Project Management Principles and Practices

Level 1

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Agenda

- Introductions

- Course Objective

- Unit 1: Introduction to Project Management

- Unit 2: Project Definition

- Unit 3: Project Planning

Introductions

- What is your Project Management Experience?

- What types of projects will you be involved in?

- What would you like to get out of the course?

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Course Objectives

- Learn what project management is and the qualities of an effective project manager.

- Understand the nine knowledge areas of project management and how they can be applied to your project.

- Discover the phases of a project and what deliverables are expected when.

- Identify a project's key stakeholders.

- Understand the different types of business cases and how to create a Statement of Work.

- Learn to be prepared for the unexpected by utilizing risk management and change control.

- Learn how to organize project activities by creating a Work Breakdown Structure.

- Create a network diagram to track your project's progress.

- Learn budgeting and estimating techniques.

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Reference Material

- Project Management
  - The Complete Idiot's Guide

Unit 1

Introduction to Project Management

Introduction to Project Management

- Project Failures

- Project Successes

- What is Project Management?

- Key Functional Areas of Project Management

- Project Life Cycle

Project Failure

- Identify reasons that project fail

Reasons for Project Failure
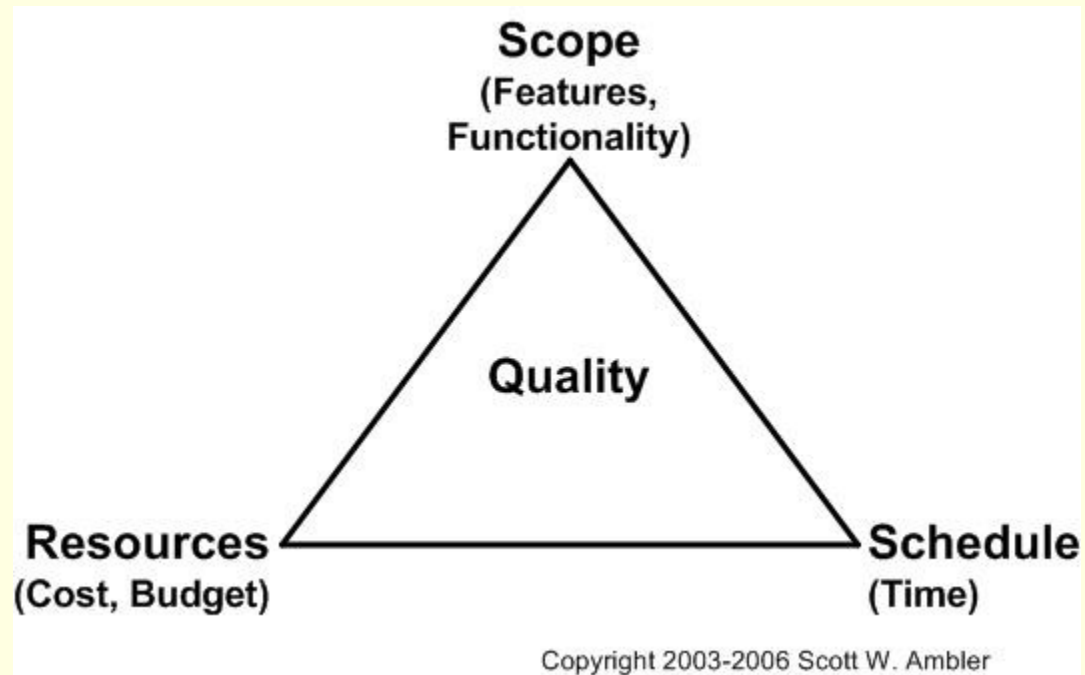## Chapter 3 Page 22

1. Poor project and program management discipline

2. Lack of executive-level support

3. No linkage to the business strategy

4. Wrong team members

5. No measures for evaluating the success of the project

6. No risk management

7. Inability to manage change

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Project Success Criteria

- On time

- On budget

- Meeting the goals that have been agreed upon

Iron Triangle

Scope (Features, Functionality)

Quality

Resources (Cost, Budget)

Schedule (Time)

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Pick Any Two

What is a Project?

- Temporary with specific start and end dates

- Unique

- Progress elaboration

What is a Project Manager?
Chapter 2

- Ultimately responsible for the Project's Success

- Plan and Act

- Focus on the project's end

- Be a manager & leader

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Seven Traits of Good Project Managers

Trait 1

Enthusiasm for the project

Trait 2

Ability to manage change effectively

Trait 3

A tolerant attitude toward ambiguity

Trait 4

Team – building and negotiating skills

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Seven Traits of Good Project Managers

Trait 5

A customer-first orientation

Trait 6

Adherence to the priorities of business

Trait 7

Knowledge of the industry or technology

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Project Success
12 Golden Rules (Chapter 3)

Rule #1

Thou shalt gain consensus on project outcome.

