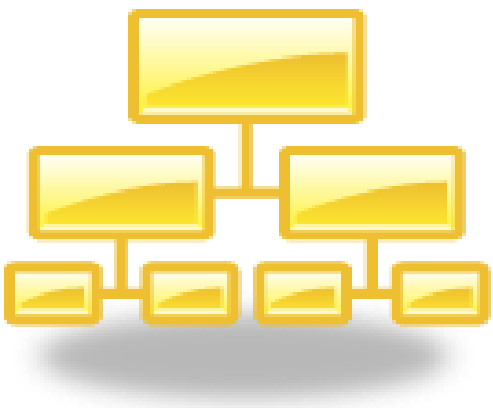
Project Organization and Project Life Cycle

- **Introduction**
- The broader context:
- Projects and project management take place in an environment that is broader than that of the project itself.
- Why understanding of the broader context?
- Because it helps ensure that work is
  - carried out in alignment with the goals of the enterprise,
  - managed in accordance with the established practice methodologies of the organization

- **Organizational Structure**
- Definition Organization: A set of organizational units and their different relationships with each other.
- Organizational Structure: The arrangement or relationship of positions within an organization.
- A organization usually has 3 different types of relationships between organizational units.
  - Reporting structure: To report status information
  - Decision structure: To propagating decisions
  - Communication structure: To exchange of information.

- **Organizational Chart**
- What the Organizational Chart Shows –
  - Organizational structure
  - Chain of command (lines of authority)
  - Other relationships (staff, committees, etc.)
  - Lines of communication



- **Organizational Growth**
- What does organizational growth require?
  - Structuring of resources (human, physical, financial)
  - Hiring specialized talent & skills
  - Formalized structure (as workforce & specialization grows)
  - Assign work tasks to individuals & departments
  - Assign responsibility for organizational objectives

- **Elements of organizing**

1. Designing Jobs
2. Grouping Jobs - departmentalization
3. Establishing Reporting relationship - Chain of command,
4. Distributing authority - Distributed vs Centralized
5. Coordinating activities
6. Differentiating between positions

- **Organization Influence**
- Projects are the part of the organization that is larger than the projects: government agencies, corporations, international bodies bodies, etc.
- Projects may be the organization JV
  - Project may be influenced by the organization or organization that set up it
  - Organization management system, culture, style, structure, project management office also influence

- **Organizational Cultures and Styles**
- Every organizations have developed unique and describable cultures.
- The culture are reflected in their shared values, norms, belief, and expressions; in their polices and procedures; in their view of authority relationship; etc.
- Organizational cultures often have a direct influence in the project.
- Note: A firm‘s shared values, beliefs, traditions, philosophies, rules, and role models for behavior.
- **Project based Organizations**
- Whose operations consist primarily of projects. Two categories: (1)Organizations that derive their revenue primarily from performing projects for others-architectural firms, engineering firms, consultants etc. (2)Organizations that have adopted management by projects.

- **Organizational Influences on Project Management**

✓ The organizational culture, style, and structure influence how projects are performed.

✓ A project manager should understand these as they affect a project.

✓ An organization‘s degree of project management maturity and its project management systems (can also influence the project).

✓ When a project involves in more organizations, then project will be influenced all of them.

✓ The organizational culture is an enterprise environmental factor.

✓ These may have a strong influence on a project‘s ability to meet its objectives.

✓ Cultures and styles are typically known as “cultural norms”.

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✓ The "norms" include [Or What do the cultural norms include?] => a common knowledge regarding how to approach getting the work done, what means are considered acceptable for getting the work done, and who is influential in facilitating the work getting done. The project manager must know which individuals in the organization are the decision makers and work with them to influence project success.

✓ Most organizations have developed unique cultures that manifest in numerous ways including, but not limited to: Shared visions, values, norms, beliefs, and expectations, Policies, methods, and procedures, View of authority relationships, and work ethic and work hours.

