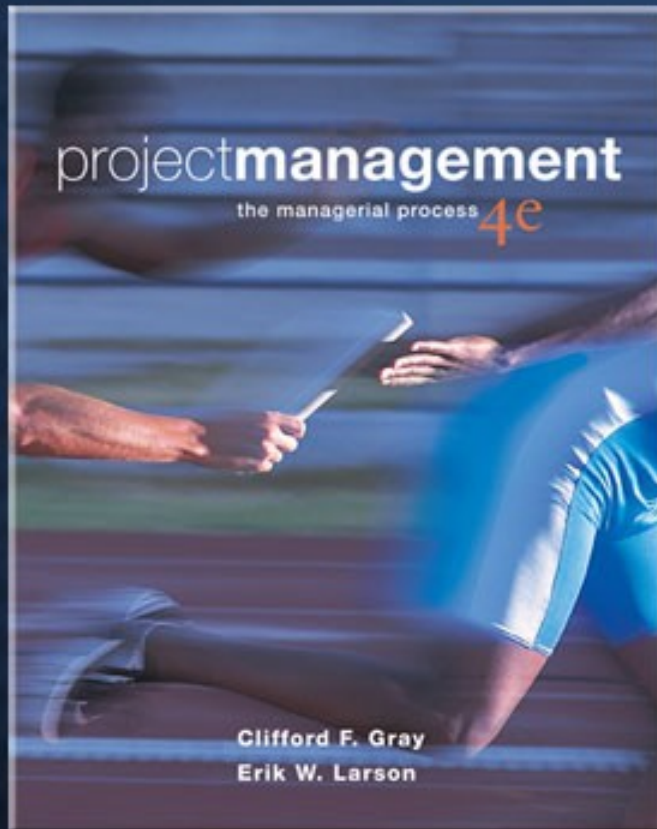


# Chapter 4



## Defining the Project



# Defining the Project

Step 1: Defining the Project Scope

Step 2: Establishing Project Priorities

Step 3: Creating the Work Breakdown Structure

Step 4: Integrating the WBS with the Organization

Step 5: Coding the WBS for the Information System

# Step 1: Defining the Project Scope

## ■ Project Scope

- A definition of the end result or mission of the project —a product or service for the client/customer—in specific, tangible, and measurable terms.

## ■ Purpose of the Scope Statement

- To clearly define the deliverable(s) for the end user.
- To focus the project on successful completion of its goals.
- To be used by the project owner and participants as a planning tool and for measuring project success.

# Project Scope Checklist

1. Project objective
2. Deliverables
3. Milestones
4. Technical requirements
5. Limits and exclusions
6. Reviews with customer



# Project Scope: Terms and Definitions

- Scope Statements

- Also called statements of work (SOW)

- Project Charter

- Can contain an expanded version of scope statement

- A document authorizing the project manager to initiate and lead the project.

- Scope Creep

- The tendency for the project scope to expand over time due to changing requirements, specifications, and priorities.

# Step 2: Establishing Project Priorities

- Causes of Project Trade-offs
  - Shifts in the relative importance of criteria related to cost, time, and performance parameters
    - Budget–Cost
    - Schedule–Time
    - Performance–Scope
- Managing the Priorities of Project Trade-offs
  - Constrain: a parameter is a fixed requirement.
  - Enhance: optimizing a parameter over others.
  - Accept: reducing (or not meeting) a parameter requirement.

