five process groups:

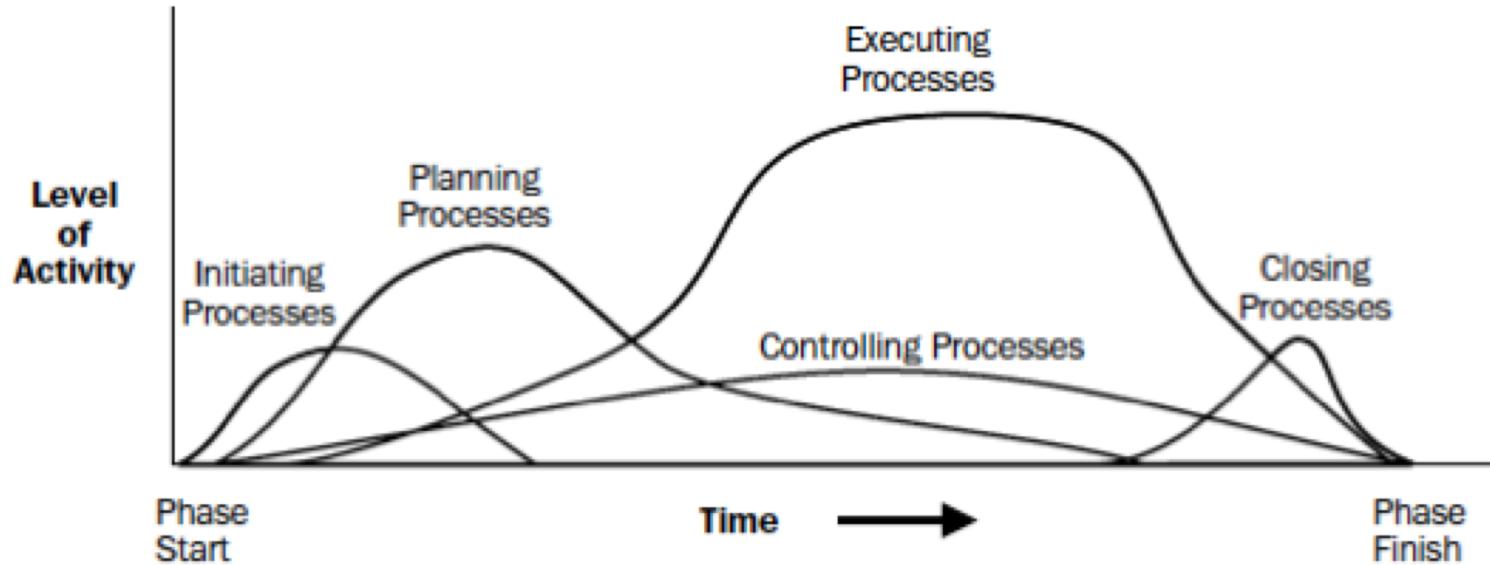
- Initiating processes:
- Planning processes:
- Executing Processes:
- Controlling processes:
- Closing processes:

2.2 Process Groups



- Links among Process Groups in a Phase

2.2 Process Groups



Overlap of Process Groups in a Phase

2.3 Agile Methodology, Scrum, Kanban

- **Agile Methodology**

A project management methodology characterized by building products using short cycles of work that allow for rapid production and constant revision.

- **Scrum Methodology**

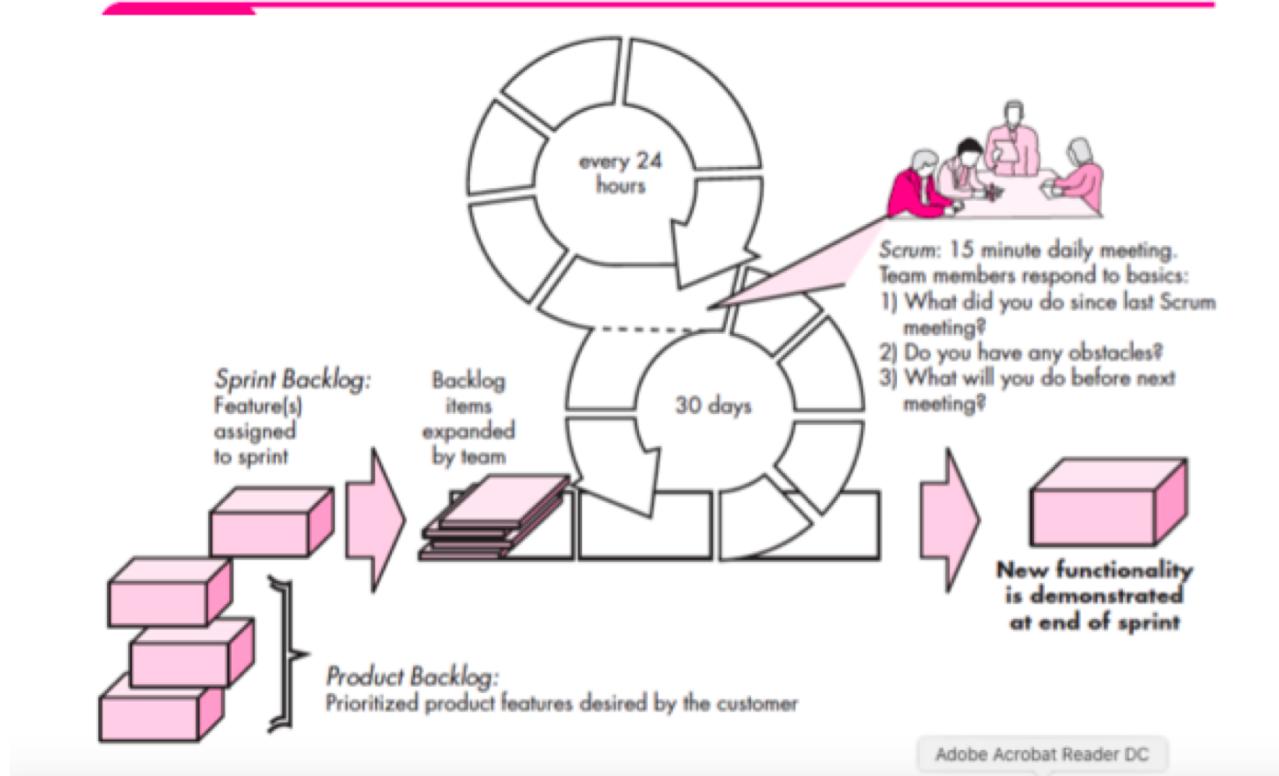
A Project Management methodology in which a small team is led by a Scrum master, whose main job is to clear away all obstacles to completing work. Work is done in short cycles called sprints, but the team meets daily to discuss current tasks and roadblocks.