- Organizational structure is an enterprise environmental factor
- <u>Why it is important to by understood?</u>
- It affect the availability of resources and influence how projects are conducted.
- <u>What are the different types of structures?</u>
- Organizational structures range from functional to projectized, with a variety of matrix structures between them. We study all in details

1. Functional Structure
2. Projectized Structure
3. Matrix Structures [Weak, Balanced, and Strong]

- **Functional Structure**
- Staff members are grouped by specialty, such as production, marketing, engineering, etc.
- Functional org. still have projects, but perceived scope of the project is limited to the boundaries of the function. i.e.engineering dept. can do independently with marketing dept.

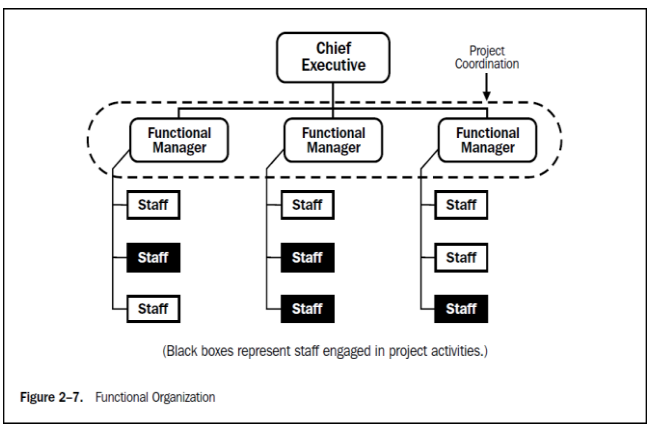

Figure 2–7. Functional Organization

- **Functional Organisation: key points** (ST of OIoPM)
- Each employee has one clear superior [Unity of Command]
- Employees are grouped by specialty [Finance, HR, Marketing etc]
- Each department will do its project work independent of other department.

Advantages	Disadvantages
Easier management of specialists	People place more emphasis on their functional specialty to the detriment of the project
Team members report to only one supervisor	No career path in project management
Similar resources are centralized, as the company is grouped by specialties	The project manager has little or no authority
Clearly defined career paths in areas of work specialization	

- **Projectised Organisation**
- Team members are co-located
- Most of the organization‘s resources are involved in project work
- Project Managers have great deal of independence and authority
- Projectized organizations often have organizational units called departments, but these groups either report directly to the project manager or provide support services to the various projects.

Advantages	Disadvantages
Efficient project organization	No “home” when project is completed
Loyalty to the project	Lack of professionalism in disciplines
More effective communications than functional	Duplication of facilities and job functions
	Less efficient use of resources

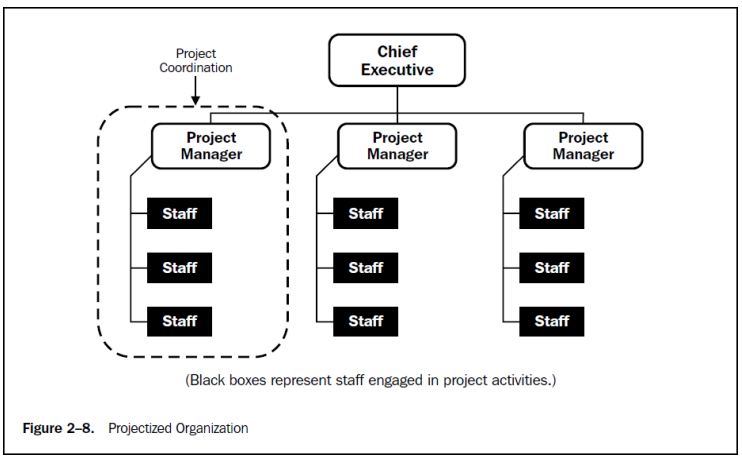

Figure 2–8. Projectized Organization

- **Matrix Organisation**
- Matrix Organizations are a blend of functional and projectized characteristics.
- They are of three types…as mentioned above.

Advantages	Disadvantages
Highly visible project objectives	Extra administration is required
Improved project manager control over resources	More than one boss for project teams
More support from functional areas	More complex to monitor and control
Maximum utilization of scarce resources	Tougher problems with resource allocation
Better coordination	Need extensive policies and procedures
Better horizontal and vertical dissemination of information	Functional manager may have different priorities than project managers
Team members maintain a "home"	Higher potential for conflict

- **Weak Matrix Organisation**

✓ Maintain many of the characteristics of a functional organization

✓ Project Manager's role is more of a coordinator or expediter than that of a true project manager.

