Project Management

Graduate School of Management
Sharif University of Technology

Session 1:
- Class Introduction
- Overview, Definitions
- Project Manager Roles

References:
- Kerzner: Ch 1
- Burk: Ch 1
- PMBOK: Ch 1
Project Management Course Overview

Objectives:
- Explain Basic PM Concepts, Framework & Technology
- Describe Basic PM Theories
- Cover PM Body of Knowledge
- Explain Tools & Techniques
- Advanced Topics in PM
- Discuss Examples and Cases
- Discuss Applications in Iran
- Prepare for PMP Exam
- Review Lessons Learned

Subjects:
- Basic Concepts
- Scope, WBS, Integration
- Time Management
- Cost Management
- Quality Management
- Risk Management
- Human Resources
- Procurement, Communication
- Strategic Project Management
- Advanced & Other Topics
Introduction: Your Instructor

- Dr. Mehran Sepehri, sepehri@sharif.edu
- Member of Academic Staff, Graduate School of Management, Sharif University of Technology
- Ph.D. in Engineering Management from Stanford University, M.S. from M.I.T., United States
- Member of Board of Directors, Iranian Project Management Association, www.ipma.ir
- Over 20 years of experience in Program and Project Management in US and Canada
Introduction: Students

- Your name, position, education, background (1 min.)
- Your previous PM training & experience (30 sec.)
- What you’re looking for in this course (30 sec.)
- One horror story from your experience (30 sec.)
- Any other subject to share with class (30 sec.)

Each Class Agenda:
- Review Previous Class Subjects
- Lecture/Discussion New Subject
- Multiple Choice /Review Questions
- Case Discussion, Examples
What is a Project?

A *project* is a *temporary* endeavor undertaken to *create* a *unique product, service or result*.

- A project has a unique purpose.
- A project is temporary.
- A project requires resources, often from various areas.
- A project should have a primary sponsor or customer.
- A project involves uncertainty.
Examples of Projects

- Developing a new product or service
- Effecting a change in structure, staffing, or products of an organization
- Designing a new transportation vehicle
- Developing or acquiring a new or modified information system
- Constructing a building or facility
- Building a water system for a community in a developing country
- Running a campaign for political office
- Implementing a new business procedure or process
What is Project Management?

Project Management is the Art of Creating the Illusion that Any Outcome is the Result of a Series of Predetermined, Deliberate Acts When in Fact it was Dumb Luck!
What is Project Management?

**Project management** is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements.

**Project Management** is the most efficient way of introducing change!

The term *project management* is sometimes used to describe an organizational approach to the management of ongoing operations. This approach, more properly called *management by projects*, treats many aspects of ongoing operations as projects to apply project management techniques to them.
Reasons for Projects

- Strategic Planning / Competitive Positioning
- Business Process Improvement/Reengineering
- Entrepreneurship / New Product Development
- Changing Environment, Technology, etc.
- Project-oriented by Nature of Business
When to Use Project Management

- Are the jobs complex?
- Are there dynamic environmental considerations?
- Are the constraints tight?
- Are there several activities to be integrated?
- Are there several functional boundaries to be crossed?
Project Management Growth

- Technology increasing at an astounding rate
- More money invested in R&D
- More information available
- Shortening of project life cycles
Early Reasons For Failure

- There was no need for project management.
- Employees were not informed about how project management should work.
- Executives did not select the appropriate projects or project managers for the first few projects.
- There was no attempt to explain the effect of the project management organizational structure on the wage and salary administration program.
- Employees were not convinced that executives were in total support of the change (to project management).
Advantages

- Easy adaptation to an ever-changing environment
- Ability to handle a multidisciplinary activity within a specified period of time
- Horizontal as well as vertical work flow
- Better orientation toward customer problems
- Easier identification of activity responsibilities
- A multidisciplinary decision-making process
- Innovation in organizational design
Project Management Evolution

- Biblical Project Management
- Military Project Management
- Space Exploration
- Heavy Construction
- Other
Biblical Project Management
Air Force: B52 Bomber
Air Force: Atlas, Titan, and Minuteman ICBMs
Navy: Polaris Submarine Program
Military Fighters
NASA’s Manned Space Program
Satellite Boosters for Space Research
Heavy Construction Projects
Today, Project Management Has World-Wide Applications.
The U.S. spends $2.3 trillion on projects every year, an amount equal to one-quarter of the GDP.