Project Success
12 Golden Rules

Rule #2

Thou shalt build the best team possible.

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Project Success
12 Golden Rules

Rule #3

Thou shalt develop a comprehensive, viable plan and keep it up-to-date.

Project Success
12 Golden Rules

Rule #4

Thou shalt determine how much stuff you really need to get things done.

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Project Success
12 Golden Rules

Rule #5

Thou shalt have a realistic schedule.

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Project Success
12 Golden Rules

Rule #6

Thou won't try to do more than can be done.

Project Success
12 Golden Rules

Rule #7

  Thou will remember that people count.

Project Success
12 Golden Rules

Rule #8

Thou will gain the formal and ongoing support of management and stakeholders.

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Project Success
12 Golden Rules

Rule 9

    Thou must be willing to change.

Project Success
12 Golden Rules

Rule 10

Thou must keep others informed of what you're up to.

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Project Success
12 Golden Rules

Rule 11

Thou must be willing to try new things.

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Project Success
12 Golden Rules

Rule 12

  Thou must become a leader

Project Management
Chapter 4

- Project Management
  - The "application of knowledge, skills, tools and techniques to project activities to meet project requirements."

- 9 Knowledge areas

Integration Management

- Fitting everything together

- Planning

- Project Changes

Project Scope Management

- Clear scope statement

- Prevent scope creep

Project Time Management

- Time and Schedule
  - Planning
  - Managing

Project Cost Management

- Manage costs
  - Out of your control
  - Competing projects

Project Quality Management

- Planning quality

- Enforcing quality

- Checking quality control

Project Human Resource Management

- Organizational planning

- Staff acquisition

- Making a team

Project Communications Management

- Communication plan

Project Risk Management

- Risk management plan

Project Procurement Management

- Acquisition and contract management

Project Life Cycle
Chapter 5

Project Definition Phase

- Initiate the project

- Identify the Project Manager

- Develop the Project Charter

- Conduct a Feasibility Study

- Define Planning Phase

- Sign off on the Project Charter

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Project Planning Phase

- Organize and staff the project

- Develop a Project Plan

- Sign off on the Project Plan

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Project Execution Phase

- Execute the Project Plan

- Manage the Project Plan

- Implement the project's results

- Sign off on project's completion

Project Close-out Phase

- Document the lessons learned during the project

- After-implementation review

- Provide performance feedback

- Close-out contracts

- Complete administrative close-out

- Deliver project completion report

Project Life Cycle Flow
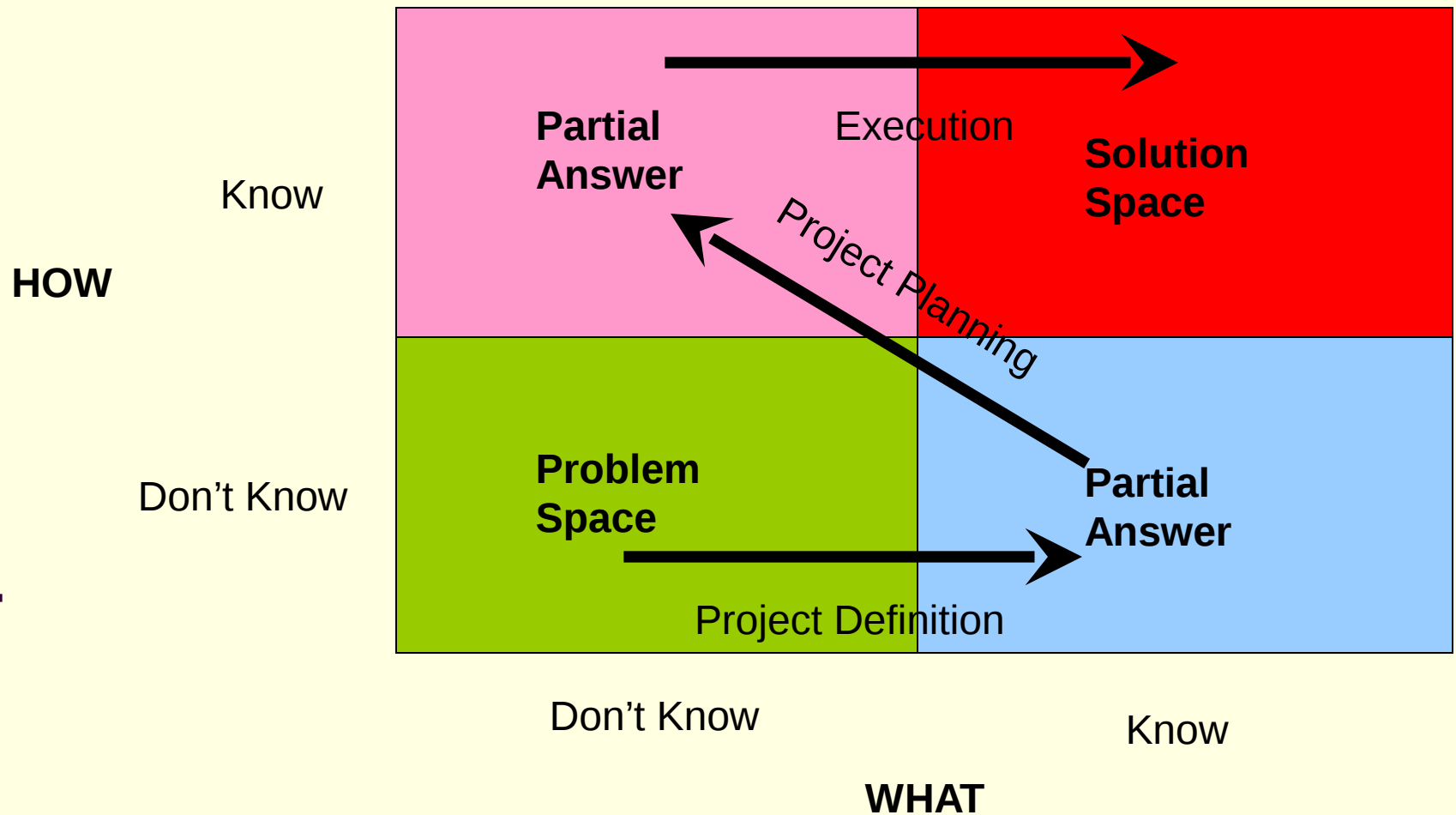
Unit 1 Review

- What is Project Management?

- Key Functional Areas

- Project life cycle

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Unit 2

Project Definition

Project Definition

- Stakeholder Identification

- Business Case

- Risk

- Constraints

Stakeholder Identification