- **Balanced Matrix Organisation**

✓ Balanced Matrix organization recognizes the need for a project manager. But it does not provide the project manager with the full authority over the project and project funding.

- **Strong Matrix Organisation**

✓ Have many of the characteristics of the projectized organization

✓ Can have a full-time project managers with considerable authority

✓ Can have full-time project administrative staff

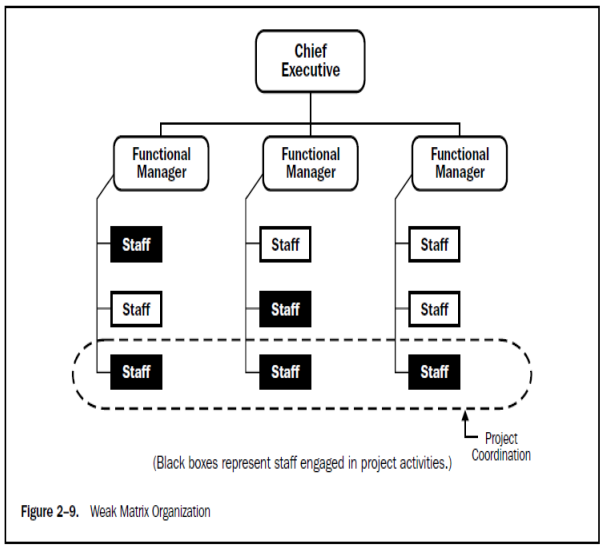

Figure 2–9. Weak Matrix Organization

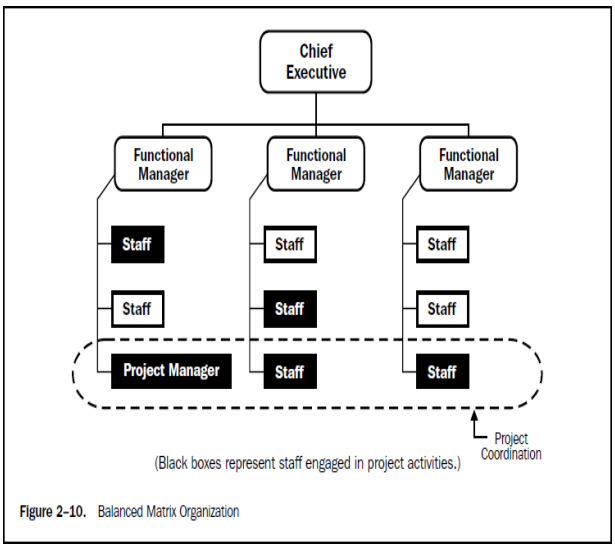

Figure 2–10. Balanced Matrix Organization

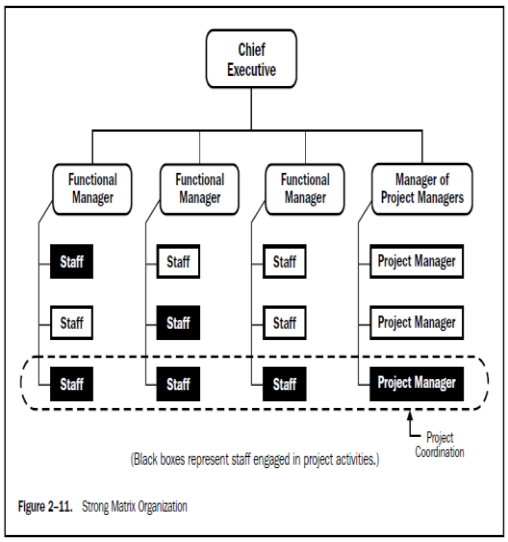

Figure 2–11. Strong Matrix Organization

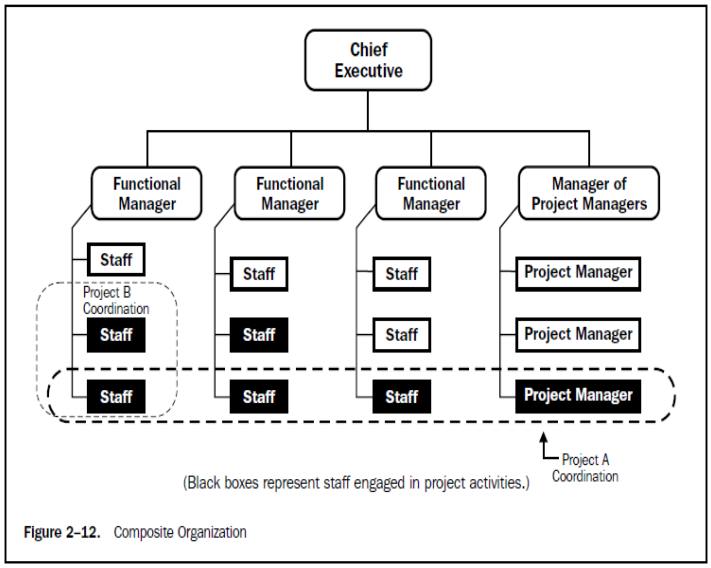

Figure 2–12. Composite Organization

- **Organisational Structure** (of Matrix Organisation)

Project Characteristics \ Organization Structure	*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

Figure 2–6. Organizational Structure Influences on Projects

- **Composite Organisation**

✓ Modern organizations involved all the structures at various levels.