- **Kanban**

A visual approach to project management where teams create physical representations of their tasks, often using sticky notes on whiteboards (or online apps). Tasks are moved through predetermined stages to track progress and identify common roadblocks

2.3 Agile Methodology, Scrum, Kanban

● Scrum



2.3 Agile Methodology, Scrum, Kanban

- Scrum
- Development work is partitioned into “**packets**”

Testing and documentation are on-going as the product is constructed
Work units occurs in “**sprints**” and is derived from a “**backlog**” of existing
changing prioritized requirements

Changes are not introduced in sprints (short term but stable) but in backlog

Meetings are very short (15 minutes daily) and sometimes conducted
without chairs (what did you do since last meeting? What obstacles are
you encountering? What do you plan to accomplish by next meeting?)

“**demos**” are delivered to the customer with the time-box allocated. May
not contain all functionalities. So customers can evaluate and give
feedbacks.

2.3 Agile Methodology, Scrum, Kanban

- Kanban: means “Sign”, “Signal Card”, “Tally” or “Large Visual Board” used to visualise the work in progress
- **Kanban:**
 - A method for defining , managing, and improving services that deliver **knowledge work**, such as professional services, creative endeavours, and the design of both physical & software products.
 - Making visible, what is otherwise intangible knowledge work-work that is requested and needed by the customer and that the service has capability to deliver
 - A delivery **flow system** that limits the amount of **work in progress WiP** by using visual signals
 - Signaling mechanism represented by **WiP Limits** prevent to less or too much work entering into the system

2.3 Agile Methodology, Scrum, Kanban

- **Kanban:**
 - **WiP Limit policies** create a **pull system** when other work is completed and the capacity becomes available , rather than pushed into it when new work is demanded
 - Focuses on the delivery **service** by an organization, service has a customer, who requests the work or whose need re identified, and who accepts or acknowledges the delivery of the completed work.

2.3 Agile Methodology, Scrum, Kanban

- **Kanban's Values:**
- Kanban method is motivated by the belief that respecting all individuals those contribute to collaborative enterprise is necessary for the success of venture



2.3 Agile Methodology, Scrum, Kanban

- **Kanban's Values:**
- **Transparency:** Sharing information openly improves the flow of business value. Use clear and straightforward vocabulary to indicate the status.
- **Balance:** Understanding that different aspects, viewpoints, and capabilities all must be balanced for effectiveness, aspects such as demand & capability will cause breakdown if they are out of balance for an extended period.
- **Collaboration:** working together will produce better results



2.3 Agile Methodology, Scrum, Kanban

- **Kanban's Values:**
- **Customer Focus:** Knowing the goals of the system, when the customer is to receive deliverables/ service. Could be internal or external to the organization.
- **Flow:** work is a flow of value, whether continuous or episodic.
- **Leadership:** Inspiring others to action through example, words, and reflection. Though the organizations may have hierarchy, but leadership is needed at all levels to achieve value delivery and improvement.



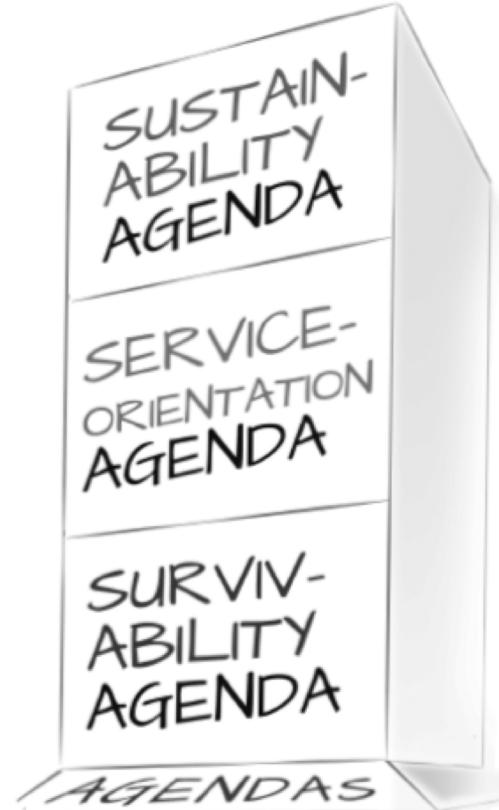
2.3 Agile Methodology, Scrum, Kanban

- **Kanban's Values:**
- **Understanding:** Primarily self-knowledge (both of the individual & of the organization) in order to move forward.
- **Agreement:** The commitment to move together towards goals, respective, accommodating (wherever possible) difference of opinion or approach. It not management by consensus but a dynamic co-commitment to improvement.
- **Respect:** Valuing, understanding & showing considerations for people.



2.3 Agile Methodology, Scrum, Kanban

- **Kanban Agenda:**
- **Sustainability:** Looks inwards within the organization for finding sustainable pace & improving focus. Goal is to build services that are NOT overburdened with work balancing between demand & capability thus improving customer satisfaction, staff engagement, collaboration & cost



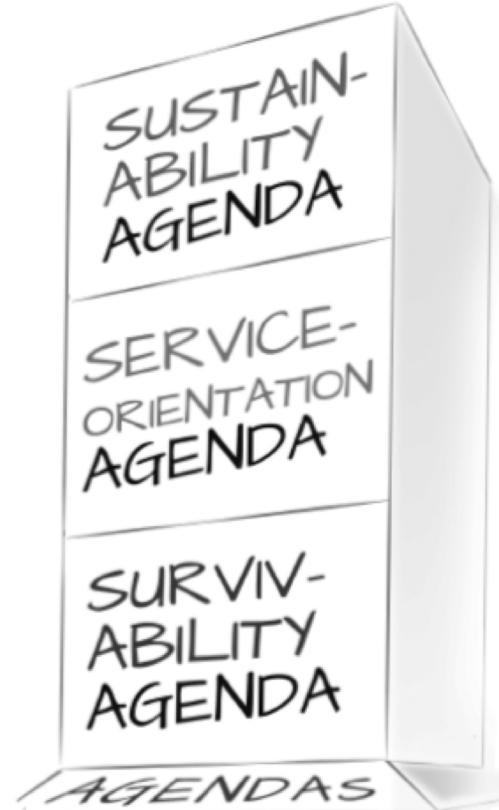
2.3 Agile Methodology, Scrum, Kanban

- **Kanban Agenda:**
- **Service Orientation:** Focuses attention on performance & customer satisfaction. Looks outward from the organization's purpose to its customers. Goal is to provide services to the customers that are fit for purpose that meet and exceed customer's need & expectations, profitability or returning value to stakeholders



2.3 Agile Methodology, Scrum, Kanban

- **Kanban Agenda:**
- **Survivability:** Concerned with staying competitive & adaptive. Consider the future activities to ensure that organization survives and thrives.