The world as a whole spends nearly $10 trillion of its $40.7 trillion gross product on projects of all kinds.

More than sixteen million people regard project management as their profession;

On average, a project manager earns more than $82,000 per year.*
PM in US and the World

- More than 0.5 million new information technology (IT) application development projects were initiated during 2001, up from 300,000 in 2000.*

- Famous business authors and consultants are stressing the importance of project management. As Tom Peters writes in his book, Reinventing Work: the Project 50, “To win today you must master the art of the project!”
تنها گروه باستان‌شناسی زیر آب کشور

 מנحل شد

 بروزهای این گروه به دلیل کمبود اعتبار و

 استعفای مدیر آن ناتمام ماند

 فعالیت تنها گروه باستان‌شناسی زیر آب

 کشور متوسط و بروزهای در دست انجام

 این گروه به دلیل کمبود اعتبار ناتمام رها شد.

 دکتر محمد میراکندری - کارشناس باستان‌شناسی

 شناسی زیر آب - با اعلام اینکه از سمت

 مدیریت گروه باستان‌شناسی زیر آب

 کنار می‌گیرد کردم، به خبر نگار بخش میراث فرهنگی خبرگزاری دانشگاهان

 ایران (اسناد)، گفت: ما می‌خواستیم به این گروه بپردازیم به ما داده بود که عملی شده است. خواسته‌های ما در هد اضافه کردن نیرو، تشکیل پایگاه و نجات نیروها...
عضو کمیته علمی "کنفرانس مدیریت پروژه" 

زمان متوسط اجرای پروژه‌های عمرانی در کشور سه برابر میانگین استاندارد جهانی است.

بر اساس آمارهای سازمان مدیریت و برنامه‌ریزی کشور، مدت زمان متوسط اجرای پروژه‌های عمرانی حدود 9 سال است که این رقم سه برابر میانگین استاندارد جهانی است.
OVERVIEW OF PROJECT MANAGEMENT

WITHIN GOOD CUSTOMER RELATIONS

TIME
COST
RESOURCES

PERFORMANCE/TECHNOLOGY
Project Characteristics

- Have a specific objective (which may be unique or one-of-a-kind) to be completed within certain specifications
- Have defined start and end dates
- Have funding limits (if applicable)
- Have quality limits (if applicable)
- Consume human and nonhuman resources (i.e., money, people, equipment)
- Be multifunctional (cut across several functional lines)
Project Management

- **Project Planning**
  - Definition of work requirements
  - Definition of quantity and quality of work
  - Definition of resources needed

- **Project monitoring**
  - Tracking progress
  - Comparing actual outcome to predicted outcome
  - Analyzing impact
  - Making adjustments
MATURITY IN PROJECT MANAGEMENT IS LIKE A THREE-LEGGED STOOL.

THE LEGS REPRESENT THE:

- Project Manager
- Line Manager(s)
- Executive Management (i.e.... Project Sponsor)

Maturity cannot exist without stability
TOP OF THE THREE-LEGGED STOOL

- Organizational Structure
- Organizational Behavior
- Tools & Techniques
Project Management and productivity are related!
Critical Questions

- How important is Project Management training?
- Part-time Project Management - is it good or bad?
Role Of The Project Manager
Negotiating For Resources
The Project Kickoff Meeting
Organizing The Project Team
Establishing The Project’s Policies and Procedures
Laying Out The Project Workflow And Plan
Establishing Performance Targets
Obtaining Funding
Executing The Plan
Acting As The Conductor
Counseling and Facilitation
Encouraging The Team To Focus On Deadlines
Monitoring Progress By
“Pounding The Pavement”
Evaluating Performance
Develop Contingency Plans
Briefing The Project Sponsor
Briefing The Team
Briefing The Customer
Closing Out The Project
Why is a Project Management System Necessary?
Benefits

- Identification of functional responsibilities to ensure that all activities are accounted for, regardless of personnel turnover.
- Minimizing the need for continuous improvement
- Identification of time limits for scheduling
- Identification of a methodology for trade-off analysis
- Measurement of accomplishment against plans
Benefits (continued)