✓ Eg. Even a fundamentally functional organization may create a special project team to handle a critical project.

✓ Such a team may have many of the characteristics of a project in a projectized organization.

✓ It may include full-time staff from different functional departments, it may develop its own set of operating procedures, and it may operate outside the standard, formalized reporting structure.

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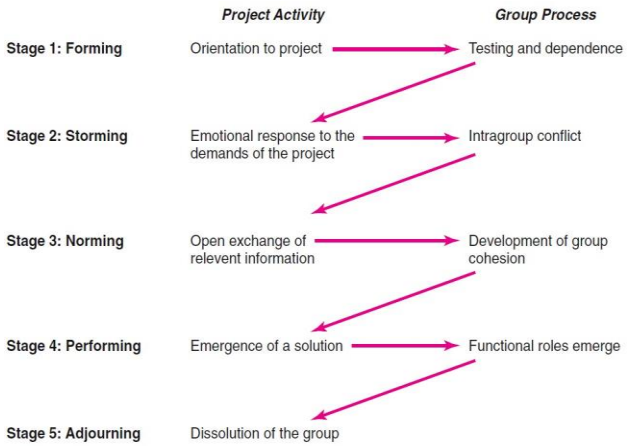
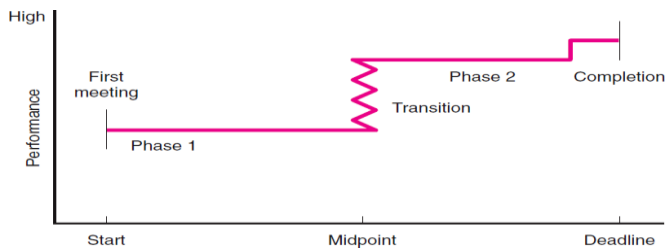
- **Project Office and Project Team**
- A project office may operate on a continuum form providing support functions to project managers in the form of training, software, templets, etc. to actually being responsible for the result of the project.
- Project Team: as a team, seldom outlives the project-most projects are performed by a team created for the sole purpose of performing the project, and the team is disbanded when the project is complete.
- High-Performing Teams
- Synergy
- 1 + 1 + 1 = 10 (positive synergy)
- 1 + 1 + 1 = 2 (negative synergy)
- Characteristics of High-performing Teams