Chapter 6

- Stakeholder definition

- Key stakeholders to identify
  - Project sponsor
  - Customer
  - Project team
  - Functional managers

- Communicate with everyone

- Manage conflicts in priorities

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The Customer

- Uses the product or services

- May be internal or external

- Provides requirements

- May have multiple categories

Project Sponsor

- Also shares responsibility for project success

- Has authority to make decisions and may provide funding

- Overcome political and organizational obstacles

Steering Committee

- Group of stakeholders who approve and agree on:
  - Project scope
  - Schedule
  - Budgets
  - Plans
  - Changes

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Working Committee

- Line managers who are responsible for delivering business results once the project is completed

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Functional Managers

- May manage or supply people that work on the team

- Need to be communicated with

- Need their commitment to the project

Activity

- Read case study

- Identify stakeholders
  - Project sponsor
  - Customer(s)
  - Functional Managers
  - Steering committee
  - Working committee

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- Reasons why the project is undertaken

- Options that were considered

- Benefits that are hoped to be realized

- High-level risks

- High-level costs & schedule

- Cost/benefit analysis

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Feasibility Study

- A general estimate used to determine whether a particular project should be pursued.

Business Goals & Objectives

- Need to understand:
    - Goals (the need for the project and the measurable benefits)
    - Scope
    - Time to complete
    - Estimates of timeline, resource requirements and costs

SMART goals

- S – Specific

- M – Measurable

- A – Agreed upon

- R – Realistic

- T – Time related

Statement of Work (SOW)

- Purpose statement

- Scope statement

- Project deliverables

- Goals & objectives

- Cost and schedule estimates

- Stakeholders

- Chain of command

- Benefits and risks

- Assumptions and constraints

- Communication plan

Activity

- Create a SOW for the case study
  - Purpose
  - Scope
  - Project deliverables
  - Goals and objectives
  - Cost and schedule estimates

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Risk management
Chapter 8

- Identify
  - Sources of risk
    - Funding
    - Time
    - Staffing
    - Customer relations
    - Project size and/or complexity
    - Overall structure
    - Organizational resistance
    - External factors

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Risk Analysis

- Probability

- Impact

- Overall exposure = probability X impact

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Risk Plan

- Accept

- Avoid

- Mitigation

- Contingency with trigger

- Transfer

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Risk Track and Control

- Risk log
  - Review and update regularly
  - Assign ownership to risk

Constraints

- Real-world limits

- Typical constraints:
  - Budget
  - Schedule
  - People
  - Real world
  - Facilities and equipment

Activity

- Identify the risks and constraints in the case study

Unit 2 Review

- Project Definition
  - Stakeholder identification
  - Business Case
  - Risk
  - Constraints