- Early identification of problems so that corrective action may follow
- Improved estimating capability for future planning
- Knowing when objectives cannot be met or will be exceeded
Obstacles

- Project complexity
- Customer’s special requirements and scope changes
- Organizational restructuring
- Project risks
- Changes in technology
- Forward planning and pricing
Resources

- Money
- Manpower
- Equipment
- Facilities
- Materials
- Information/technology
Project Necessities

- Complete task definitions
- Resource requirement definitions (and possibly skill levels needed)
- Major timetable milestones
- Definition of end-item quality and reliability requirements
- The basis for performance measurement
Results of Good Planning

- Assurance that functional units will understand their total responsibilities toward achieving project needs.
- Assurance that problems resulting from scheduling and allocation of critical resources are known beforehand.
- Early identification of problems that may jeopardize successful project completion so that effective corrective action and replanning can occur to prevent or resolve problems.
Projects may be few and far between

Not all projects have the same project management requirements, and therefore they cannot be managed identically. This difficulty results from poor understanding of project management and a reluctance of companies to invest in proper training.

Executives do not have sufficient time to manage projects themselves, yet refuse to delegate authority.
Projects tend to be delayed because approvals most often follow the vertical chain of command. As a result, project work stays too long in functional departments.

Because project staffing is on a “local” basis, only a portion of the organization understands project management and sees the system in action.

There exists heavy dependence on subcontractors and outside agencies for project management expertise.
High-level Reporting

- The project manager is charged with getting results from the coordinated efforts of many functions. He should, therefore, report to the man who directs all those functions.

- The project manager must have adequate organizational status to do his job effectively.

- To get adequate and timely assistance in solving problems that inevitably appear in any important project, the project manager needs direct and specific access to an upper echelon of management.

- The customer, particularly in a competitive environment, is favorably impressed if his project manager reports to a high organizational echelon.
Low-level Reporting

- It is organizationally and operationally inefficient to have too many projects, especially small ones, diverting senior executives from more vital concerns.
- Although giving a small project a high place in the organization may create the illusion of executive attention, its real result is to foster executive neglect of the project.
- Placing a junior project manager too high in the organization will alienate senior functional executives on whom he must rely for support.
The Quality Gap

- Quality
- Customer Expectations
- Achieved Improvements
- Quality Gap
- Time
In Summary, The Project Manager Is Like A Physician:
He Must Be An Expert
Diagnostician....
Guard His Project
From Infection....
And Prescribe Cures For
A Multitude Of Afflictions
The Need For Restructuring

- Accomplish tasks that could not be effectively handled by the traditional structure
- Accomplish onetime activities with minimum disruption to routine business
Restructuring Problems

- Project priorities and competition for talent may interrupt the stability of the organization and interfere with its long-range interests by upsetting the normal business of the functional organization.

- Long-range planning may suffer as the company gets more involved in meeting schedules and fulfilling the requirements of temporary projects.
Restructuring Problems (Continued)

- Shifting people from the project to project may disrupt the training of new employees and specialists. This may hinder their growth and development within their fields of specialization.
Imperatives

- The time span between project initiation and completion appears to be increasing.
- The capital committed to the project prior to the use of the end item appears to be increasing.
- As technology increases, the commitment of time and money appears to become inflexible.
Imperatives (Continued)

- Technology requires more and more specialized manpower.
- The inevitable counterpart of specialization is organization.
- The above five “imperatives” identify the necessity for more effective planning, scheduling, and control.
Obstacles

- Unstable economy
- Shortages
- Soaring costs
- Increased complexity
- Heightened competition
- Technological changes
- Societal Concerns
- Consumerism
- Ecology
- Quality of work
Results of NOT Controlling Obstacles

- Decreased Profits
- Increased manpower needs
- Cost overruns, schedule delays, and penalty occurring earlier and earlier
- An inability to cope with new technology
- R&D results too late to benefit existing product lines
- Temptation to make hasty decisions that prove to be costly
Results of NOT Controlling Obstacles (Continued)

- Management insisting on earlier and greater return on investment
- Greater difficulty in establishing on-target objectives in real time
- Problems in relating cost to technical performance and scheduling during the execution of the project
Integrative Responsibility

- Total accountability assumed by a single person
- Project rather than functional dedication
- A requirement for coordination across functional interfaces
- Proper utilization of integral planning and control