



Project Planning and Control

INTRODUCTION

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Project Planning and Control

Welcome to the world of
managing projects



Project Planning and Control

Introduction

Agenda

- **What is a Project?**
- **What is Project Management?**
- **History of Project Management**
- **Project Life Cycle**
- **PMBOK**
- **Key Functional Areas of Project Management**
- **Project Stakeholders**



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- **What is a Project?**



What is a Project?

- **Gray & Larson, 2006**
 - **Complex, non-routine, one-time effort limited by time, budget, resources and performance specifications designed to meet customer needs”**
- **A Guide to the Project Management Body of Knowledge (PMBOK™), Project Management Institute.**
 - **A project is a temporary endeavor undertaken to create a unique product or service.**



Major Characteristics of a Project

- Has an established objective.
- Has a defined life span with a beginning and an end.
- Requires across-the-organizational participation.
- Involves doing something never been done before.
 - A project is a one time or unique endeavor.
- Has specific time, cost, and performance requirements.
- A project has a degree of UNCERTAINTY.



Major Characteristics of a Project

- **A Guide to the Project Management Body of Knowledge (PMBOK™), Project Management Institute.**
 - **One time**
 - **Limited funds/time**
 - **Specific resources utilized**
 - **Performed by people - Single or multi-person team**
 - **Planned, controlled**
 - **Specific Deliverables**



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Difference between project management and production management

Attribute	Project management	Production management
Quantity	Only one project at a time	Large numbers (mass production)
Product	No two projects are the same	Similar but with variety
Input to the process	<i>Brought to the 'site'</i> (e.g; equipments, man, material)	Put together in a facility (factory) but based on product
No of process and activities	Most activities carried out once	Carried out repetitively/ more than once



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Example





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Example



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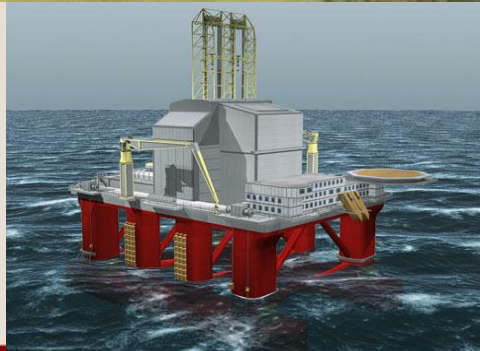
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Example





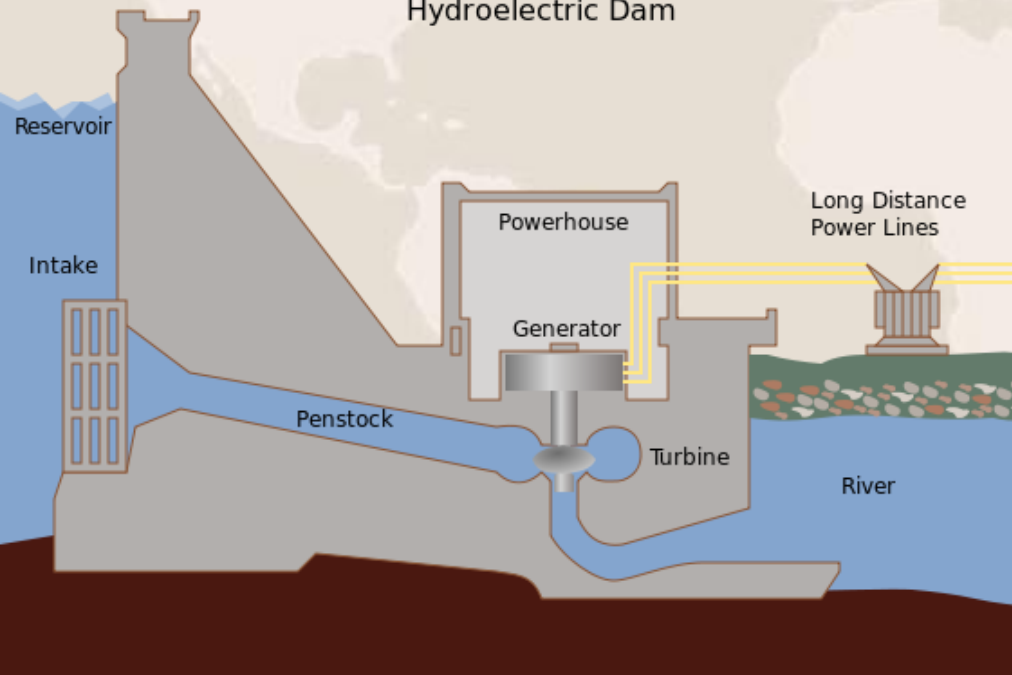
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Example