# Project Priority Matrix

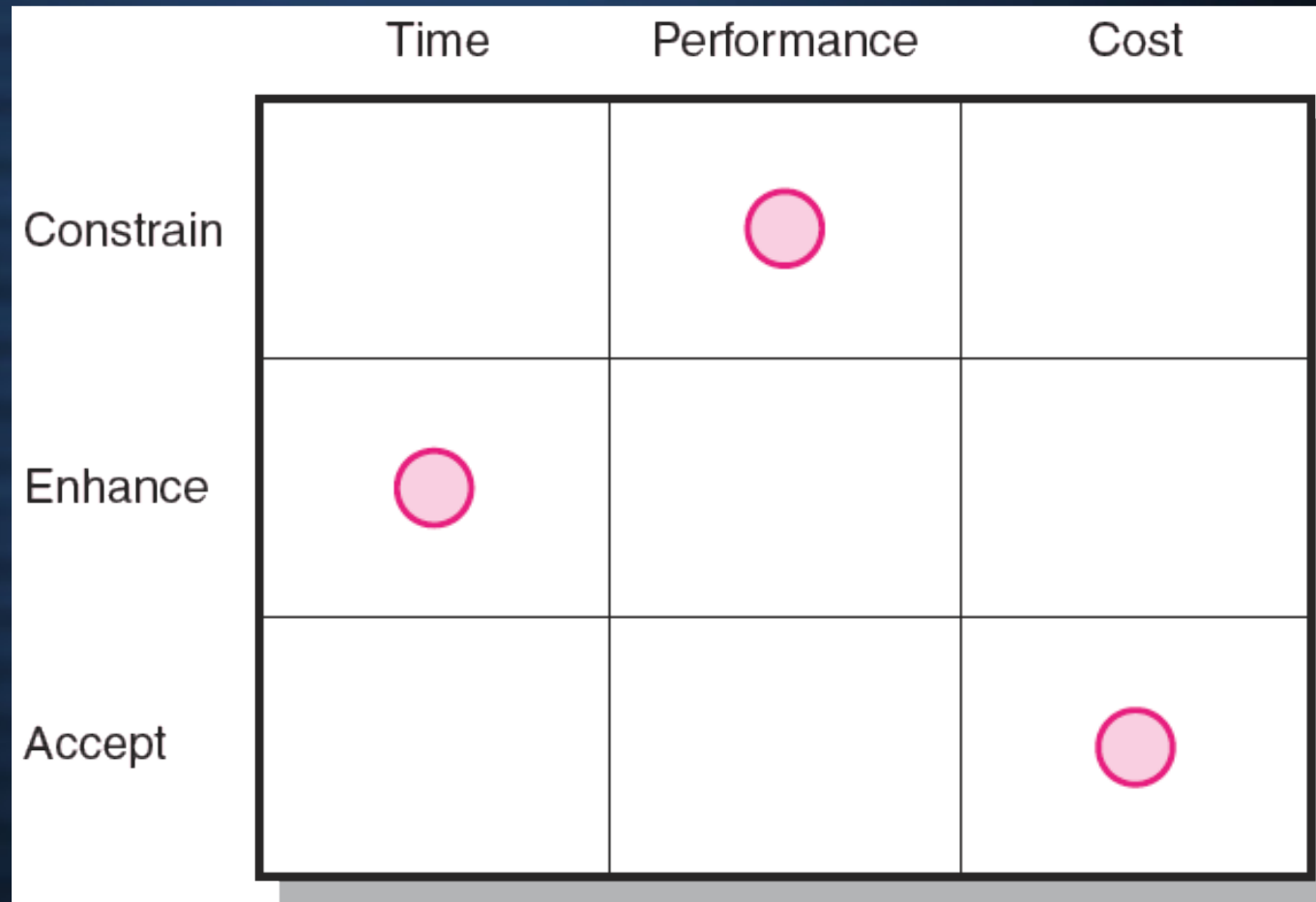
