HNDIT2302

IT Project Management

Module Data

- **Module Code** HNDIT23022
- **Module Title** IT Project Management
- **Credits** 2
- **Hours/Week**
  - **Lectures** 15
  - **Lab/Tutorial** 30
- **GPA/NGPA** GPA
- **Semester** 3
- **Module Type** Core

Module Aims & Objectives

- To develop an appreciation of key, generic project management concepts and techniques as well as those techniques and approaches those are specific to the management of software projects.

Learning Outcomes

- At the end of the module the student will be able to:
- Explain how a project can be broken down into stages and what each stage contributes to the project.
- Select appropriate techniques to use in different stages of a project.
- Justify the appropriateness of these techniques, and apply them to practical situations.
- Explain the limitations of the project approach in developing information/software systems.
- Explain the roles and responsibilities of a project manager.
- Identify relevant software tools for different project management activities.

Outline Syllabus

1. Introduction to project management and the profile of a software project
2. Project Integration Management
3. Scope Management
4. Time Management
5. Cost Management
6. Quality Management
7. Human Resource Managemer
8. Communications Management
9. Risk Management
10. Procurement Management
11. Roles and responsibilities of a project Manager

Assessment & weighting

- **Continuous assessment**
  - In Class participation, group work and Tutorials - 50%
- **End Semester Examination**
  - Structured Examination Paper- 50 %

Prescribed Text

- Kathy Schwalbe, "*Information Technology Project Management*", Sixth Edition, THOMSON Course Technology, (ISBN 81-315-0123-X)
- Steve McConnell, "*Software Project Survival Guide*", Microsoft Press, ISBN: 1572316217
- Harold Kerzner, "*Project Management: A Systems Approach to Planning, Scheduling, and Controlling*", Wiley; 8th edition, ISBN: 0471225770

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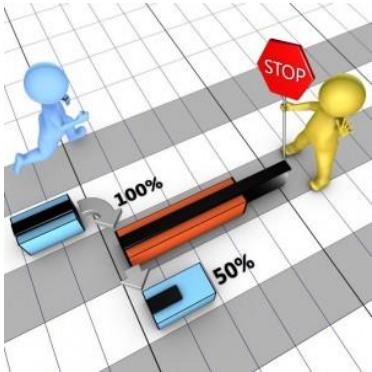
Week 1

Introduction to project management and the profile of a software project



What is a Project?

- Project is a **temporary** endeavor undertaken to create a **unique** product or service.
- Projects are unique.
- Projects are temporary in nature and have a definite beginning and end date.
- Projects are completed when the project goals are achieved or it is determined the project is no longer viable.
- A successful project is one that meets or exceeds the expectations of your stakeholders.

What is a Project?

- A project can be considered to be any series of activities and tasks that:
- Have a specific objective to be completed within certain specifications.
- Have defined start and end dates.
- Have funding limits (if applicable)
- Consume human and nonhuman resources (i.e., money, people, equipment).
- Are multifunctional (i.e., cut across several functional lines).

Project Attributes

- Unique purpose
- Temporary
- Require resources, often from various areas
- Should have a primary sponsor and/or customer
- Involve uncertainty