Hydroelectric Dam

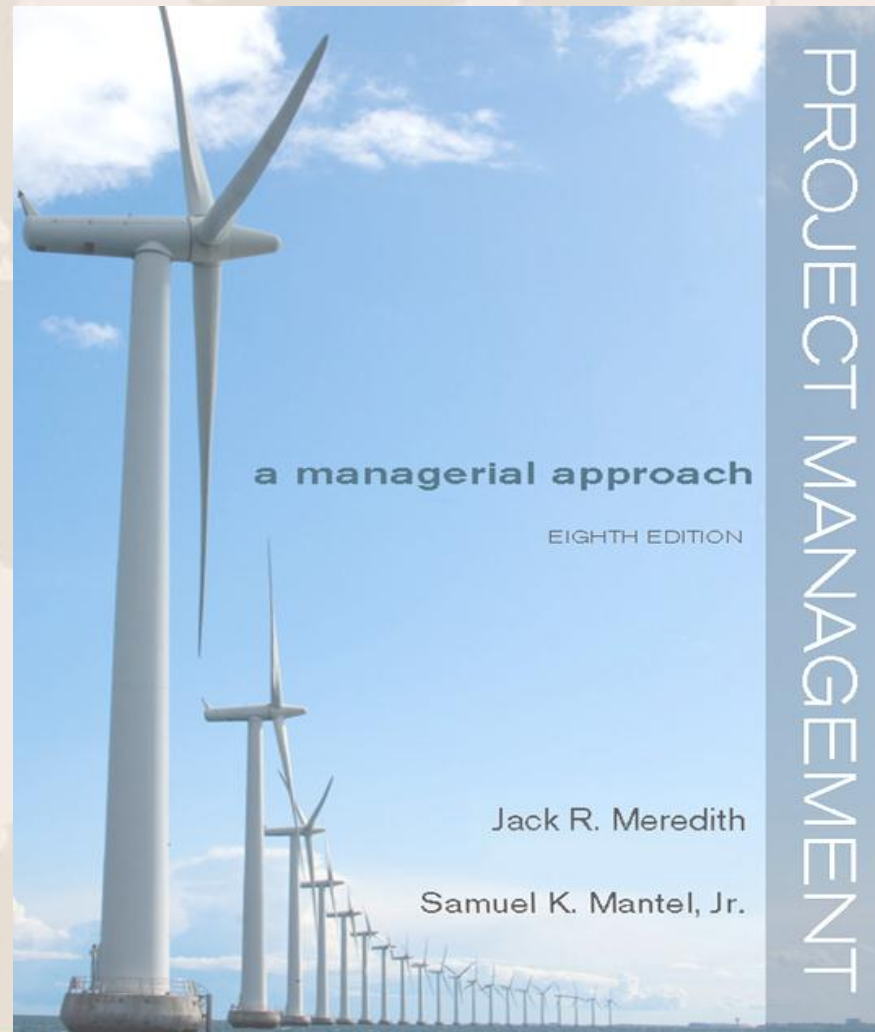




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Example





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Example



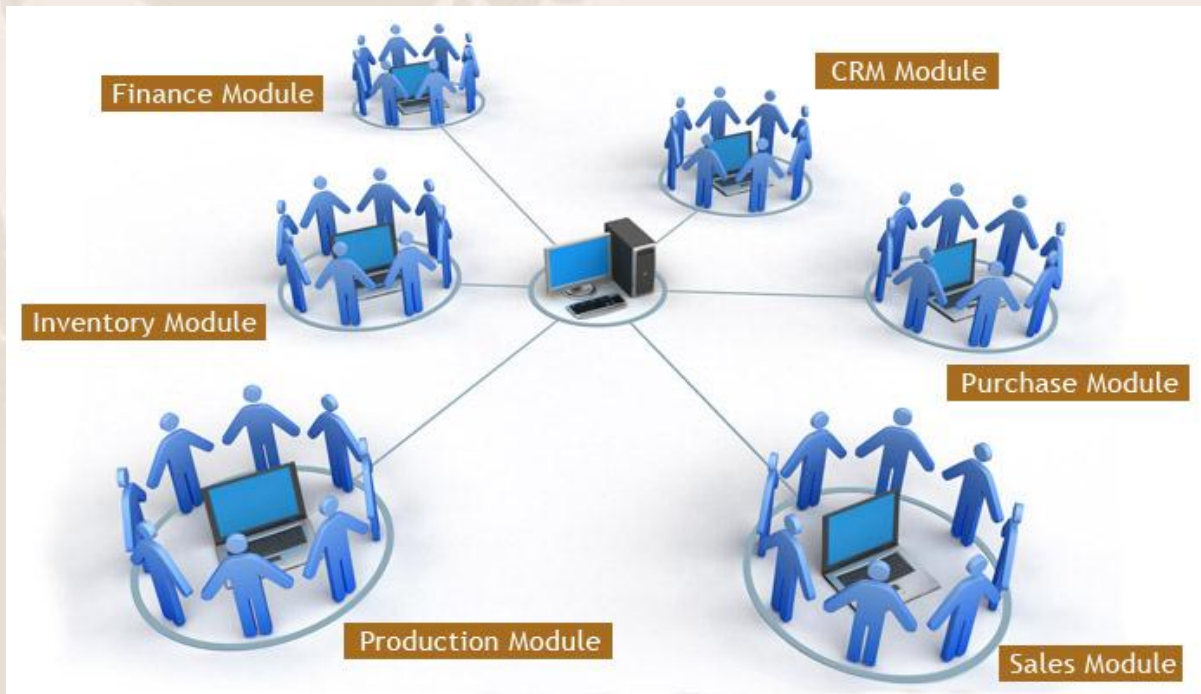


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Example

- Information system



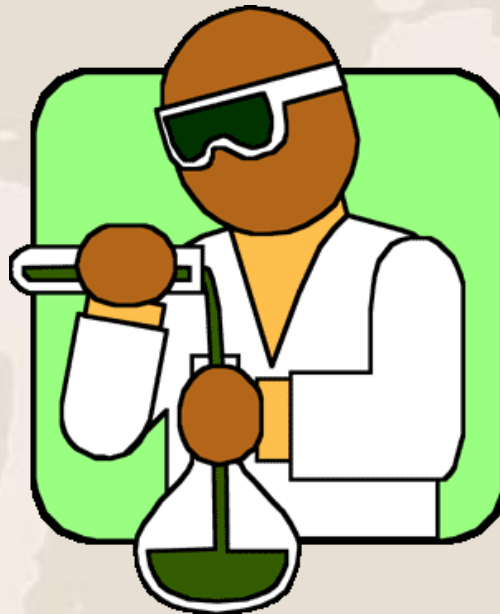


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Example

- **Research Project**





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Example

- **Research Project**



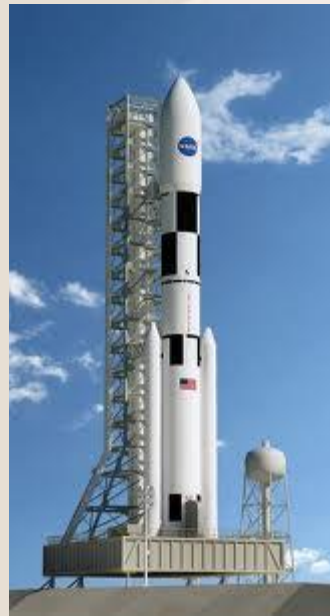


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Example

- **Research Project**





