Software Project Management

Lecture 5

Six features shared by all projects

- A project has a defined beginning and end. Getting from the beginning to the end of project typically involves a definable sequence of steps or activities
- Project use resources that have been specifically allocated to the work of the project
  - Resources are the time, people, money, equipment, and facilities used to complete a project
- Every project produces a unique outcome.
- Projects (hopefully) follow a planned, organized approach to met their objectives
- A project usually involves a team of people to get it done
- Project always have a unique set of stakeholders. Stakeholders almost always bring different expectations about end results to the project.
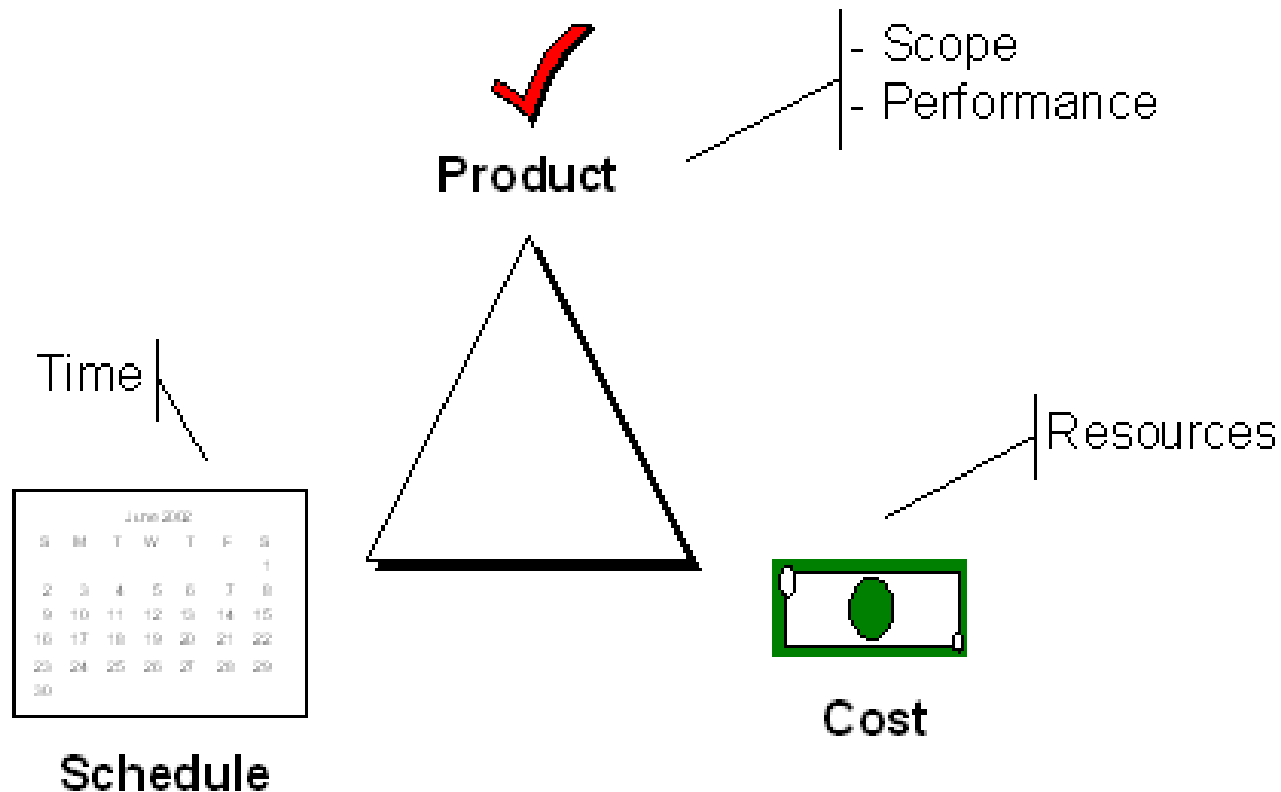
Project Management Trade-off Triangle