2.3 Agile Methodology, Scrum, Kanban

- **Fundamental Principles of Kanban**

- **Change Management Principles:**

1. **Start with what you do now:**

- understanding current processes, as they are actually practised
- Respecting existing roles, responsibilities & job titles.

- Helps in minimising the resistance
- Current practice brings wisdom & deficiencies
- Will provide as baseline to assess the progress

2. **Agree to pursue improvement through evolutionary change**

3. **Encourage acts of leaderships at every level**



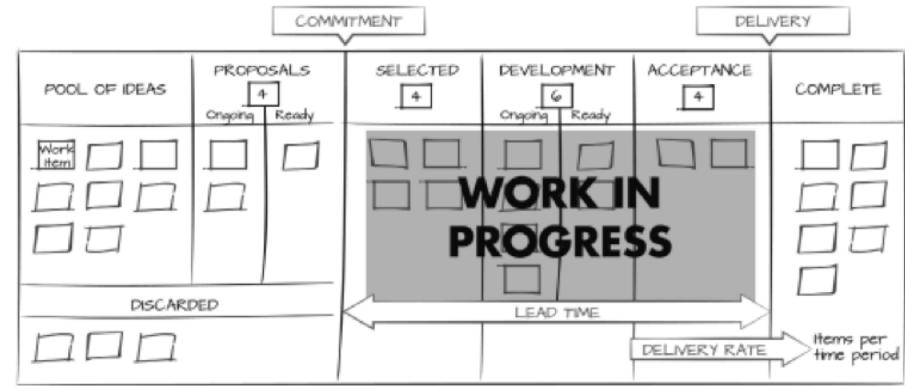
2.3 Agile Methodology, Scrum, Kanban

- **Fundamental Principles of Kanban**
- **Service Delivery Principles:**
 1. Understand and focus on Customers' needs & expectations
 2. Manage the works: let people self-organize around it
 3. Evolve policies to improve customer & business outcomes



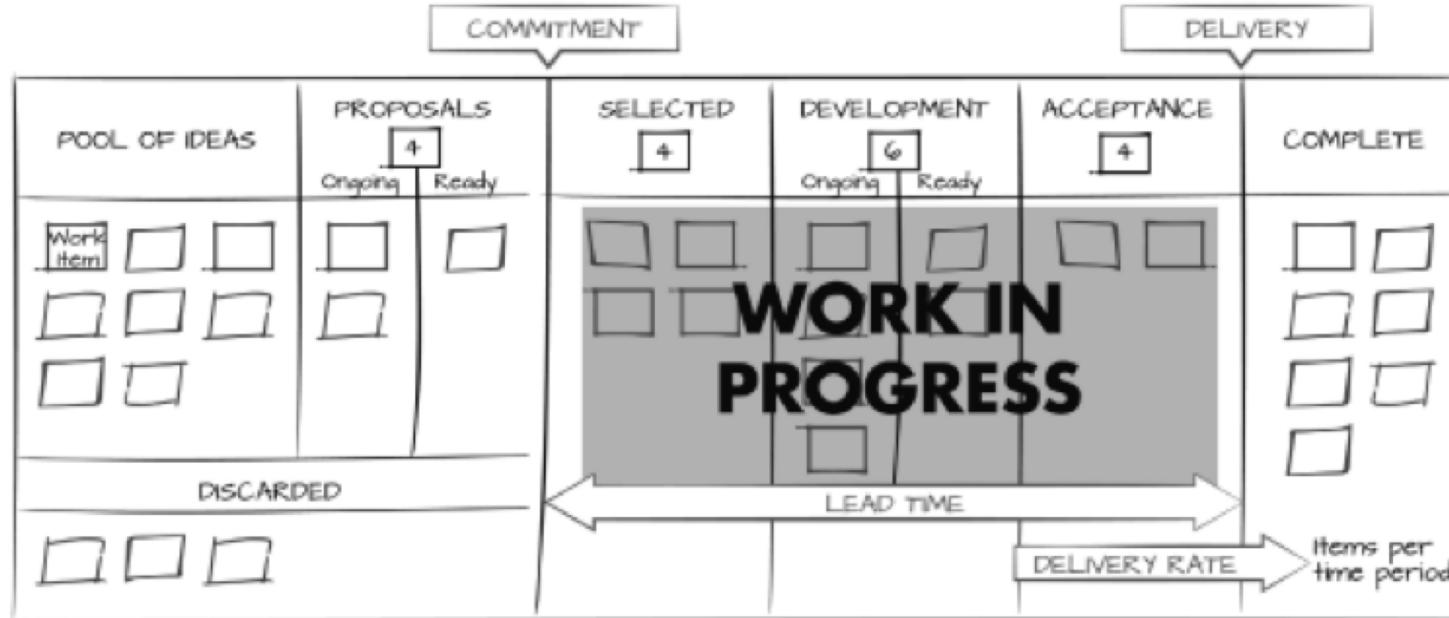
2.3 Agile Methodology, Scrum, Kanban

- Describing Flow Systems



2.3 Agile Methodology, Scrum, Kanban

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2.3 Agile Methodology, Scrum, Kanban