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Example

- ?
- Example



Programs versus Projects

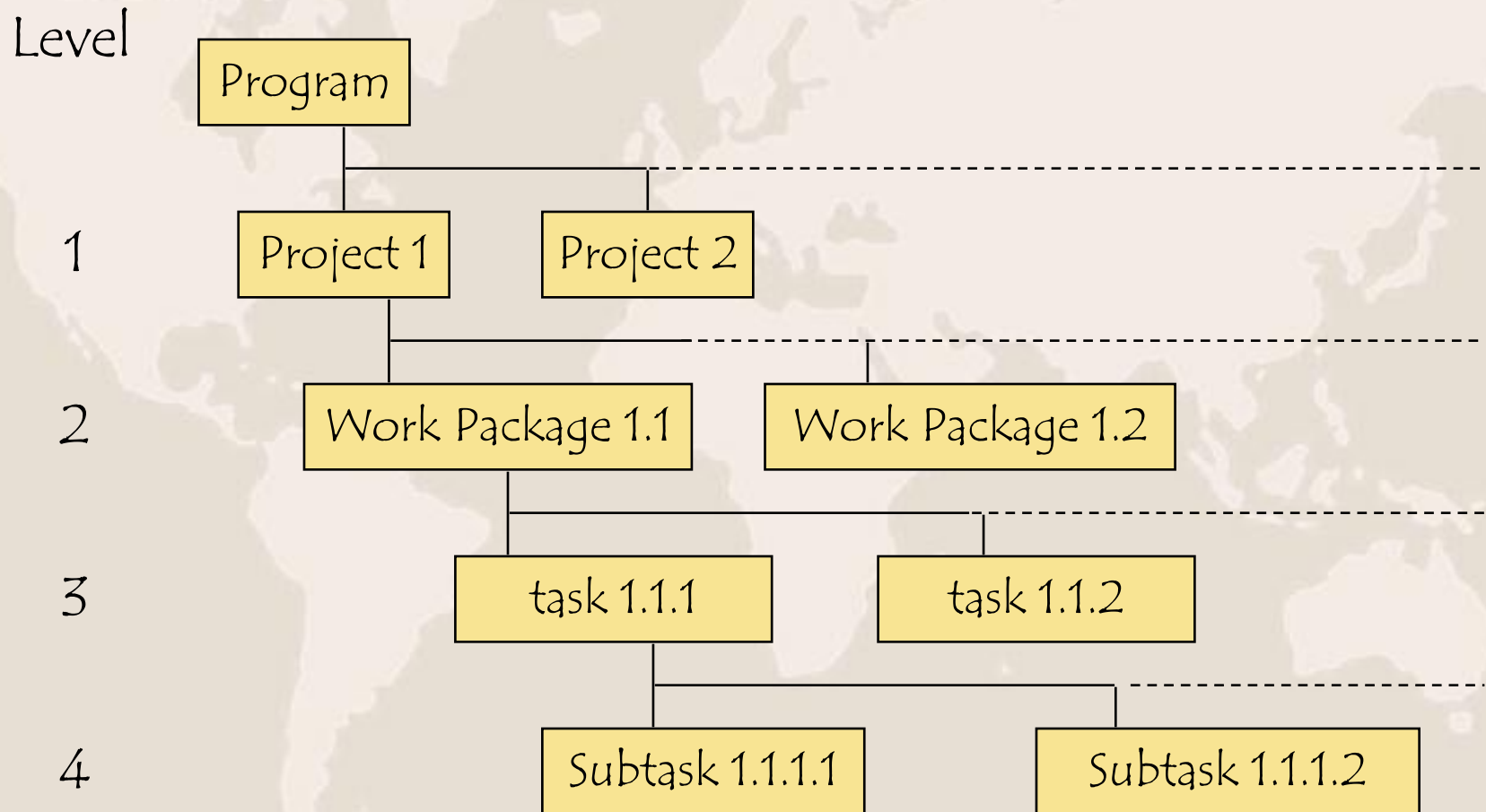
- **Program Defined**
 - A series of coordinated, related, multiple projects that continue over an extended time and are intended to achieve a goal.
 - A higher level group of projects targeted at a common goal.
 - **Example:**
 - Project: completion of a required course in project management.
 - Program: completion of all courses required for a business major.



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Programs-Projects-Tasks





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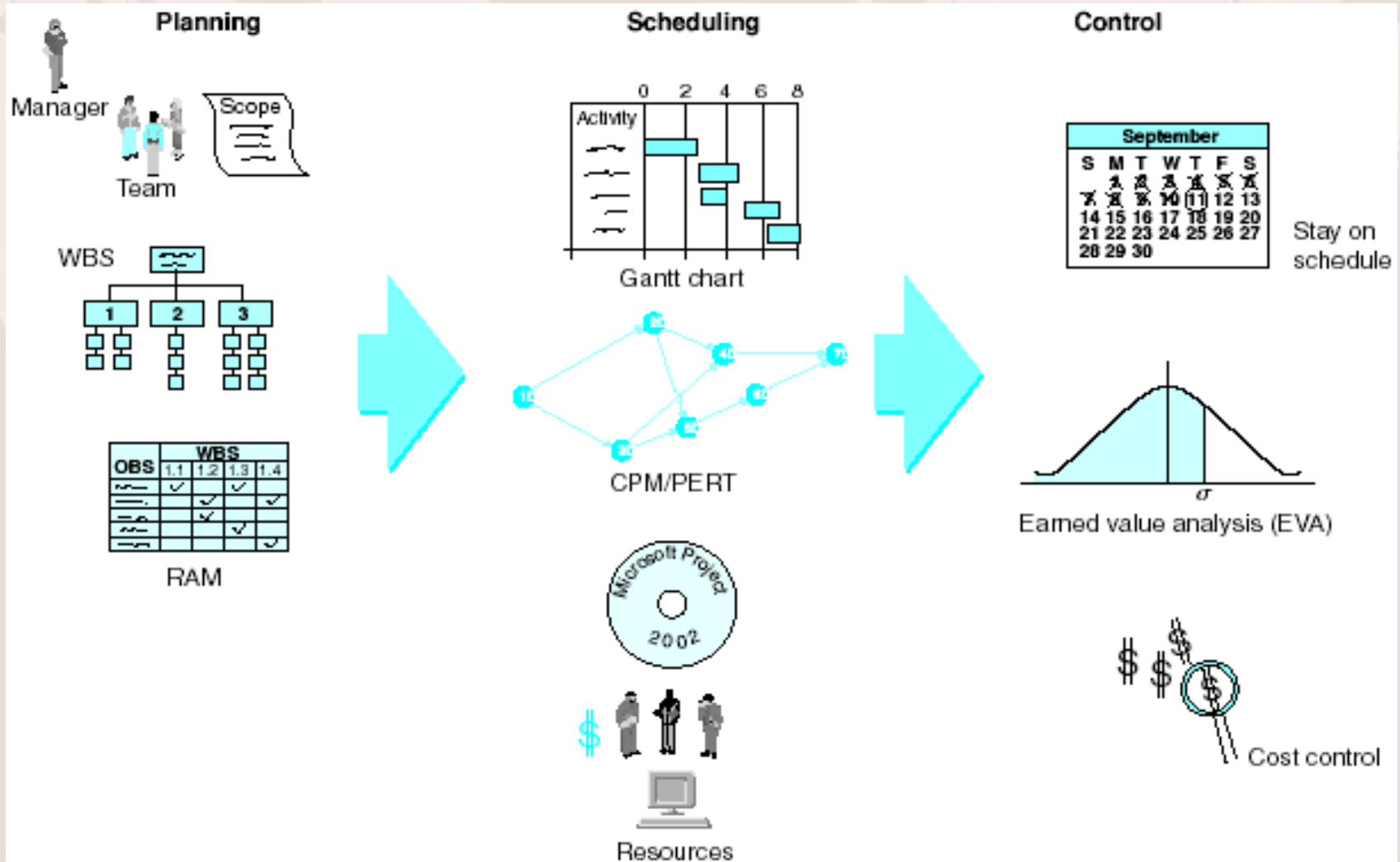
- **What is Project management?**