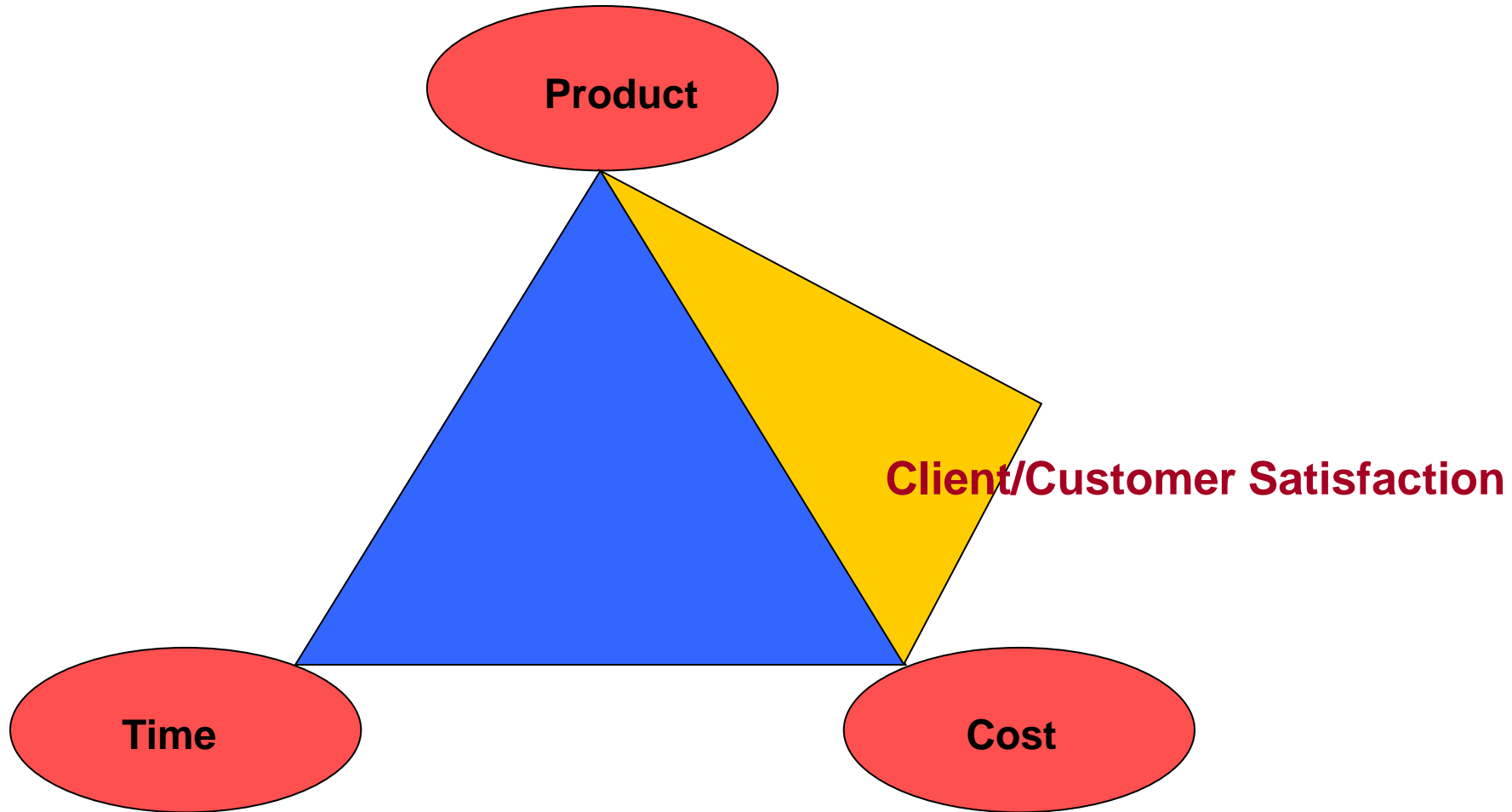- Fast, cheap, good. Choose two.