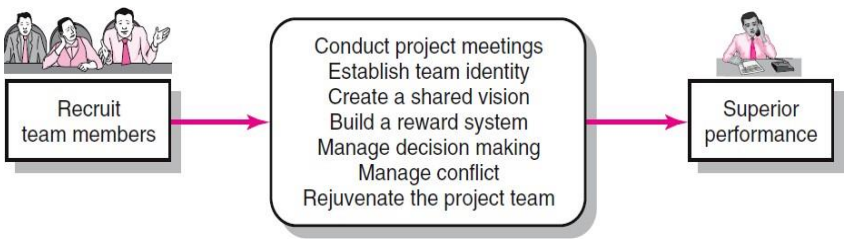
1. Share a sense of common purpose
2. Make effective use of individual talents and expertise
3. Have balanced and shared roles
4. Maintain a problem solving focus
5. Accept differences of opinion and expression
6. Encourage risk taking and creativity
7. Sets high personal performance standards
8. Identify with the team



- **The Five-Stage Team Development Model**
- See the figure alongside
- **The Punctuated Equilibrium Model of Group Development**



- **Creating a High-Performance Project Team**



- **Building High-Performance Project Teams**
- Recruiting Project Members
- Factors affecting recruiting
  - Importance of the project
  - Management structure used to complete the project
- How to recruit?
  - Ask for volunteers

- Who to recruit?
  - Problem-solving ability
  - Availability
  - Technological expertise
  - Credibility
  - Political connections
  - Ambition, initiative, and energy

- **Project Team Meetings**
- draw…

- Establishing a Team Identity
- draw

- **Requirements for an Effective Shared Vision**
- draw

- **Managing Project Reward System**
- Group Rewards
  - Who gets what as an individual reward?
  - How to make the reward have lasting significance?
  - How to recognize individual performance?
  - Letters of commendation
  - Public recognition for outstanding work
  - Desirable job assignments
  - Increased personal flexibility

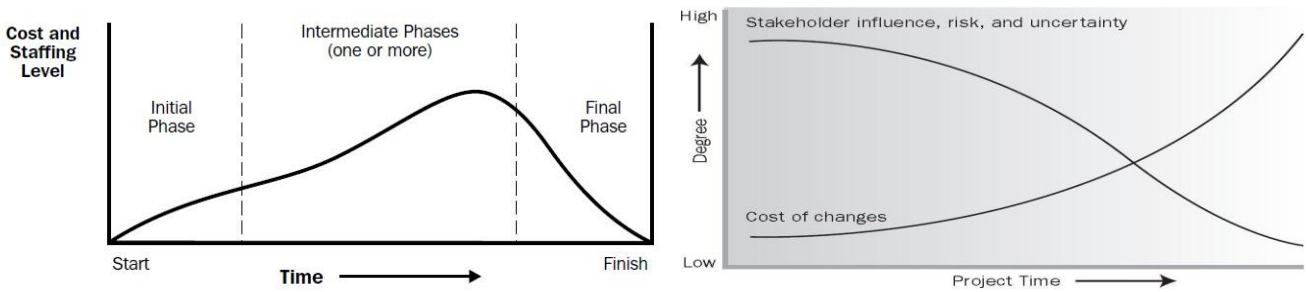
- **Orchestrating the Decision-Making Process**
- Draw

- **Managing Conflict within the Project Team**
- Encouraging Functional Conflict
  - ✓ Encourage dissent by asking tough questions.
  - ✓ Bring in people with different points of view.
  - ✓ Designate someone to be a devil's advocate.
  - ✓ Ask the team to consider an unthinkable alternative
- Managing Dysfunctional Conflict
- Mediate the conflict.
- Arbitrate the conflict.
- Control the conflict.
- Accept the conflict.
- Eliminate the conflict.

