

Project Management Basics

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Sequence of Presentation

- Project Management Basics
 - Project
 - Project Planning
 - Project Management
 - History of Project Management
 - The Traditional Triple Constraints
 - Project Life Cycle

Project

- A project is a **temporary** endeavor undertaken to create a **unique** product or service
- **Temporary**
 - Temporary means that every project has a specific start date and a specific end date
 - The end is reached when the project's objectives have been achieved, or when it becomes clear that the project objectives will not or cannot be met and the project is terminated
 - Temporary does not necessarily mean short in duration; many projects last for several years. In every case, however, the duration of a project is finite; projects are not ongoing efforts.

Project

- Unique

- Projects involve doing something which has not been done before and therefore it is unique
- A product or service may be unique even if the category it belongs to is large. For example, many thousands of office buildings have been developed but each individual facility is unique—different owner, different design, different location, different contractors, different site conditions and so on.
- The presence of repetitive elements does not change the fundamental uniqueness of the overall effort.

Project Planning

- Project planning is part of project management, which relates to the use of schedules such as Gantt charts to plan and subsequently report progress with in the project environment

OR

- Project planning is a discipline for stating how to complete a project within a certain time frame, usually with defined stages and with designated resources

Project Management

- Project management is the discipline of organizing and managing resources (e.g. people) in a way that the project is completed within defined scope, quality, time and cost constraints

OR

Project management is a set of principles, practices and techniques applied to lead project teams and control project schedule, cost and performance risks to result in delighted customers

History of Project Management

- Henry Gantt known as forefather of project management
- Famously known for his use of Gantt chart as project management tool
- And for his study of the work and management of Navy ship building
- 1950's marked the beginning of modern project management era
- Program Evaluation and Review Technique (PERT) developed by Booz Allen and Hamilton as part of US Navy's Polaris missile submarine program

History of Project Management

- Critical Path Method (CPM) developed in a joint venture by both Dupont Corporation and Remington Rand Corporation for managing plant maintenance project
- In 1956 American Association of Cost Engineers (now AACE International, the Association for the Advancement of Cost Engineering) was formed by early practitioners of project management
- AACE has continued its pioneering work and in 2006 released the first ever integrated process for portfolio, program and project management

History of Project Management

- In 1969 Project Management Institute(PMI) was formed to serve the interest of the project management industry
- Website: www.pmi.org
- In 1981, the PMI Board of Directors launched “A Guide to the Project Management Body of Knowledge(PMBOK Guide)”, containing the standards and guidelines of practice that are widely used throughout the profession

History of Project Management

- The International Project Management Association (IPMA), founded in Europe in 1967, has undergone a similar development and instituted the IPMA Competence Baseline(ICB)

Traditional Triple Constraints

- Projects need to be performed and delivered under certain constraints
- These constraints are
 - Scope
 - Time
 - Cost
- These are referred to as Project Management Triangle
- Increased scope means increased time and increased cost

Traditional Triple Constraints

- A tight time constraint mean increased cost and reduced scope
- A tight budget mean increased time and reduced scope
- The discipline of project management is about providing the tools and techniques that enable the project team to organize their work to meet these constraints

Time

- The time required to produce a deliverable is estimated using several techniques
- One method is to identify tasks needed to produce the deliverables documented in a work breakdown structure (WBS)
- The work effort for each task is estimated and those estimates are rolled up into the final deliverable estimate
- The tasks are also prioritized, dependencies between tasks are identified and this information is documented in a project schedule

Time

- The dependencies between the tasks can affect the length of the overall project, as can the availability of resources

Cost

- Cost to develop a project depends on several variables including resource quantities, labor rates, material rates, risk management, equipment etc