Product

Schedule

Cost
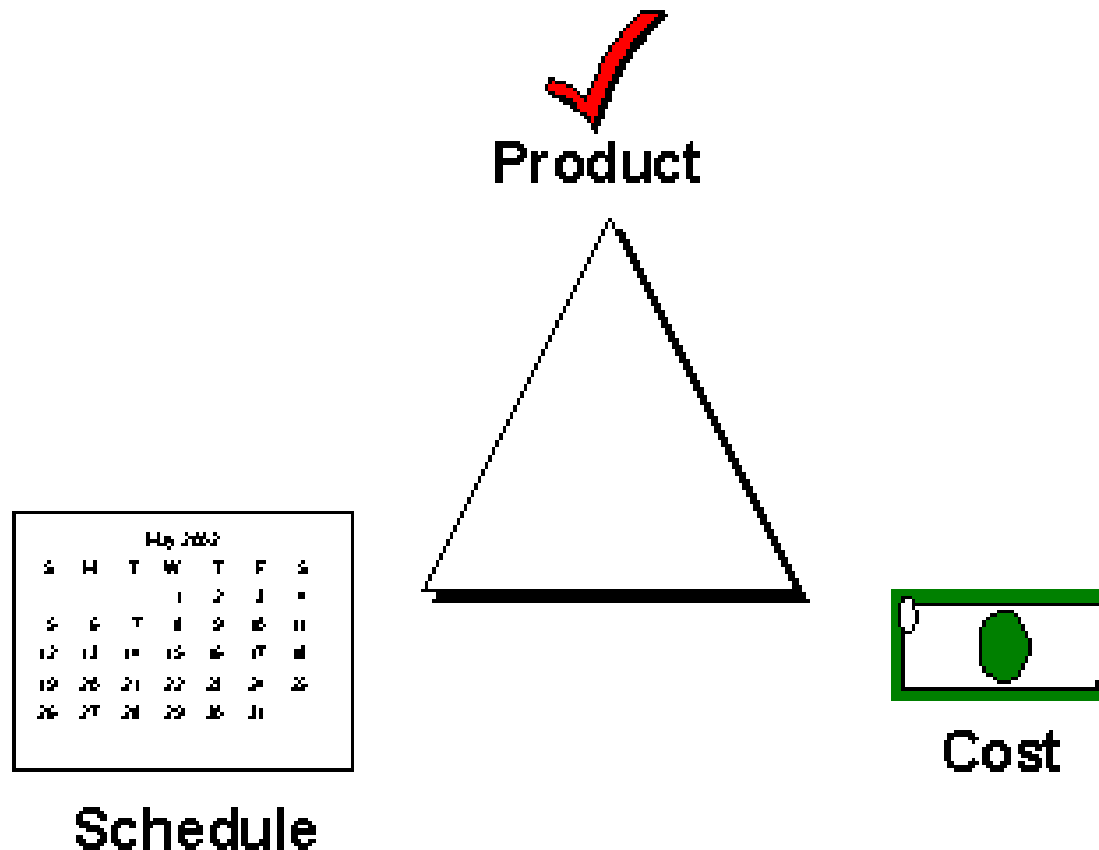
Project Management Trade-off Triangle