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The Project Management Process





Terms

- **Management**
 - The planning, organizing, leading, and controlling of human and other resources to achieve organizational goals effectively and efficiently.
- **Project Management**
 - Planning, directing, and controlling resources (people, equipment, material) to meet the technical, cost, and time constraints of the project.



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Terms

- **Managers**
 - The people responsible for supervising the use of an organization's resources to meet its goals.
- A person with a diverse set of skills – management, leadership, technical, conflict management, and customer relationship – who is responsible for:
 - initiating,
 - planning,
 - executing,
 - controlling,
 - monitoring,
 - and closing down a project.



Terms

- **Planning**
 - Identifying and selecting appropriate goals and courses of action for an organization.
- **Scheduling**
 - The process of deciding how to commit resources between a variety of possible tasks.
- **Monitoring**
 - to be aware of the state of a system.



Terms

- **Controlling**
 - Control in management means setting standards, measuring actual performance and taking corrective action.
 - The act of reducing the difference between plan and reality
 - The last element in the plan-implement-monitor-control cycle
 - Uses the information from the monitoring process to get and keep a project on track



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Four Functions of Management





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Management Roles (Adizes Model)*

- **Production**
- **Administration**
- **Entrepreneurship**
- **Integration**
 - **PAEI**
- **Example: Game**



9 Project Management Knowledge Areas

- **Knowledge areas describe the key competencies that project managers must develop**
 - **4 core knowledge areas lead to specific project objectives (scope, time, cost, and quality)**
 - **4 facilitating knowledge areas are the means through which the project objectives are achieved (human resources, communication, risk, and procurement management)**
 - **1 knowledge area (project integration management) affects and is affected by all of the other knowledge areas**



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Project Management Framework

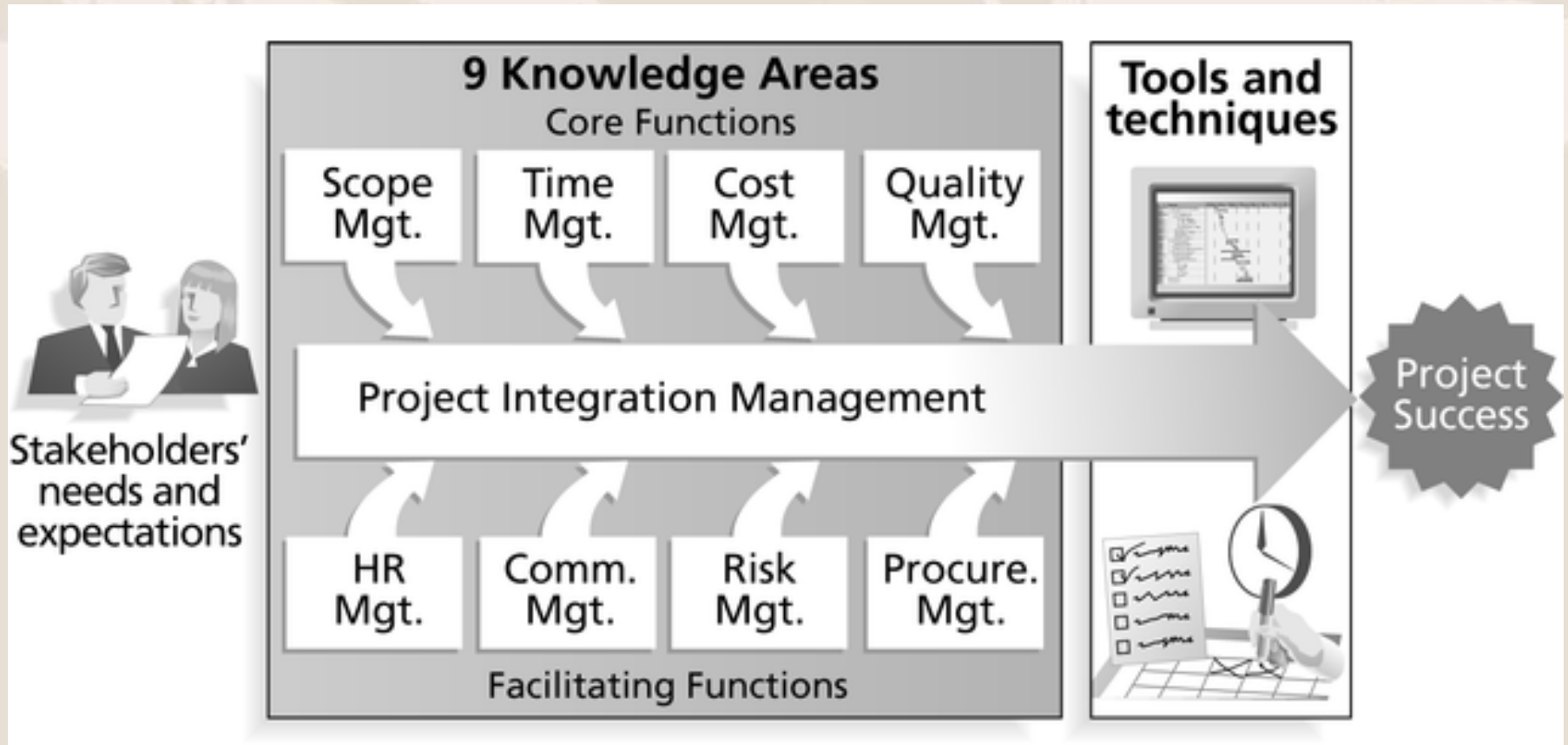
- **مدیریت محدوده پروژه** – Project Scope Management
- **مدیریت زمان پروژه** – Project Time Management
- **مدیریت هزینه پروژه** – Project Cost Management
- **مدیریت کیفیت پروژه** – Project Quality Management
- **مدیریت تدارکات پروژه** – Project Procurement Management
- **مدیریت منابع انسانی پروژه** – Project Human Resource Management
- **مدیریت ارتباطات پروژه** – Project Communications Management
- **مدیریت ریسک پروژه** – Project Risk Management
- **مدیریت ذینفعان پروژه** – Project Stakeholder Management
- **مدیریت یکپارچگی پروژه** – Project Integration Management