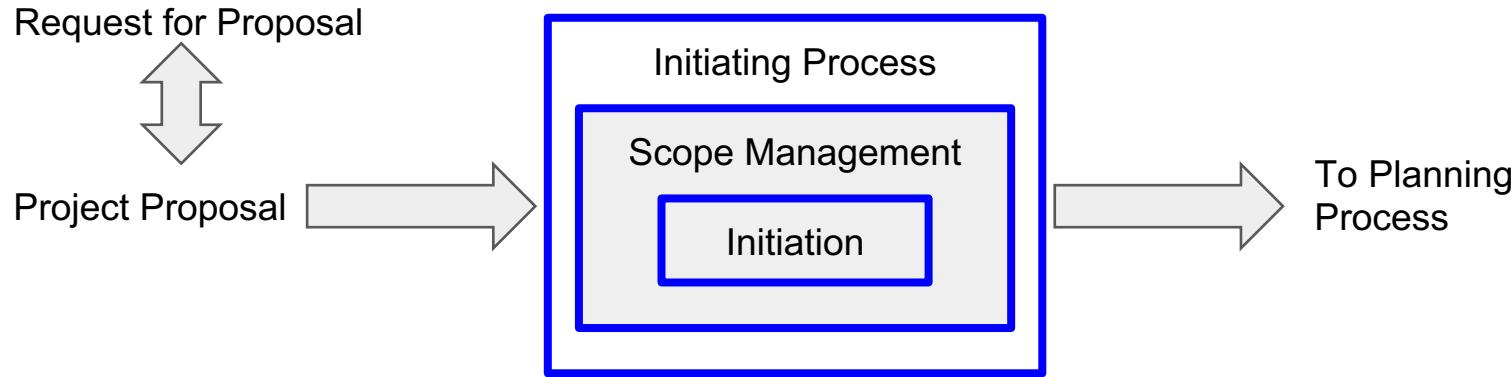
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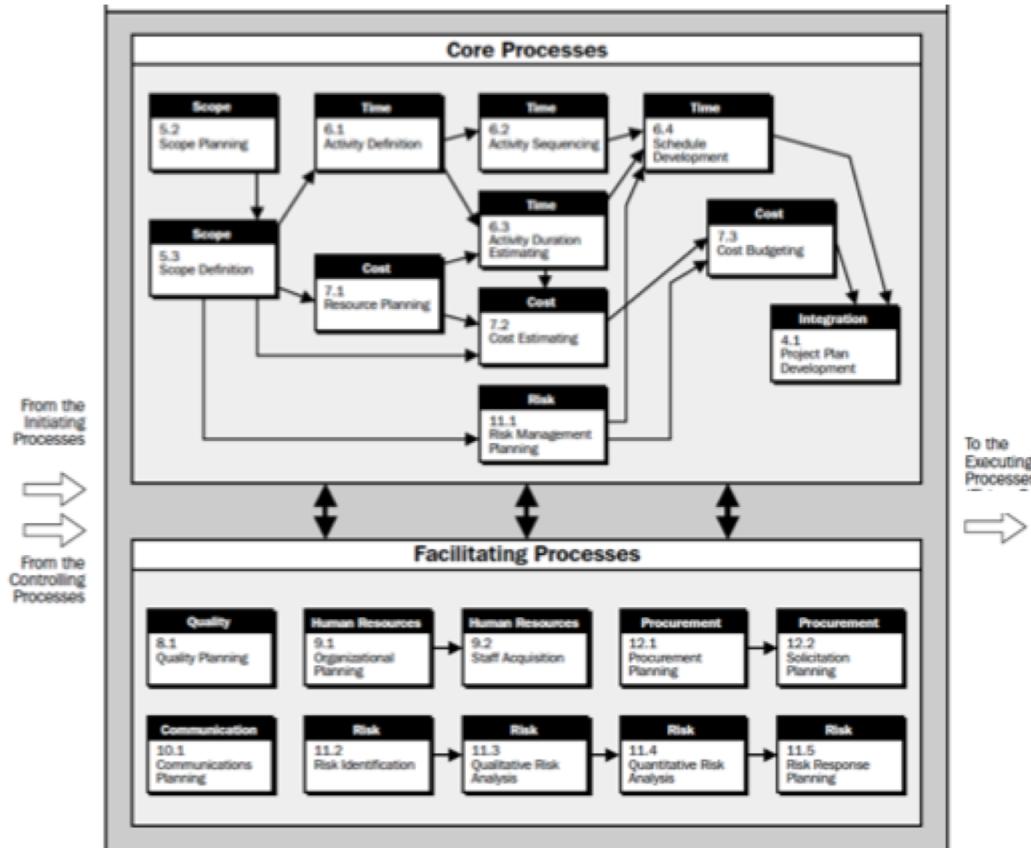
2.4 Process Interactions & Customizing Process Interactions

Process Interactions:

1. Initiating Processes:



2. Planning Process



2.4 Process Interactions & Customizing Process Interactions

2. Planning Processes:

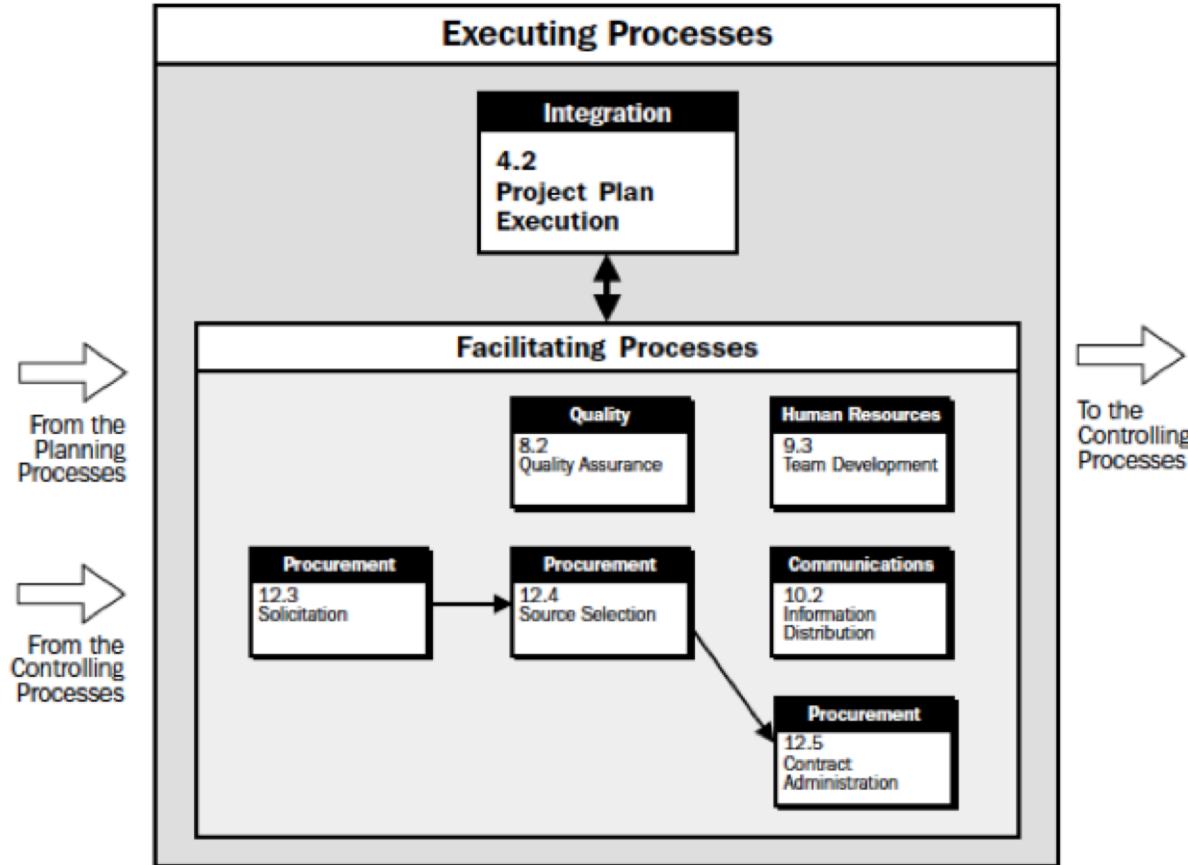
- Project being uncertain and unique , planning is very important
- Planning is ongoing effort throughout the life of the project
- Processes are iterative prior to completing project plan
- Core Processes:
 - Performed in the sequence in majority of the projects
 - Iterated during any one phase of the project
 1. **Scope Planning:** Develop a written scope statement which will work as basis for the rest of the project
 2. **Scope Definition:** Subdivide the major project deliverables into smaller, more manageable components
 3. **Activity Definition:** Identify specific activities that must be performed to produce the various project deliverables
 4. **Activity Sequencing:** Identify & document interactivity dependencies
 5. **Activity Duration Estimation:** estimating the number of work periods needed to complete individual activities
 6. **Schedule development:** Analyzing the activity sequences, activity durations, and resources required to create the project schedule
 7. **Risk Management Planning:** decide how to approach and plan for risk management in a project
 8. **Resource Planning:** Determine what resources (people, equipment material, etc.) and in what quantity of each should be used to perform the project activities
 9. **Cost Estimating:** developing approximate (estimate) of the costs of the resources required to complete the project activities
 10. **Cost Budgeting:** allocating the overall cost estimate to individual work package
 11. **Project Plan development:** taking the results of other planning processes and putting them into a consistent, coherent document.

2.4 Process Interactions & Customizing Process Interactions

2. Planning Processes:

- Facilitating Processes:
 - Performed intermittently as and when needed during project planning
 - NOT optional
 1. **Quality Planning:** Identify which quality standards are relevant to the project and determine how to satisfy them
 2. **Organizational Planning:** identify, document & assign project roles & responsibilities and reporting relationship
 3. **Staff Acquisition :** getting the human resources needed assigned to and working on the project
 4. **Communication Planning :** determining the information & communication needs of the stakeholders who needs what, when and how will that be shared
 5. **Risk Identification:** determine which risks are likely to affect the project and document the characteristics of each
 6. **Qualitative Risk Analysis:** Perform qualitative analysis of risks and conscious to prioritise their effects on project objectives
 7. **Quantitative Risk Analysis:** measuring the probability & impact of risks and estimating their implications of project objectives
 8. **Risk Response Planning:** develop procedures & techniques to enhance opportunities and reduce threats to the project's objectives from risk.
 9. **Procurement Planning:** determine what, how much and when to procure
 10. **Solicitation Planning:** document product requirements and identify potential sources

3. Executing Process



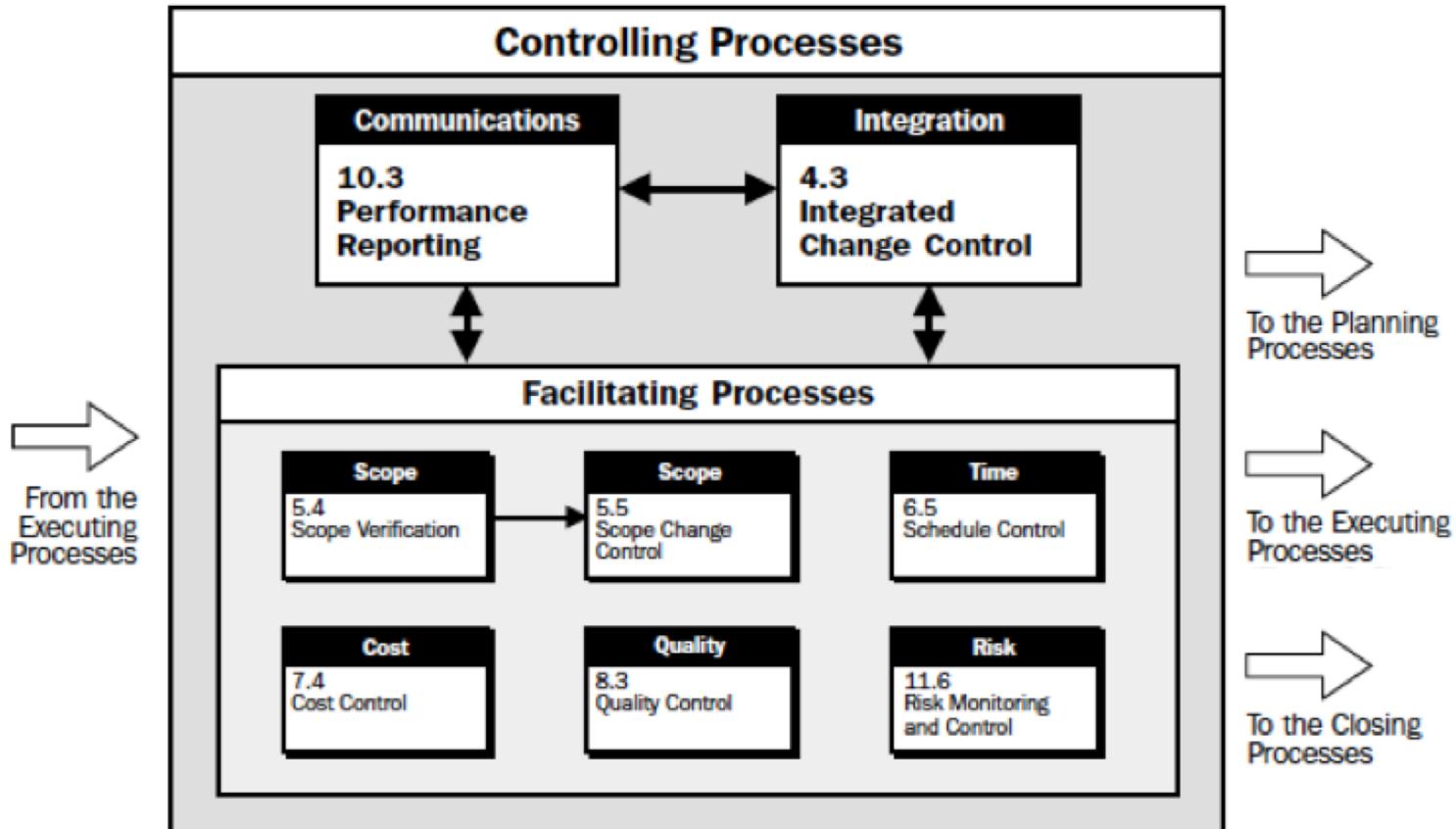
2.4 Process Interactions & Customizing Process Interactions