- Know which of these are fixed & variable for every project

Product — - Scope - Performance

Time / Schedule

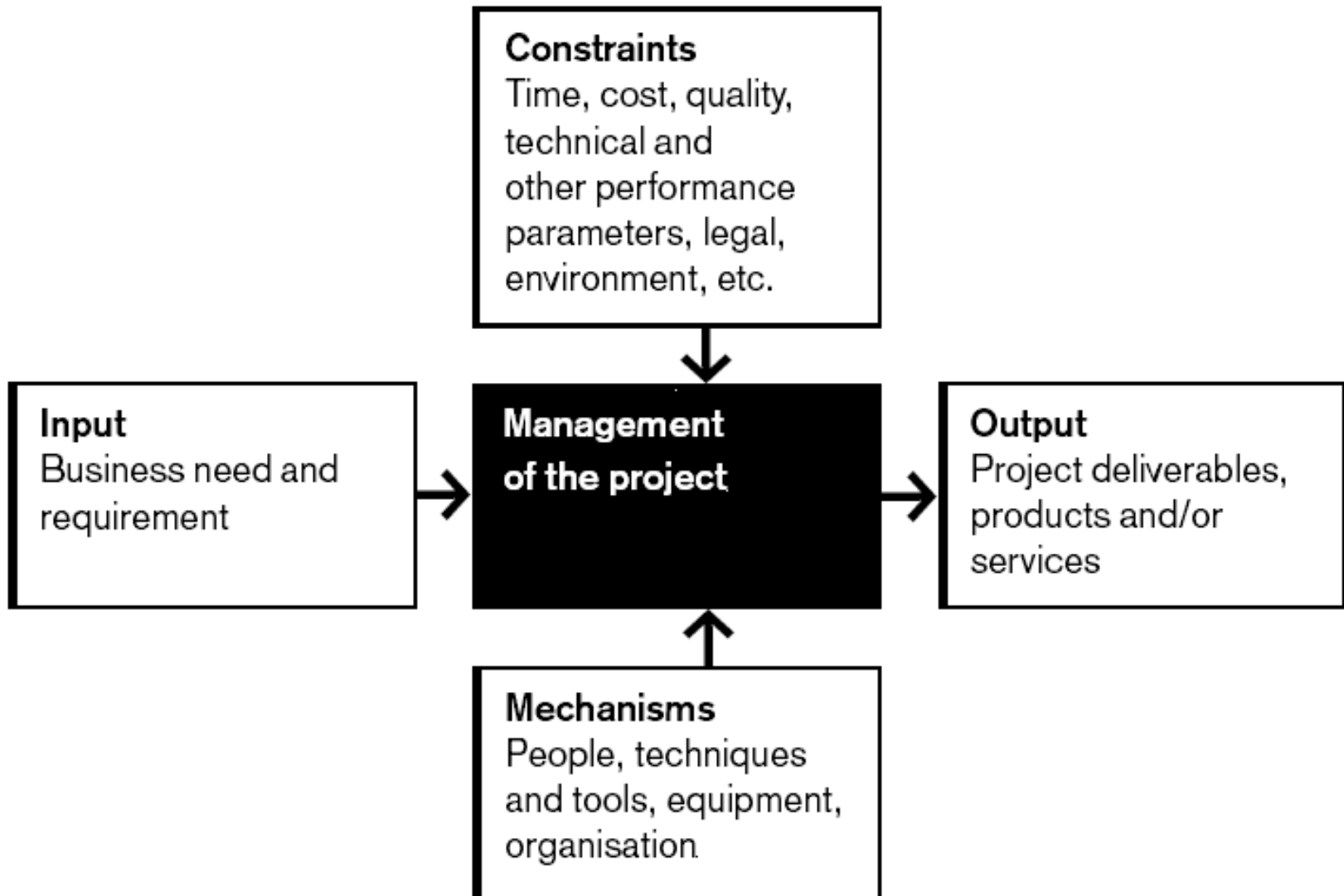Cost / Resources

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Project Success

Project management

- The application of knowledge skills, tools, and techniques to project activities to meet project requirements. (PMI)
  - to meet or exceed stakeholder needs and expectations from a project!!!
- Managing a project includes:
  - Identifying requirements
  - Establishing clear and achievable objectives
  - Balancing the competing demands for quality, scope, time and cost
  - Adapting the specifications, plans, and approach to the different concerns and
  - expectations of the various stakeholders.
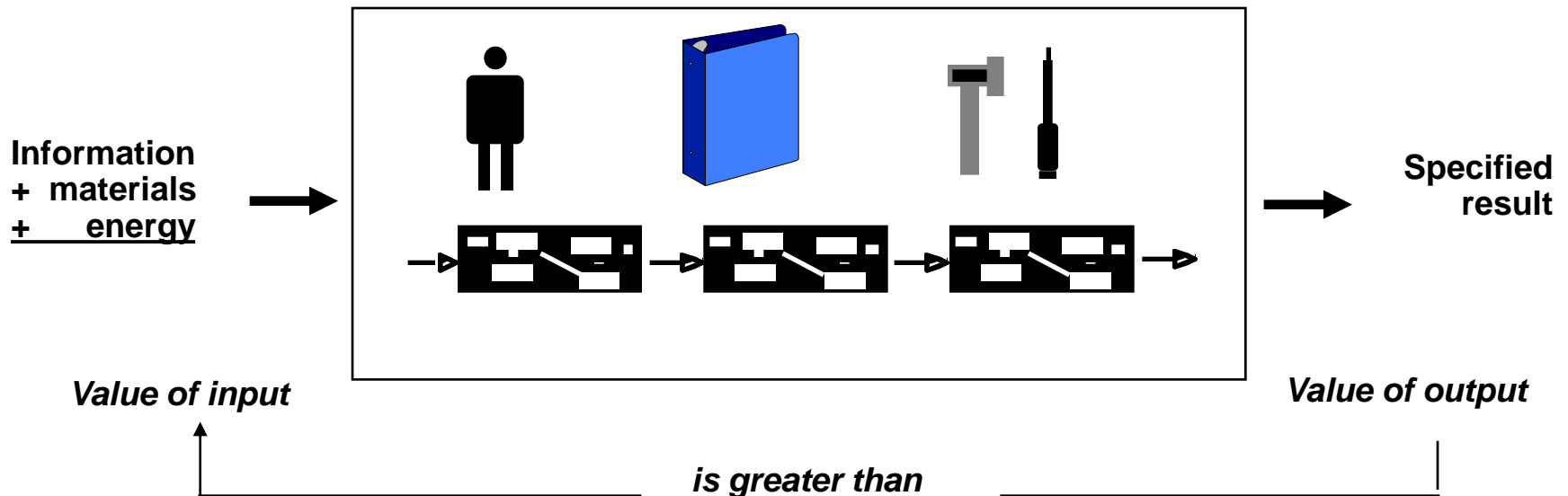
Programme Management