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Project Management Framework



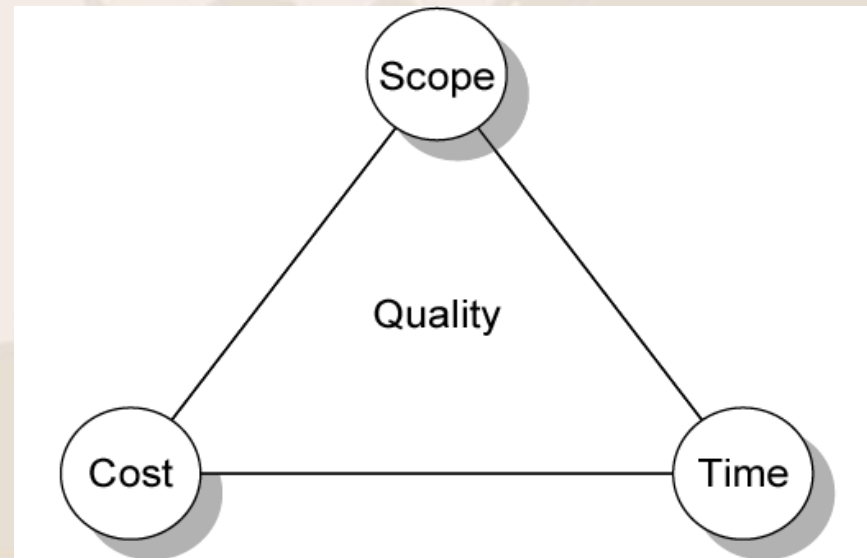
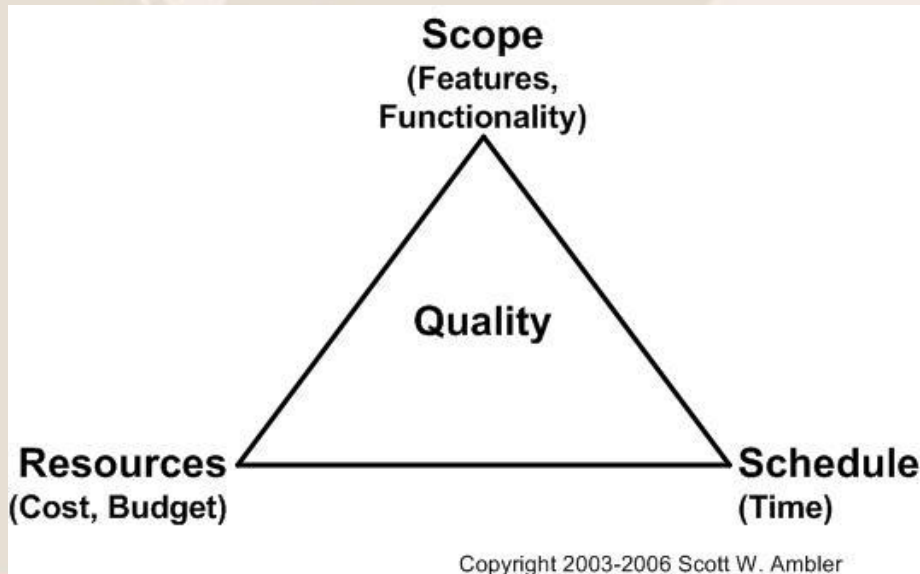


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Project Management Trade-offs (Triangle)

- Pick Any Two





Advantages of Using Formal Project Management*

- **Better control of financial, physical, and human resources**
- **Improved customer relations**
- **Shorter development times**
- **Lower costs & Higher profit margins**
- **Higher quality and increased reliability**
- **Improved productivity**
- **Better internal coordination**
- **Higher worker morale**



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- **History of Project Management**