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Unit 3

Project planning

Project Planning

- Work Breakdown Structure

- Network diagramming

- Scheduling

- Budgeting

Work Breakdown Structure (WBS)
Chapter 9

- Breaks large project into manageable units
  - Total project
  - Subprojects
  - Milestones (completion of an important set of work packages)
  - Major activities (summary tasks)
  - Work packages (tasks, activities, work elements)

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WBS

- Helps to:
  - Identify all work needing to be done
  - Logically organize work so that is can be scheduled
  - Assign work to team members
  - Identify resources needed
  - Communicate what has to be done
  - Organize work using milestones

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WBS

1. Break work into independent work packages that can be sequenced, assigned, scheduled and monitored

2. Define the work package at the appropriate level of detail

3. Integrate the work packages into a total system

4. Present in a format easily communicated to people. Each work package must have a deliverable and a time for completing that deliverable

5. Verify the work packages will meet the goals and objectives of the project

Work Packages

- Way of managing the project by breaking it down

- Help determine skills required and amount of resources needed

- Communicate work that needs to be done

- Work sequences are identified and understood

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WBS tips

- Deliverables should be clearly stated

- All work in the same package should occur at the same time

- A work package should only include related work elements

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Activity

- List all work packages required for the case study

Network Diagrams
Chapter 10

- Logical representations of scheduled project activities

- Define the sequence of work in a project

- Drawn from left to right

- Reflect the chronological order of the activities

WBS and Network Diagram

- WBS: what needs to be done

- Network Diagram: shows the workflow, not just the work

Precedence

- Precedence defines the sequencing order

- How work elements are related to one another in the plan

Concurrent (Parallel) activities

- Many activities can be done at the same time as long as resources are available

Network Diagram rules

- Boxes hold description of each task

- Lines connect activities to one another

- Activities are laid out horizontal from left to right

- Parallel activities are in the same column

- Precedence is shown by drawing lines from activity to activity
  - One activity may depend on the completion of multiple other activities

Lead and Lag

- Lead – amount of time that precedes the start of work on another activity

- Lag – amount of time after one activity is started or finished before the next activity can be started or finished

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Other network diagrams

- PERT – Performance Evaluation and Review Technique
  - Better for software-oriented projects
  - Uses 3 time estimates to determine most probable

- CPM – Critical Path Method
  - Better for construction type projects
  - One time estimate

Activity

- Create a network diagram from the WBS for the case study

Scheduling
Chapter 11

1. Establish scheduling assumptions

2. Estimate the resources, effort and duration
   - Effort – time that it takes to work on the activity
   - Duration – the time to complete the activity

3. Determine calendar dates for activities

4. Adjust individual resource assignments

5. Chart final schedule

Estimating Time

- Have people who are doing the work provide the estimates

- Get an expert's estimate

- Find a similar task

- Look for relationship between activity and time (parametric estimate)

- Educated guess

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PERT Estimating

- Optimistic estimate (OD)

- Most likely (MLD)

- Pessimistic estimate (PD)

- Expected = [OD + 4(MLD) +PD] / 6

Contingency

- Don't pad estimates
  - Will never get good estimates
  - Adds expense and time

- Add contingency as an activity
  - Typically 10-15%

Critical Path & Float
Chapter 12

- Critical Path
  - Sequence of tasks that forms the longest duration of the project

- Float
  - Amount of time that an activity may be delayed from its earliest possible start date without delaying the project finish date
  - Latest possible finish date – earliest possible start – duration = total float

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Normalizing the Schedule

- Assign people to the schedule

- Start with the critical path first, non-critical tasks second

Loading and Leveling

- Resource Load – the amount of work that is assigned to a resource

- Resource Leveling – redistribution to even out the distribution of work across all resources

Scheduling Tips

- Ensure that learning time is identified

- Ensure that administration time is included

- Be aware that resources seldom work 100% of the time on one project

Activity

- Create a schedule for the case study

Budgeting
Chapter 13

- Budget = People + Resources + Time

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Budgeting Levels

- Ballpark Estimate

- Rough Order of Magnitude

- Detailed Estimate

Direct & Indirect Costs

- Direct costs
  - Directly attributed to the project

- Indirect costs
  - Shared amongst other projects

Types of Budgeting

- Bottom-up

- Top-Down

- Phased

Contingency Reserve

- 10-15% of budget is normal

- Don't pad but manage the contingency

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Activity

- Build a budget for the case study

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Unit 3 Review

- Project Planning
  - WBS
  - Network Diagrams
  - Scheduling
  - Budgeting

Wrap-up

- Evaluations

- Next Course
  - Principles and Practices part 2
    - Leadership
    - Operating guidelines
    - Project teams
    - Communication plan
    - Procurement management
    - Quality management
    - Monitoring and controlling
    - Close-out activities
    - Common project problems

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