3. Executing Processes:

- **Core & Facilitating Processes:**

1. **Project Plan Execution:** carry out project plan by performing activities included therein
2. **Quality Assurance:** identify, document & assign project roles & responsibilities and reporting relationship
3. **Team Development :** develop individuals and teams and group/ skills competencies to enhance project performance.
4. **Information Distribution :** making the needed information available to the stakeholders in timely manner
5. **Solicitation:** obtain bids, quotations, offers or proposals as appropriate
6. **Source Selection:** choosing from among potential sellers
7. **Contract Administration:** manage relationship with the sellers

4. Controlling Process



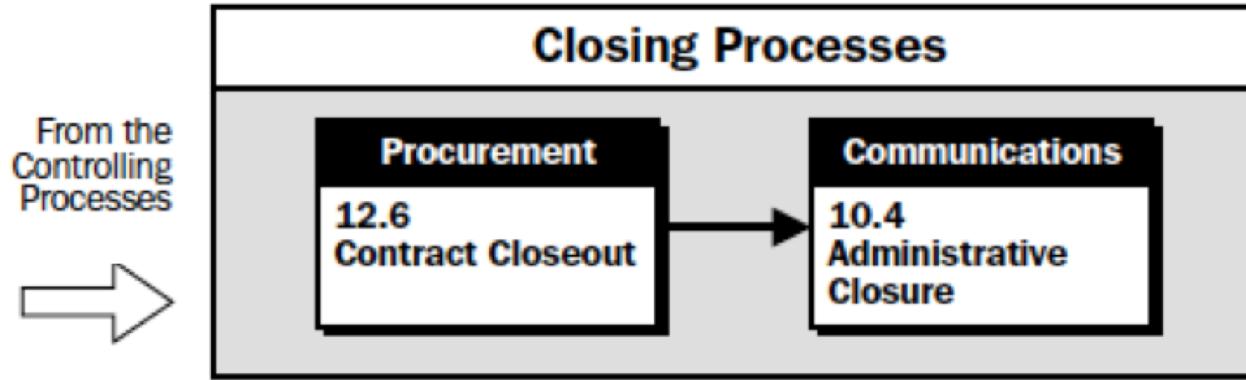
2.4 Process Interactions & Customizing Process Interactions

4. Controlling Processes:

- **Core & Facilitating Processes:**

1. **Integrated change control:** coordinating changes across the entire project
2. **Scope Verification:** formalizing the acceptance of the project scope
3. **Scope Change Control:** controlling changes to the project scope
4. **Schedule Control:** controlling the changes to the project schedule
5. **Cost Control:** controlling the changes to the project budget
6. **Quality Control:** monitoring the project results to determine if they comply with the relevant quality standards and identifying ways to eliminate causes to unsatisfactory performance.
7. **Performance Reporting:** collecting and disseminating performance information such as status report, progress measurement and forecasting
8. **Risk Monitoring and Control:** keep track of identified risks, monitoring residual risks and identifying new risks, ensure execution of risk plans and evaluate their effectiveness in reducing the risk

5. Closing Process



Core Process:

1. **Contract Closeout:** Completion and settlement of contract, including resolution of any open items.
2. **Administrative Closure:** Generating, gathering & disseminating information to formalise phases or project completion, including evaluation of the project and compiling lessons learned for planning the future phases or projects

Customizing Process Interactions

Customizing Processes:

- Not all processes are needed for all types of projects
- Project management team will identify the processes that are needed to successfully complete the project.
- The projects those are dependent on the uniques resource **must** define the roles & responsibilities before the scope definition
- Some processes output may be predefined as constraints (targeted completion date, resources etc.)
- Larger the projects, more detailed processes definition is needed
- Subprojects or smaller projects, lesser efforts are spent on processes whose outputs have been defined at the project level

2.5 Mapping of Project Management Process

Process Groups	Initiating	Planning	Executing	Controlling	Closing
Knowledge area					
Project Integration		<ul style="list-style-type: none">• Project Plan Development	<ul style="list-style-type: none">• Project Plan execution	<ul style="list-style-type: none">• Integrated change control	
Project Scope	Initiation	<ul style="list-style-type: none">• Scope Planning• Scope Definition	<ul style="list-style-type: none">• Activity Definition• Sequencing• Duration estimation• Schedule development	<ul style="list-style-type: none">• Scope Verification• Scope Change Control	
Project Cost		<ul style="list-style-type: none">• Resource Planning• Cost Estimating & Budgeting			

2.5 Mapping of Project Management Process

Process Groups	Initiating	Planning	Executing	Controlling	Closing
Knowledge area					
Project Quality		<ul style="list-style-type: none">• Quality Planning	<ul style="list-style-type: none">• Quality Assurance	<ul style="list-style-type: none">• Quality Control	
Project Human Resource		<ul style="list-style-type: none">• Organizational planning• Staff Acquisition	<ul style="list-style-type: none">• Team Development		
Project Communication		<ul style="list-style-type: none">• Communication Planning	<ul style="list-style-type: none">• Information Distribution	<ul style="list-style-type: none">• Performance Reporting	<ul style="list-style-type: none">• Administrative Closure