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- **Clip**



History of Project Management

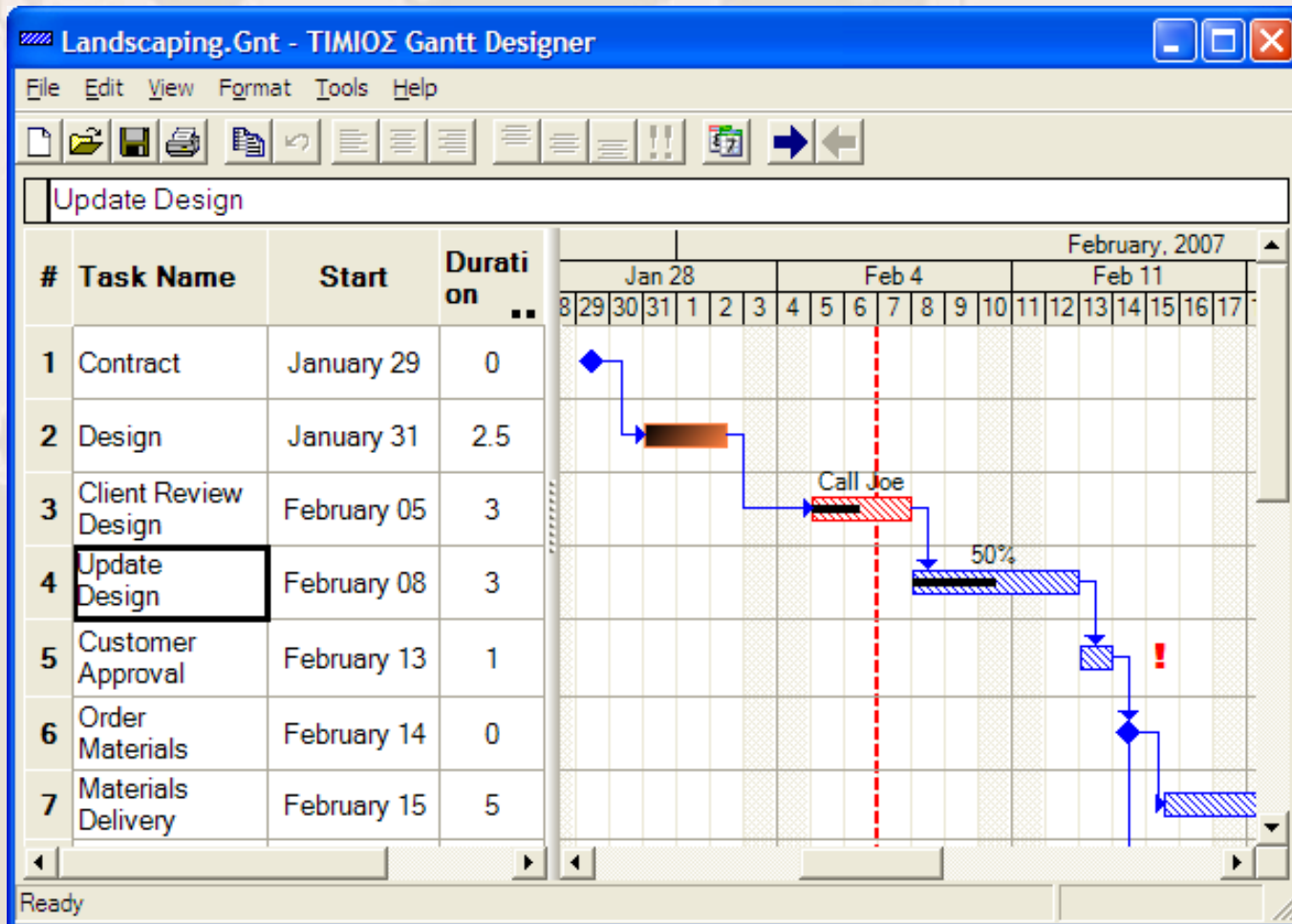
- In 1917 Henry Gantt developed the Gantt chart as a tool for scheduling work in job shops
- In 1958, the Navy developed PERT charts
- In the 1970s, the military began using project management software, as did the construction industry
- By the 1990s, virtually every industry was using some form of project management
- Modern project management began with the Manhattan Project, which the U.S. military led to develop the atomic bomb



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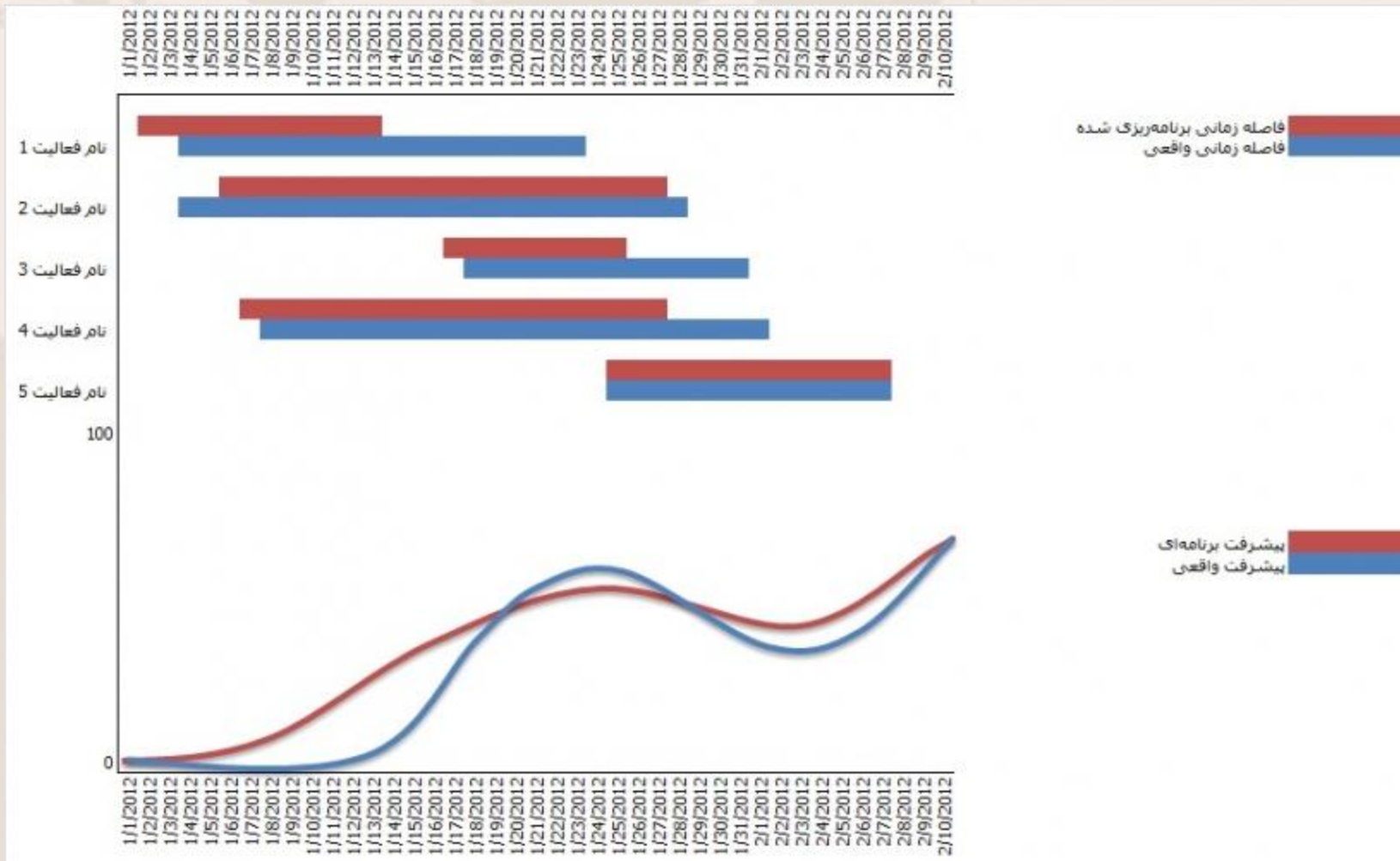