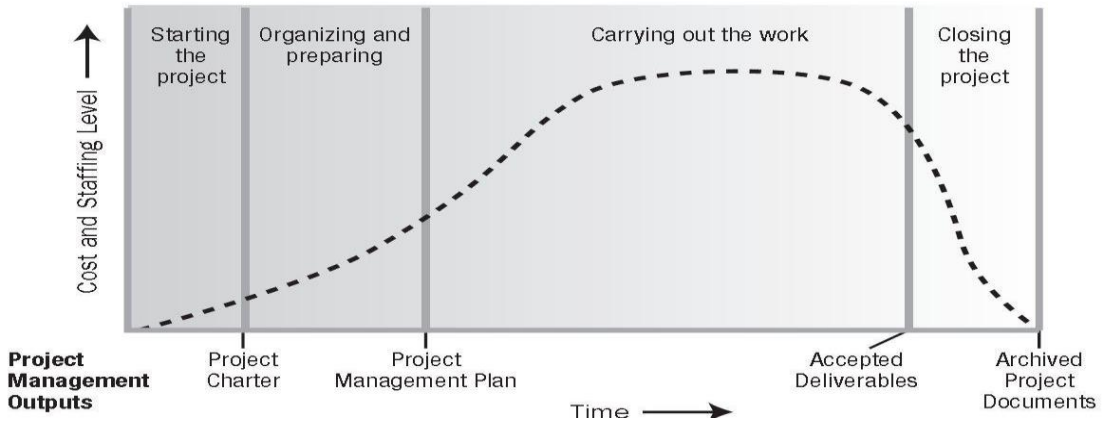
- **Managing Virtual Project Teams**
- <u>Challenges:</u>
- Developing trust
  - ✓ Exchange of social information.
  - ✓ Set clear roles for each team member.
- Developing effective patterns of communication.
  - ✓ Keep team members informed on how the overall project is going.
  - ✓ Don‘t let team members vanish.
  - ✓ Establish a code of conduct to avoid delays.
  - ✓ Establish clear norms and protocols for surfacing assumptions and conflicts.
  - ✓ Share the pain.

- **Project Team Pitfalls**
- draw…

- **Project Life Cycle**
- Generally project is divided in several project phases to improve the management control and provide for links to the ongoing operations of the performing organizations.
- The project phases are called project lifecycle and each phase is marked by providing one or more deliverables such as feasibility study, detail design, and a working prototype.
- Each project phase includes defined deliverables designed to establish the desired level of management control.
- What is Project Life Cycle?
- A project life cycle is a collection of generally sequential and sometimes overlapping project phases. The phases are assigned names and numbers. The name and number are determined by
  - the management and control needs of the organization or organizations involved in the project,
  - the nature of the project itself, and
  - its area of application.
- The project life cycle can be determined or shaped by
  - The unique aspects of the organization,
  - Deliverables, and
  - activities that take place in between will vary widely with the project.
- The life cycle provides the basic framework for managing the project, regardless of the specific work involved.



gure 2–1. Sample Generic Life Cycle



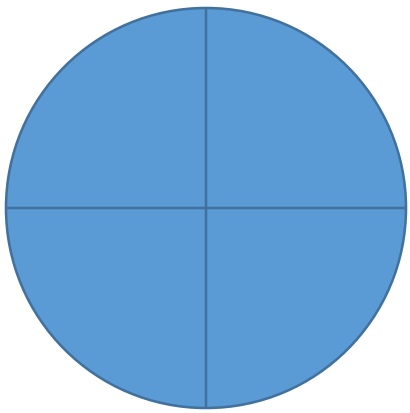
- **Generic Life Cycle Structure:**
- **Introduction**
- Projects vary in size and complexity. No matter how large or small, simple or complex, all projects can be mapped to the following life cycle structure:
    1. Starting the project
    2. Organizing and preparing
    3. Carrying out the project work
    4. Closing the project.
- **Project Life Cycle generally defines:**
- What technical work should be dome in each phase (e.g. is the work of the architecture part of the definition phase or part of the execution phase?)
- Who should be involved in each phase (e.g. implementers who need to be involved with requirements and design)
- The project-life cycle description may be in very general or very detailed: in numerous forms, charts, and checklists to provide structure and consistency.
- The detailed approaches is often called Project Management Methodologies.
- **Generic Life Cycle Structure: Benefits**

1. It is often referred to when communicating with upper management or other entities less familiar with the details of the project.
2. This high-level view can provide a common frame of reference for comparing projects even if they are dissimilar in nature.