Project Example

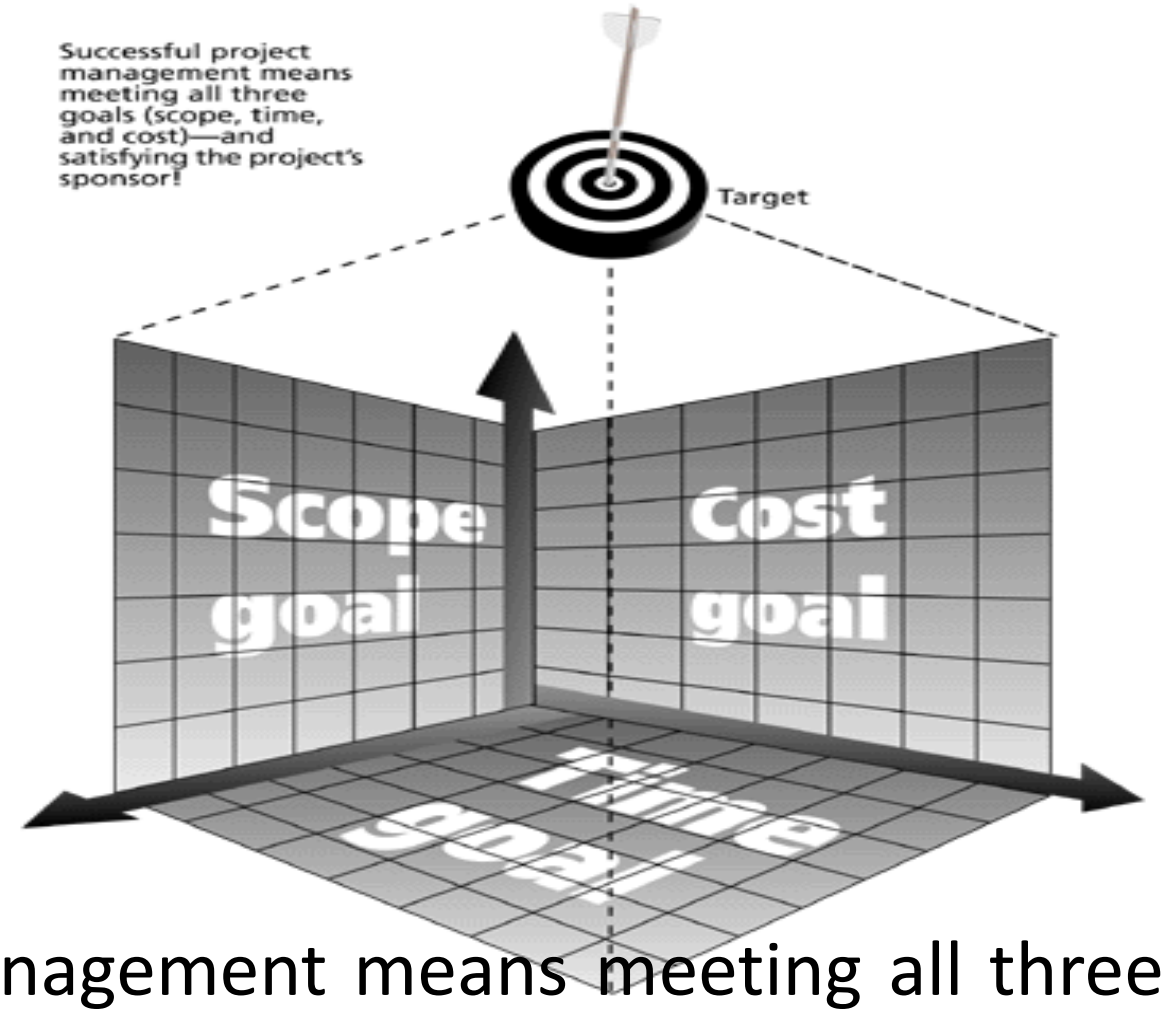
- Building a road is an example of a project. The process of building a road takes a finite amount of time, and produces a unique product.
- **Operations**, on the other hand, are repetitive. Generating bills every month, and broadcasting news everyday are examples of operations.
- **Subprojects** are components of a project that often contracted out.

The Triple Constraint

The Triple Constraint

- Every project is constrained in different ways by its scope, time and cost goals.
- These limitations are sometimes referred to in project management as the **triple constraint** :
  - Scope goals: What is the project trying to accomplish?
  - Time goals: How long should it take to complete? What is the project's schedule.
  - Cost goals: What should it cost to complete the project? What is the project's budget?
- It is the project manager's duty to balance these three often competing goals

The Triple Constraint of PM



Successful project management means meeting all three goals (scope, time, cost) –and satisfying the project's sponsor.