- A programme is a collection of projects related to some extent to a common objective.
- Programme Management is the effective management of that programme.
- It can variously cover managing any or all of the following:
    - a portfolio of projects related to some common objective;
    - an organization's business strategy which is to be implemented through projects;
    - the interdependencies between a number of projects;
    - resource allocation amongst a portfolio of projects.

- Portfolio Management
    - the management of a number of projects that do not share a common objective.

Project Management Process

Constraints
Time, cost, quality, technical and other performance parameters, legal, environment, etc.

Input
Business need and requirement

Management of the project

Output
Project deliverables, products and/or services

Mechanisms
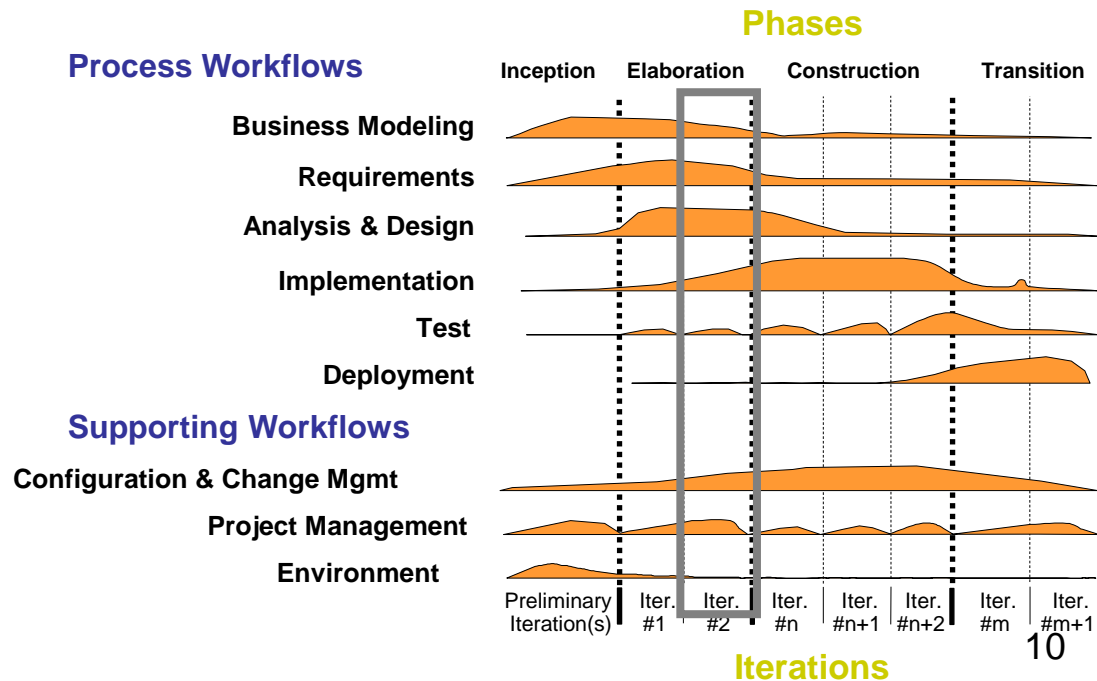People, techniques and tools, equipment, organisation

What is a Process?