2.5 Mapping of Project Management Process

Process Groups	Initiating	Planning	Executing	Controlling	Closing
Knowledge area Risk Management		<ul style="list-style-type: none">• Risk Management Planning• Risk Identification• Qualitative Risk Analysis• Quantitative Risk Analysis• Risk Response Planning		<ul style="list-style-type: none">• Risk Monitoring & Control	
Procurement Management		<ul style="list-style-type: none">• Procurement Planning• Solicitation Planning	<ul style="list-style-type: none">• Solicitation• Source Selection• Contract Administration		<ul style="list-style-type: none">• Contract Closeout

2.6 Organizational influence.

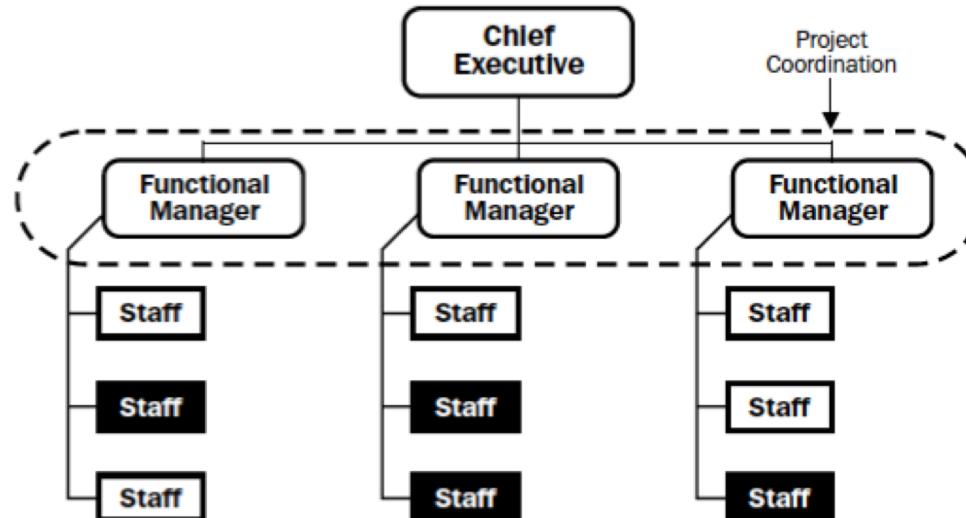
The maturity of the organization with respect to its project management systems, culture, style, organizational structure, and project management office will influence the project.

Project Characteristics	Functional	Matrix			Projectized
		Weak Matrix	Balanced Matrix	Strong Matrix	
Project Manager's Authority	Little or None	Limited	Low to Moderate	Moderate to High	High to Almost Total
Percent of Performing Organization's Personnel Assigned Full Time to Project Work	Virtually None	0–25%	15–60%	50–95%	85–100%
Project Manager's Role	Part-time	Part-time	Full-time	Full-time	Full-time
Common Titles for Project Manager's Role	Project Coordinator/Project Leader	Project Coordinator/Project Leader	Project Manager/Project Officer	Project Manager/Program Manager	Project Manager/Program Manager
Project Management Administrative Staff	Part-time	Part-time	Part-time	Full-time	Full-time

2.6 Organizational Structure

● Functional Organization

- Each employee has one clear supervisor
- Staff members are grouped based on the speciality
- Perceived scope of the project are limited to boundaries of the functions

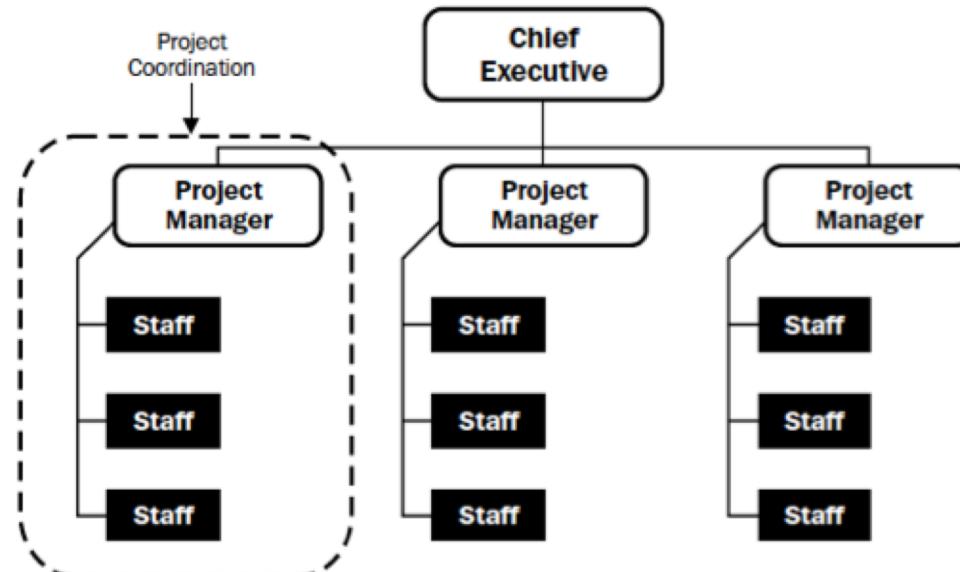


(Black boxes represent staff engaged in project activities.)

2.6 Organizational Structure

- **Projectized Organization**

- Team members are assigned to a project
- Project managers have authority & full control over activities related to the project