The Triple Constraint of PM , cont'

- Although the triple constraints describes how the basic elements of a project –scope, time and cost – interrelate, other elements can also play significant roles.
- Quality is often a key factor in projects.
- Some people, in fact, refer to the 'quadruple constraint' of PM, including quality along with scope, time, and cost.

What is Project Management?

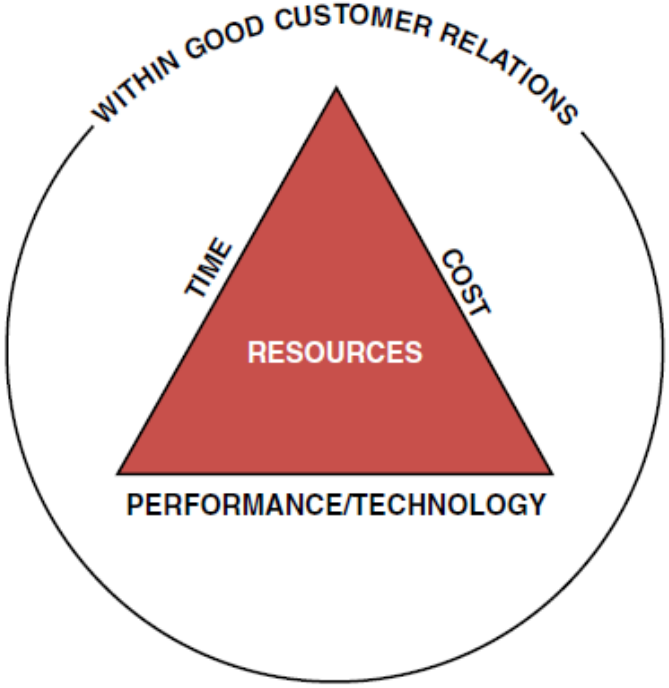
Project management is "the application of knowledge, skills, tools, and techniques to project activities in order to meet project requirements"

(PMI*, Project Management Body of Knowledge (PMBOK® Guide), 2000, p. 6)

*The Project Management Institute (PMI) is an international professional society

What is Project Management? ….

- Project management is accomplished through the use of the processes such as:
  - Project initiation
  - Project planning
  - Project execution
  - Project monitoring and control
  - Project closure



Project initiation

- Select of the best project given resource limits.
- Recognizing the benefits of the project
- Preparation of the documents to approve the project.
- Assigning of project manager

Project planning

- Definition of the work requirements.
- Definition of the quality and quality of work.
- Definition of the resources needed
- Scheduling the activities
- Evaluation of the various risks

Project execution

- Negotiating for the project team members
- Directing and managing the work
- Working with the team members to help them improve

Project Monitoring and control

- Tracking progress
- Comparing actual outcome to predicted outcome
- Analyzing variances and impacts
- Making adjustments

Project closure

- Verifying that all of the work has been accomplished
- Contractual closure of the contract
- Financial closure of the charge number
- Administrative closure of the paperwork

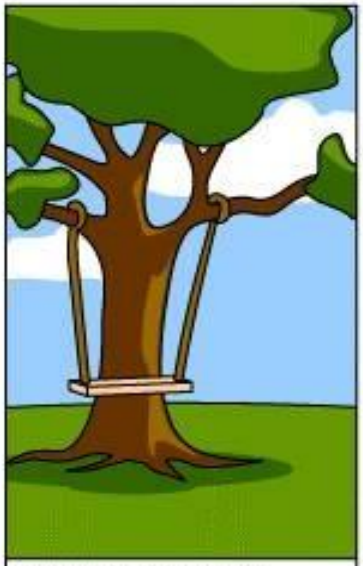
Successful Project Management

- Successful project management can then be defined as having achieved the project objectives:
  - Within time
  - Within cost
  - At the desired performance/technology level
  - While utilizing the assigned resources effectively and efficiently
  - Accepted by the customer