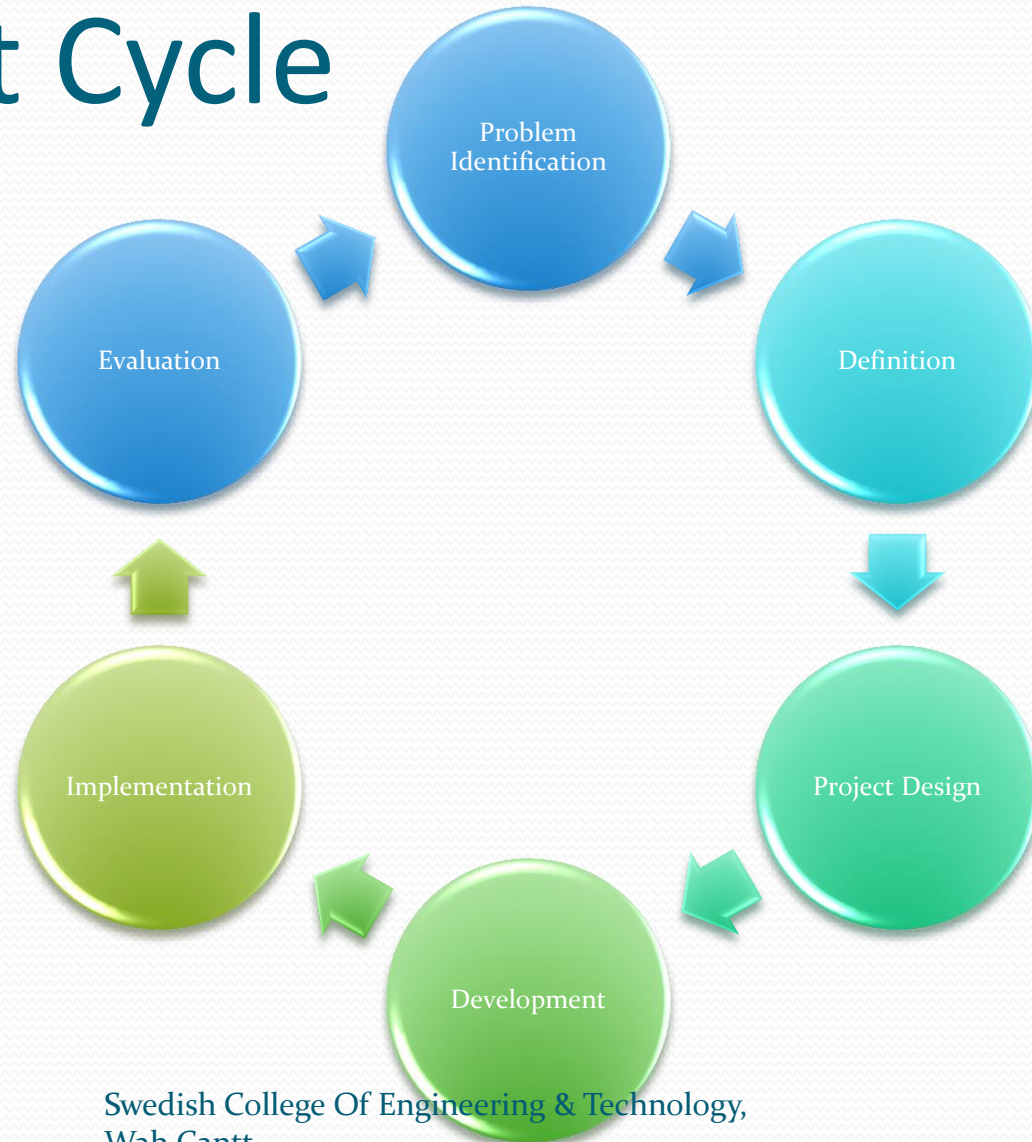
Scope

- Scope means requirements specified for the end result. The overall definition of what the project is supposed to accomplish and a specific description of what the end result should be
- A major component of scope is the quality of the final product
- The amount of time put into individual tasks determines the overall quality of the project
- Some tasks may require a given amount of time to complete adequately, but given more time could be completed exceptionally

Scope

- Over the course of a large project, quality can have a significant impact on time and cost

Project Cycle



Problem Identification

- Also referred to as the *concept stage* or *need stage* where the project is just a thought
- Someone realizes that there is a problem in search of a solution

or

- An opportunity that the organization can take advantage of.

Definition

- In this stage, a person or group of people accurately describes the problem (or, more positively, the challenge or opportunity) that the project is attempting to solve.
- The definition stage is more often neglected, which helps explain why some projects fail.
- The challenge of definition stage is to take the time to thoroughly describe the problem, beginning with naïve question: What is the problem we're trying to solve?
- Define the problem and its solution from the customer's point of view.

Project Design

- Define the project objectives
- Finalize the project scope
- Identify project activities
- Break each activity into logical components
- Assign resources and
- Create estimates for time and costs
 - Go/no go stage
 - Outcome is project budget and timeline
 - Decides the success of the project

Development

- You expand the resources according to the project plan to complete the activities specified in the project design
- Quality assurance and communication skills are vital

Implementation

- Field testing and measurement
- Product is modified or re-engineered

Evaluation

- Review of a project
- Reports and personal experience with the project
- Indentify areas to improve