- process n. a bounded set of interrelated activities that takes one or more kinds of inputs and creates outputs that are of value to the customer by means of one or more transformations

**Information
+ materials
+   energy**

**Specified
result**

Value of input

Value of output

is greater than

Adapted from *Quality Process Management*, **by Gabriel Pall, 1987**

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Type of Processes

- PM processes
  - describing and organizing the work of the project
  - PM in RUP
- Product-oriented processes
  - specifying and building the project's product
  - Core processes in RUP

Phases

Process Workflows

	Inception	Elaboration	Construction	Transition

Business Modeling

Requirements

Analysis & Design

Implementation

Test

Deployment

Supporting Workflows

Configuration & Change Mgmt

Project Management

Environment

Preliminary Iteration(s)	Iter. #1	Iter. #2	Iter. #n	Iter. #n+1	Iter. #n+2	Iter. #m	Iter. #m+1

Iterations

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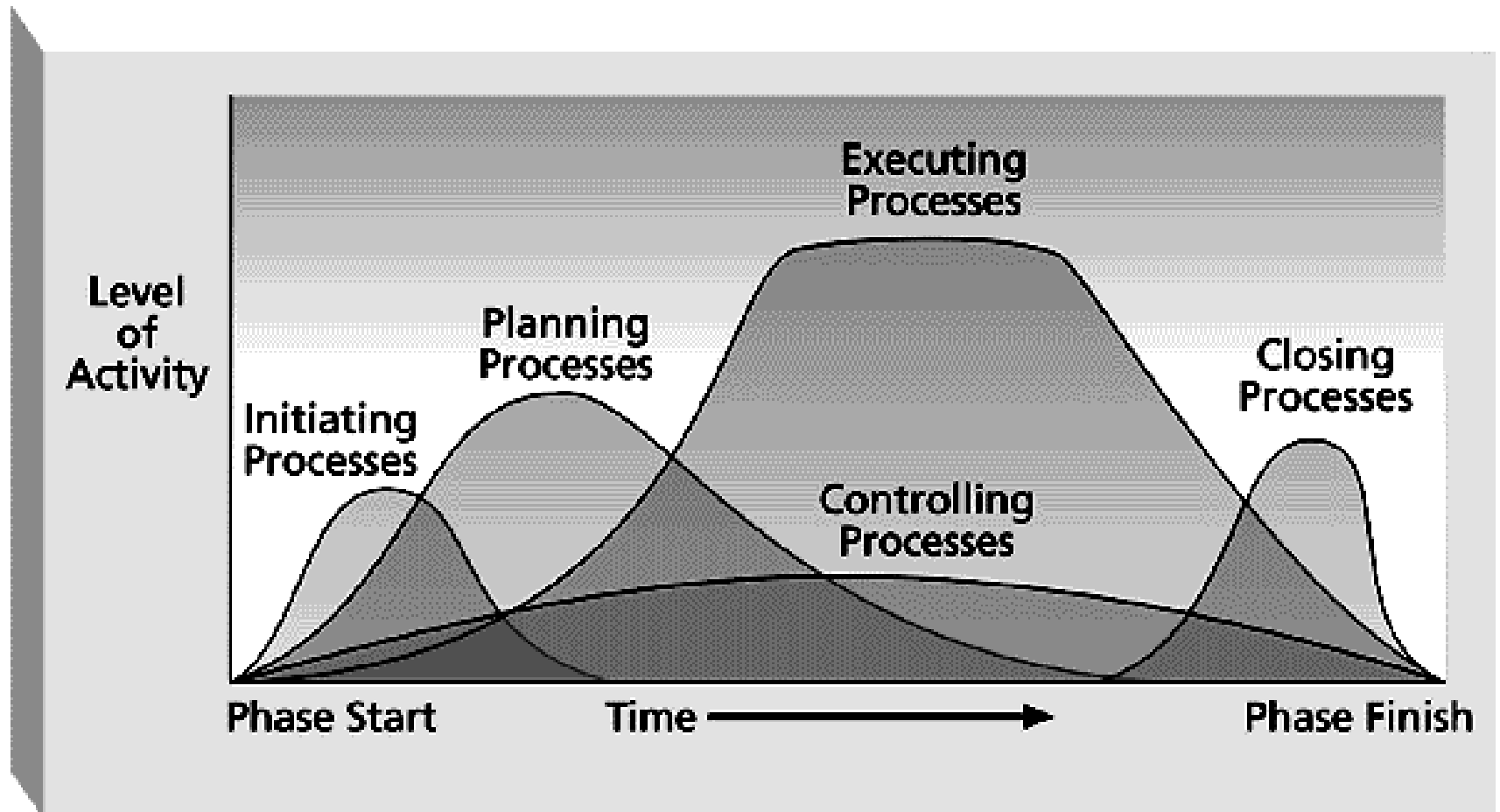# Project Management processes