Advantages of Using Formal Project Management

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

How the customer explained it

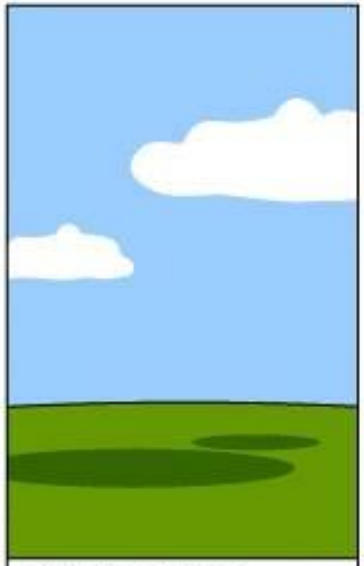


How the Project Leader understood it

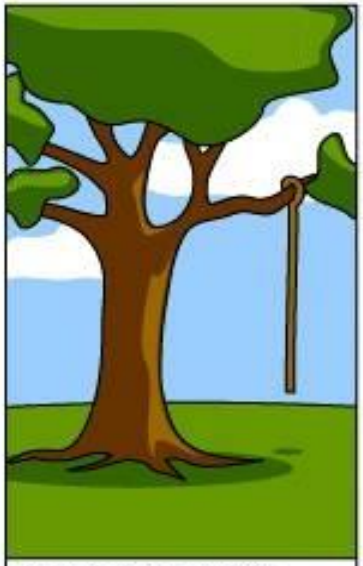
How the Analyst designed it

How the Programmer wrote it

How the Business Consultant described it

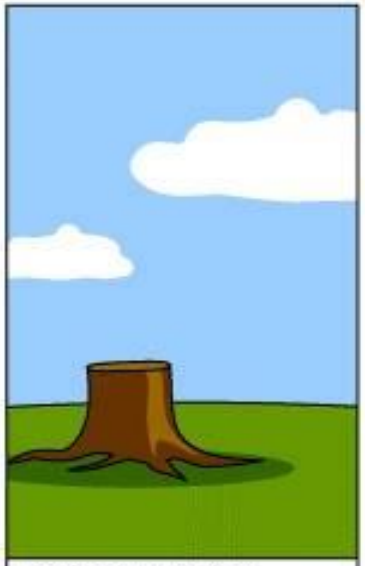


How the project was documented



What operations installed

How the customer was billed



How it was supported

What the customer really needed

PM Tools and Techniques

- Tools and techniques assist project managers and their teams in **various aspects of project management**.
- Mechanism applied to the input to create the output
- Some specific tools and techniques include:
  - Project charters, scope statements, and WBS (scope).
  - Gantt charts, network diagrams, critical path analyses, critical chain scheduling (time).
  - Cost estimates and earned value management (cost).

The Context of IT Projects

- IT projects can be very diverse in terms of size, complexity, products produced, application area, and resource requirements
- IT project team members often have diverse backgrounds and skill sets
- IT projects use diverse technologies that change rapidly. Even within one technology area, people must be highly specialized

Special characteristics of IT projects

- **Invisibility**: When physical artefacts such as bridge or road is being constructed the progress being made can actually be seen. With software progress is not immediately visible
- **Complexity**: More complex then other engineering works
- **Conformity** : Software developers have to confirm to the requirement of human clients.
- **Flexibility**: That software is easy to change in seen as a strength. Software Systems are particularly subject to change

Importance of Software Project Management

- Software projects have more frailer rate
- Final project is invisible until it ends
- Software Project use lot of effort, time , recourses & money
- The need for Software projects keeps increasing

References

- Kathy Schwalbe, "*Information Technology Project Management*", Sixth Edition, THOMSON Course Technology, (ISBN 81-315-0123-X)
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- Bob Hughes, Mike Cotterell, Rajib Mall , "*Software Project Management*", fifth Edition, Mc Graw Hill, ISBN 9780071072748