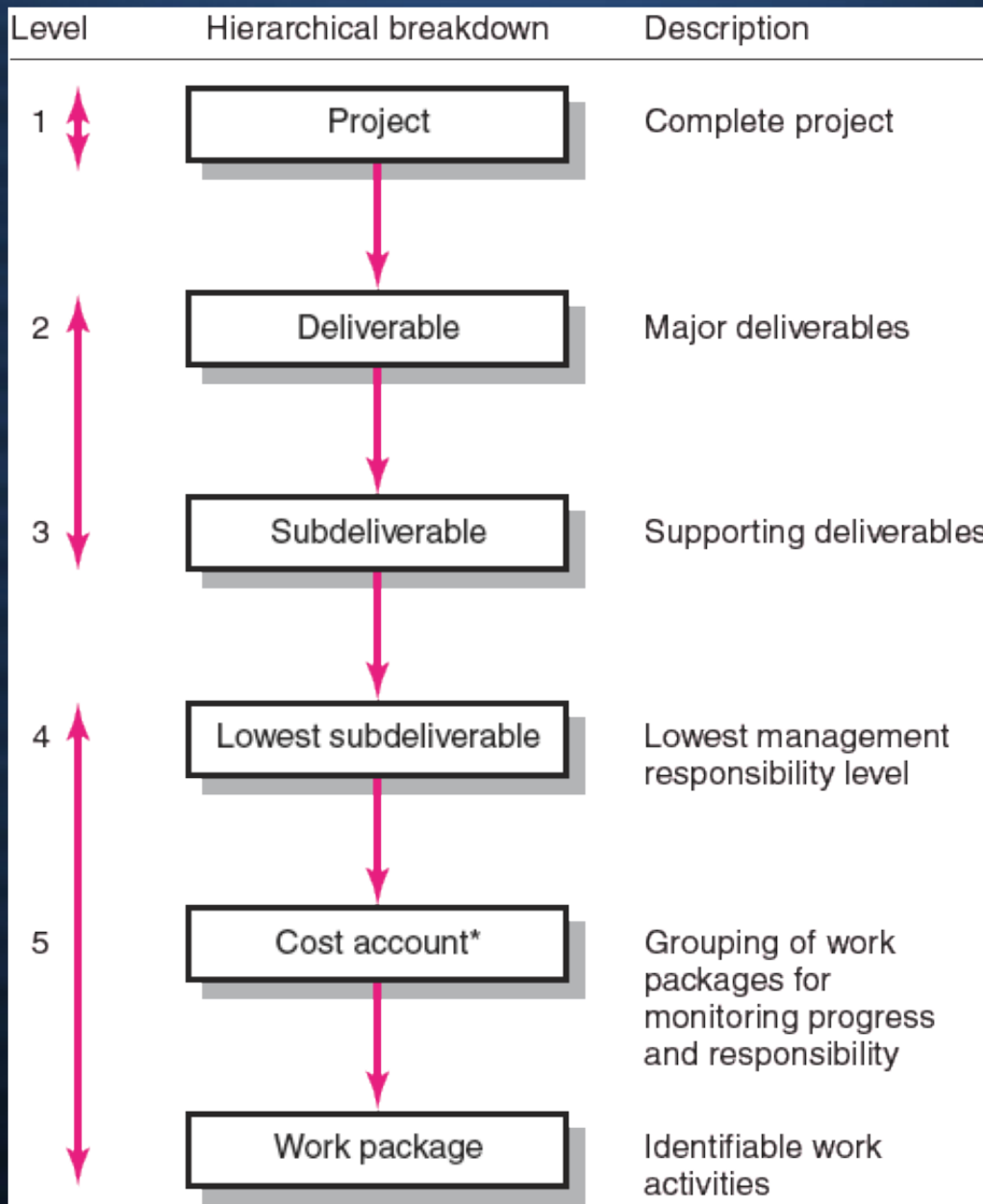