- **Generic Life Cycle Structure: General Characteristics**
- Cost and staffing levels are low at the start, peak as the work is carried out, and drop rapidly as the project draws to a close.
- Stakeholder influences, risk, and uncertainty are greatest at the start of the project. These factors decrease over the life of the project.
- Cost of changes: Ability to influence the final characteristics of the project‘s product, without significantly impacting cost, is highest at the start of the project and decreases as the project progresses towards completion. The cost of changes and correcting errors typically increases substantially as the project approaches completion.
- **Generic Life Cycle Structure: <u>The Need for More Control</u>**
- Within the context of the generic life cycle structure, a project manager may determine the need for more effective control over certain deliverables.
- Large and complex projects in particular may require this additional level of control. In such instances, the work carried out to complete the project’s objective may benefit from being formally divided into phases.

- **Project Life Cycle: Characteristics**

1. At the start of the project: the probability of successfully completing the project is lowest, and hence risk and uncertainty are highest.
2. The probability of successful completion gradually gets progressively higher as the project continues.
3. The ability of the stakeholders to influence the final characteristics of the project's product and final cost of the project is highest at the start and gets progressively lower as the project continues. Thus, cost of changes and error correction gradually increases as the project continues.

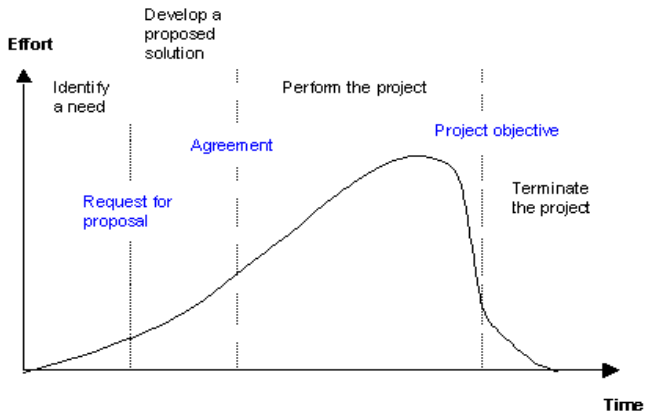


- **Phases of Project Life Cycle**
- The 4 phases are:

1. Formulation: Identification and Formulation
2. Planning: Feasibility, Appraisal, Approval, and Design
3. Implementation: Implementation, and Monitoring & Control
4. Termination: Operation & Evaluation and Handover

- **Project Life Cycle: (Alternative Approach)**

- Define the project (Conceive)
- Design the project process (develop)
- Deliver the project (Doit!): (execute)
- Develop the process: (finish)



- **IT System Development: (example)**

1. Communication
   - ✓ Requirement Analysis; Feasibility Analysis
   - ✓ Project Proposal Development
2. Planning
   - ✓ Scheduling; Cost Estimation
   - ✓ Quality Management
   - ✓ Change Management
   - ✓ Risk Management
3. Modelling: (Analysis and Design)
4. Construction: (Coding and Testing)
5. Deployment: (Maintenance and Feedback)

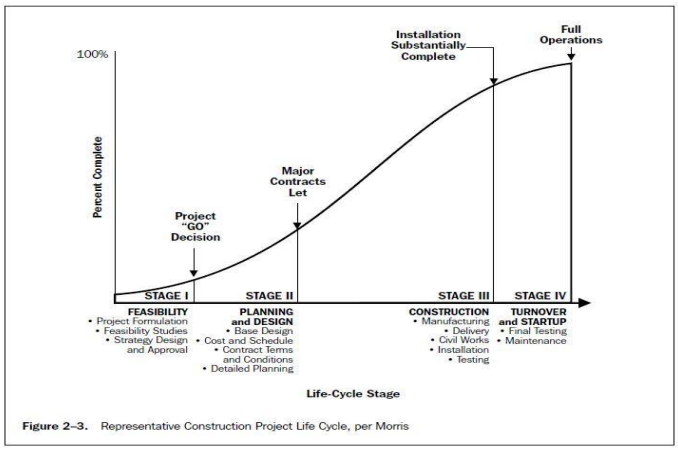


Figure 2–3. Representative Construction Project Life Cycle, per Morris

- **Efforts and Tasks during Project Life Cycle Phases**
- See the two figures alongside