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نمودار گانت





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- **Terms**



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Terms

- **Project Sponsor**
- **Client**
- **Project Manager**
- **Customers**
- **Consultant**
- **Contractors → Out sourcing**
- **Stakeholders**





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Stakeholders



- **A Guide to the Project Management Body of Knowledge (PMBOK® Guide) breaks down a stakeholder as a person or organization (e.g., customer, sponsor, performing organization) that:**
 - **Is actively involved in the project**
 - **Has interests that may be positively or negatively affected by the performance or completion of the project**
 - **May exert influence over the project, its deliverables or its team members**





Stakeholders

Common project stakeholders:

- Project manager
- Project team members
- Customers
- Performing organization
- Central staff
- Project sponsor

Internal versus External

Other stakeholders:

- Functional managers
- Government agencies/regulators
- Suppliers and vendors/subcontractors
- Resource managers
- Senior management
- News media
- Special interest groups
- Community
- Users
- Shareholders



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- **Project Life Cycle**



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5 major phases of a project are:

- **Identifying a need.**
- **Developing a proposed solution.**
- **Performing the project.**
- **Monitoring and control**
- **Terminating the project.**



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Project Life Cycle

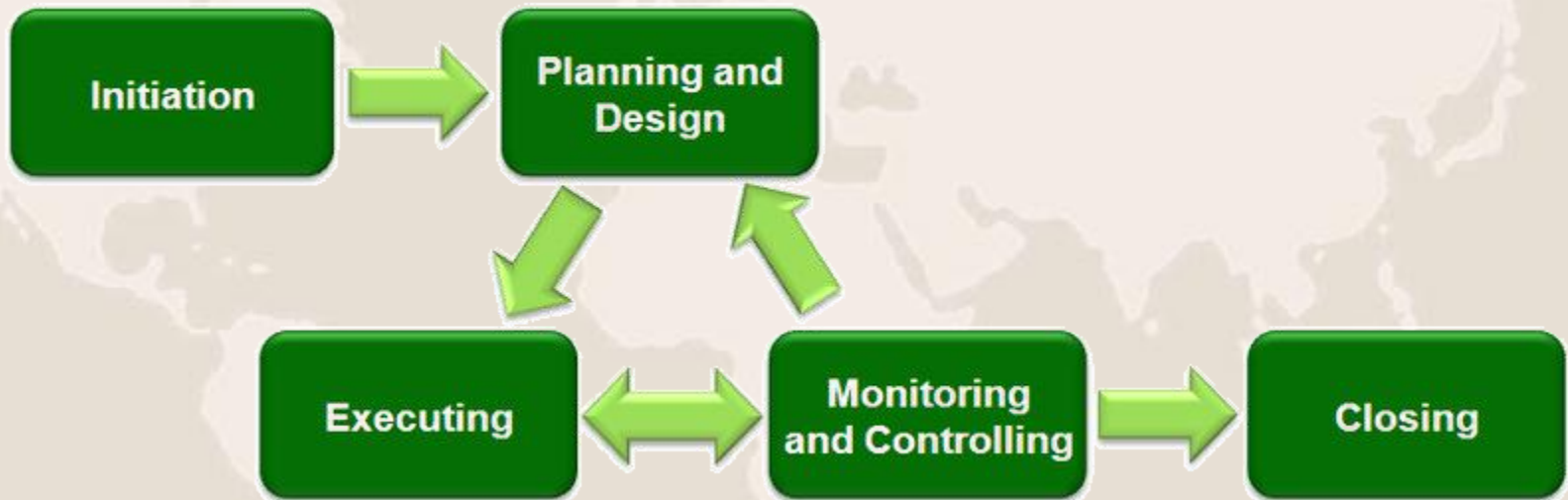




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Typical development phases of a project