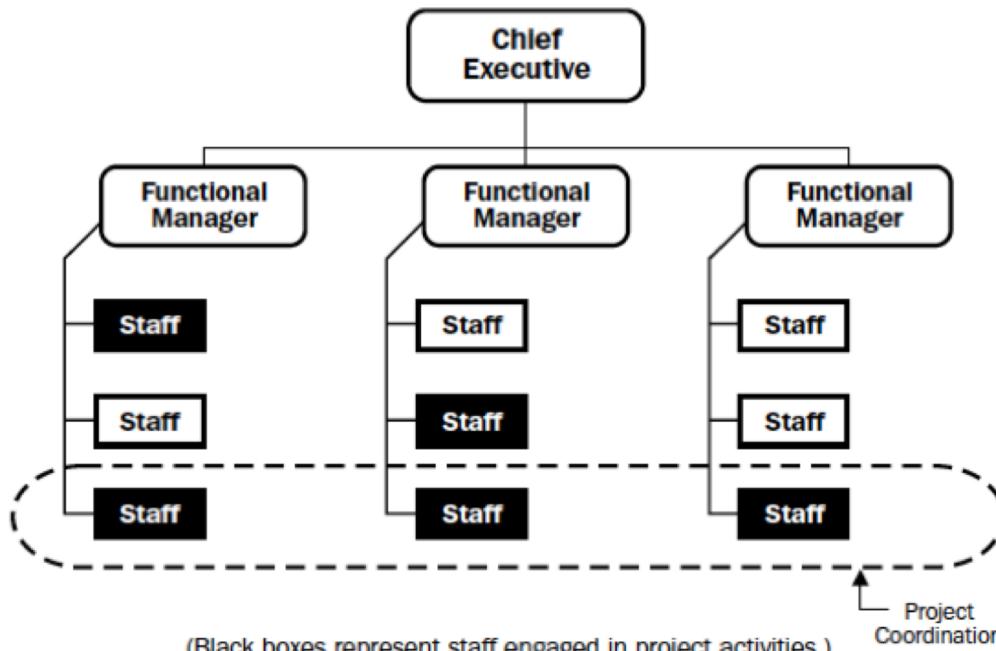


(Black boxes represent staff engaged in project activities.)

2.6 Organizational Structure

- **Weak Matrix Organization**

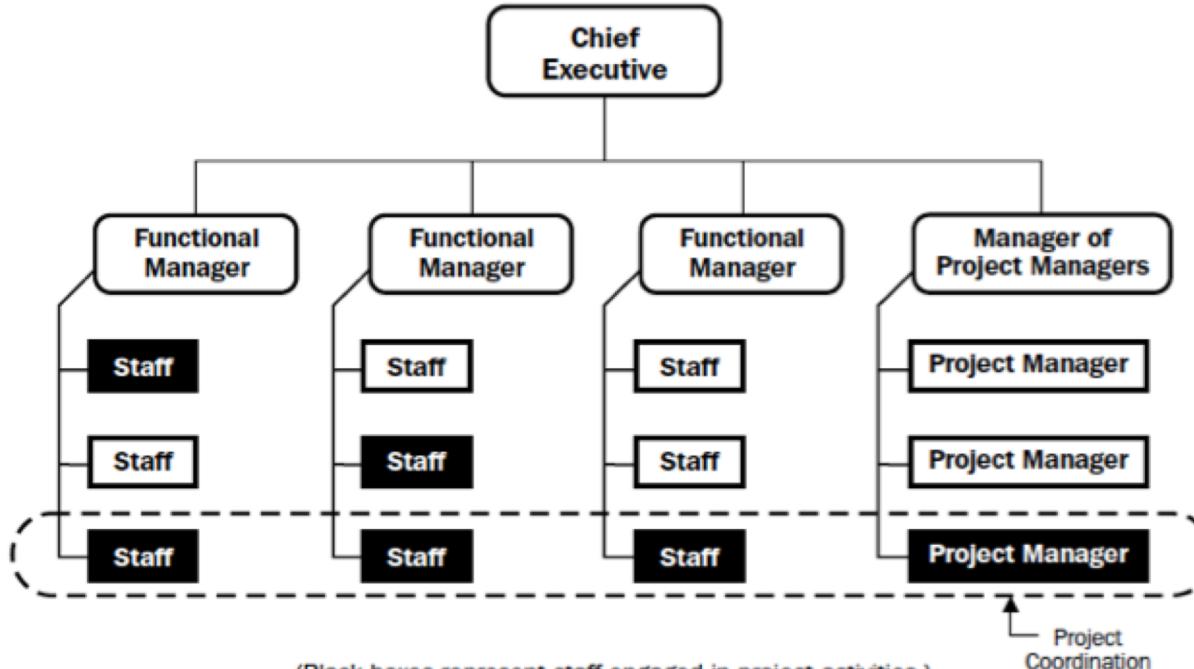
- Maintains many of the characteristics of functional organization
- Project managers role is more as a coordinator or expeditor



2.6 Organizational Structure

- **Strong Matrix Organization**

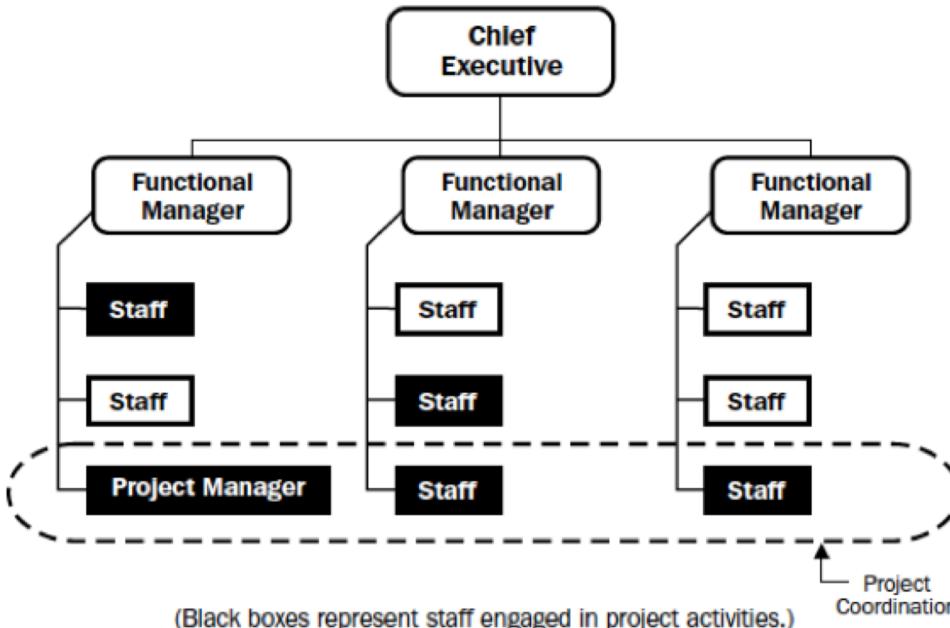
- Maintain characteristics of projectized organization structure
- Full time Project managers with considerable authority & full time project administrative staff



2.6 Organizational Structure

● Balanced Matrix Organization

- Characteristics are intermediate that of weak matrix & strong matrix organization
- Project managers have authority & full control over activities related to the project



2.6 Organizational Structure

● Composite Organization

- Majority of organizations follow combination of these structures