- Project management is accomplished through the application and management pr
  - Initiating
  - Planning
  - Executing
  - Monitoring and
  - Closing
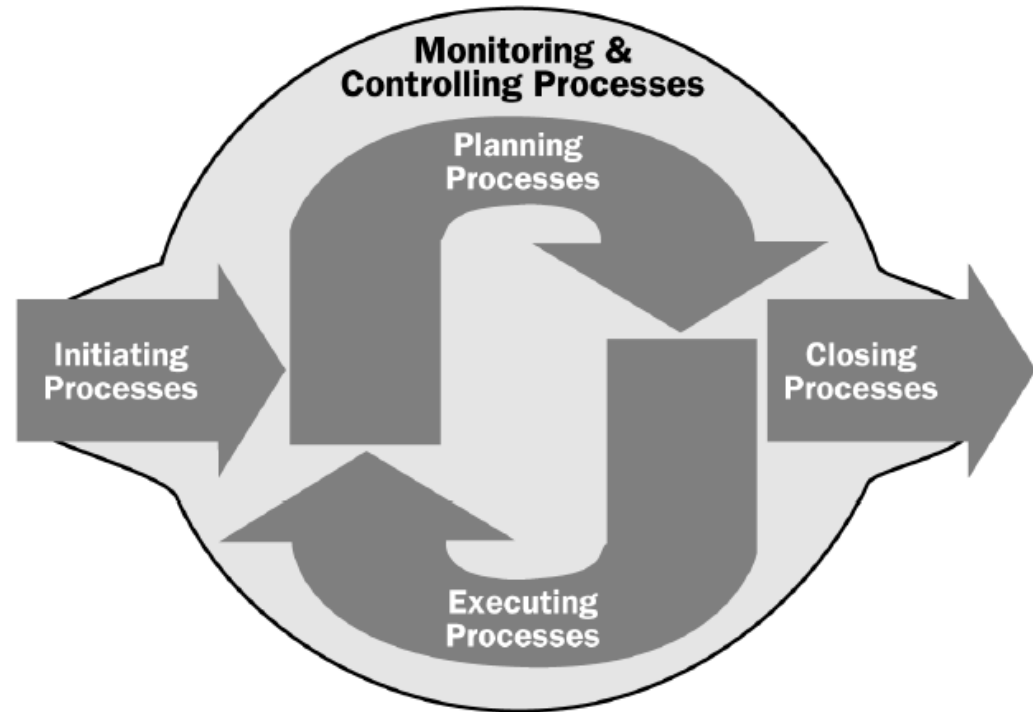
- These can be repeated for every phase of a project

Process Groups

Planning Process

Devising and maintaining a workable scheme to accomplish the business need that the project was undertaken to address

- Scope Planning
- Scope Definition
- Activity Definition
- Activity Sequencing
- Activity Duration Estimating
- Resource Planning
- Cost Estimating
- Cost Budgeting

- Risk Planning
- Schedule Development
- Quality Planning
- Communications Planning
- Organization Planning
- Staff Acquisition
- Procurement Planning
- Project Plan Development

Executing Process

Coordinating people and other resources to carry out the plan

- Project Plan Execution
- Scope Verification
- Quality Assurance
- Team Development

- Information Distribution
- Solicitation
- Source Selection
- Contract Administration

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Controlling Process

Ensuring that project objectives are met by monitoring and measuring progress and taking corrective measures when necessary

- Overall Change Control
- Scope Change Control
- Schedule Control
- Cost Control
- Quality Control

- Performance Reporting
- Risk Response Control

Q&A