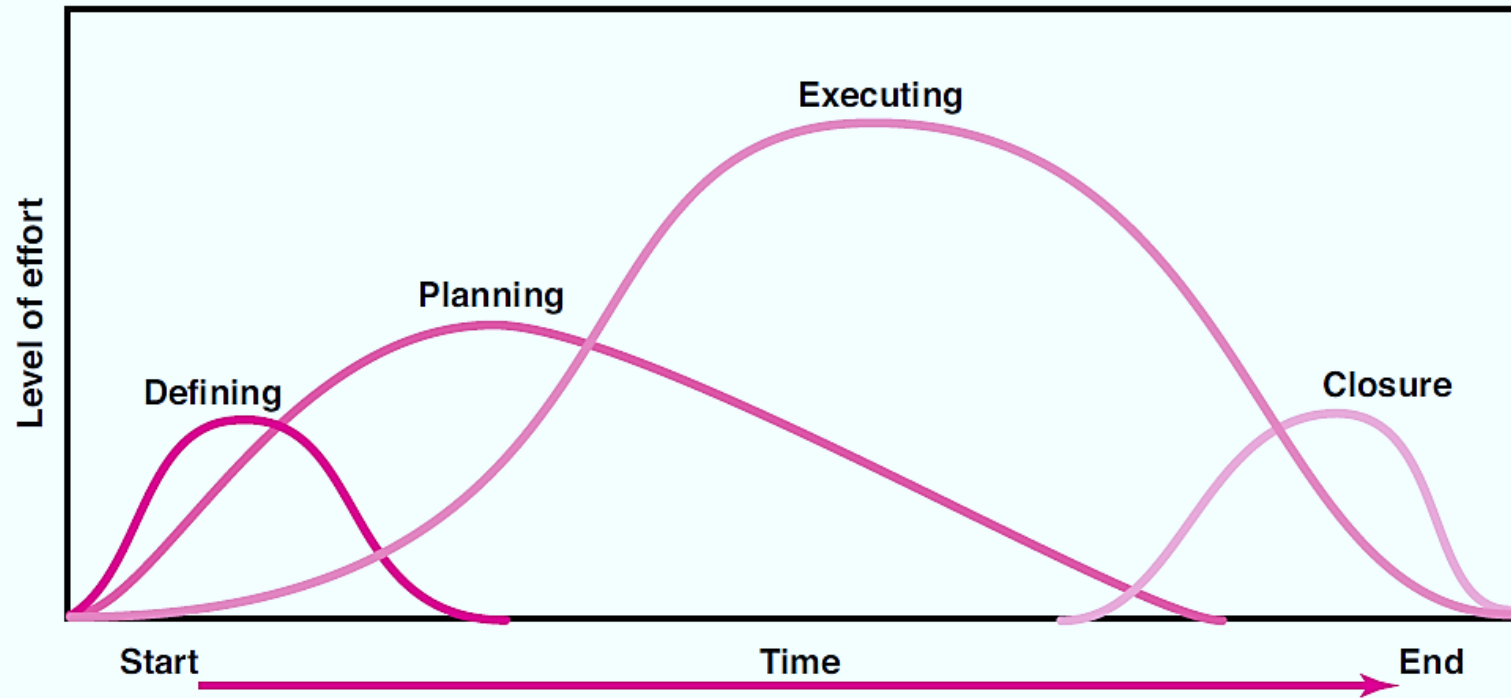




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Project Life Cycle



Defining

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

Planning

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

Executing

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

Closure

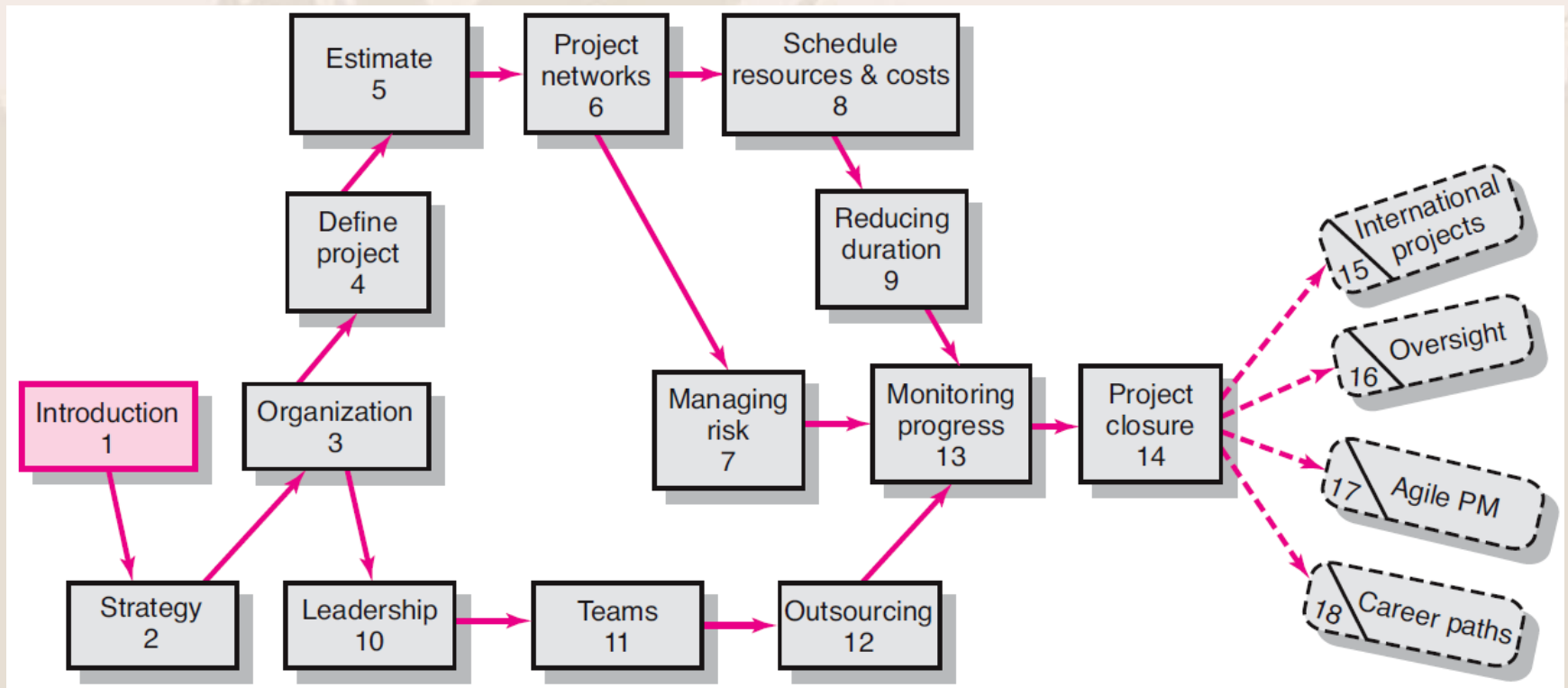
1. Train customer
2. Transfer documents
3. Release resources
4. Evaluation
5. Lessons learned



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An Overview of Project Management*





Differences Between Primavera P6 and MS Project

- MS Project and Primavera are both reputed software for project planning, reporting and progress updating, tracking. Both the software are used worldwide and they have their own benefits. There are several differences between MS Project and Primavera P6. The following are the differences between Primavera P6 and MS Project:
 -
- If you are heavily involved in a project or multiple projects, and you are requiring to computerize every detail of your project you should go for Primavera P6. Or if you are working on a single project that doesn't require you record details other than activity schedule, resource list, and assignment details, use MS Project as it is simpler



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References

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امیرالمومنین امام علی علیه السلام

من الحزم قوة الحزم من الحزم صحة والحزم

قوت و صحت تصمیم از حزم (دوراندیشی) است.

تصنیف غررالمکرم و دررالکلم، ص 476