FIGURE 4.2



# Step 3: Creating the Work Breakdown Structure

- Work Breakdown Structure (WBS)
  - An hierarchical outline (map) that identifies the products and work elements involved in a project
  - Defines the relationship of the final deliverable (the project) to its subdeliverables, and in turn, their relationships to work packages
  - Best suited for design and build projects that have tangible outcomes rather than process-oriented projects



# Hierarchical Breakdown of the WBS

FIGURE 4.3

# How WBS Helps the Project Manager

## ■ WBS

- ❑ Facilitates evaluation of cost, time, and technical performance of the organization on a project
- ❑ Provides management with information appropriate to each organizational level
- ❑ Helps in the development of the organization breakdown structure (OBS), which assigns project responsibilities to organizational units and individuals
- ❑ Helps manage plan, schedule, and budget
- ❑ Defines communication channels and assists in coordinating the various project elements

# Work Breakdown Structure

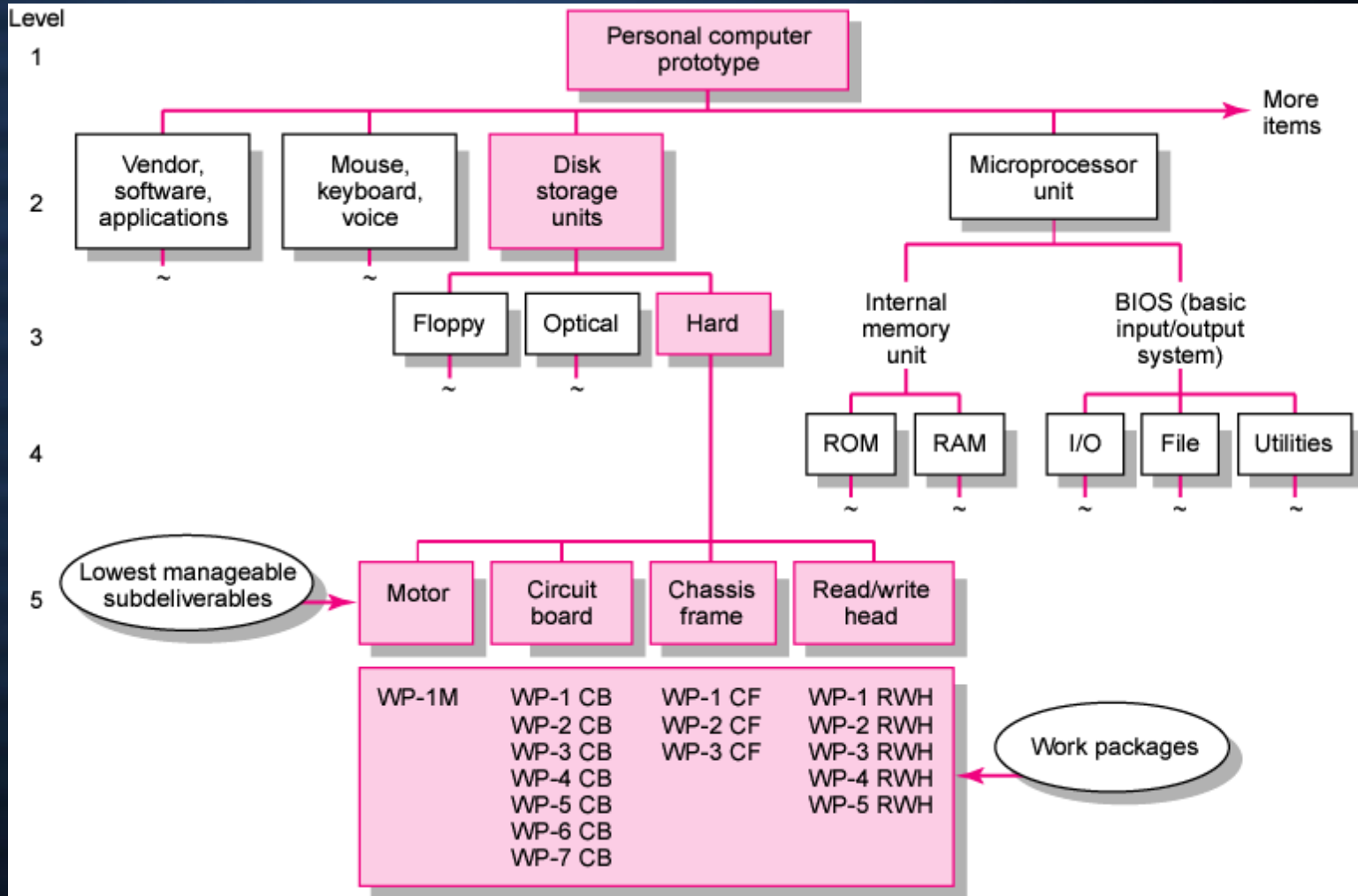


FIGURE 4.4

# Work Packages

- A Work Package Is the Lowest Level of the WBS.
  - It is output-oriented in that it:
    - Defines work (what)
    - Identifies time to complete a work package (how long)
    - Identifies a time-phased budget to complete a work package (cost)
    - Identifies resources needed to complete a work package (how much)
    - Identifies a single person responsible for units of work (who)

# Step 4: Integrating the WBS with the Organization

- Organizational Breakdown Structure (OBS)
  - Depicts how the firm is organized to discharge its work responsibility for a project
    - Provides a framework to summarize organization work unit performance
    - Identifies organization units responsible for work packages
    - Ties the organizational units to cost control accounts

# Integration of WBS and OBS

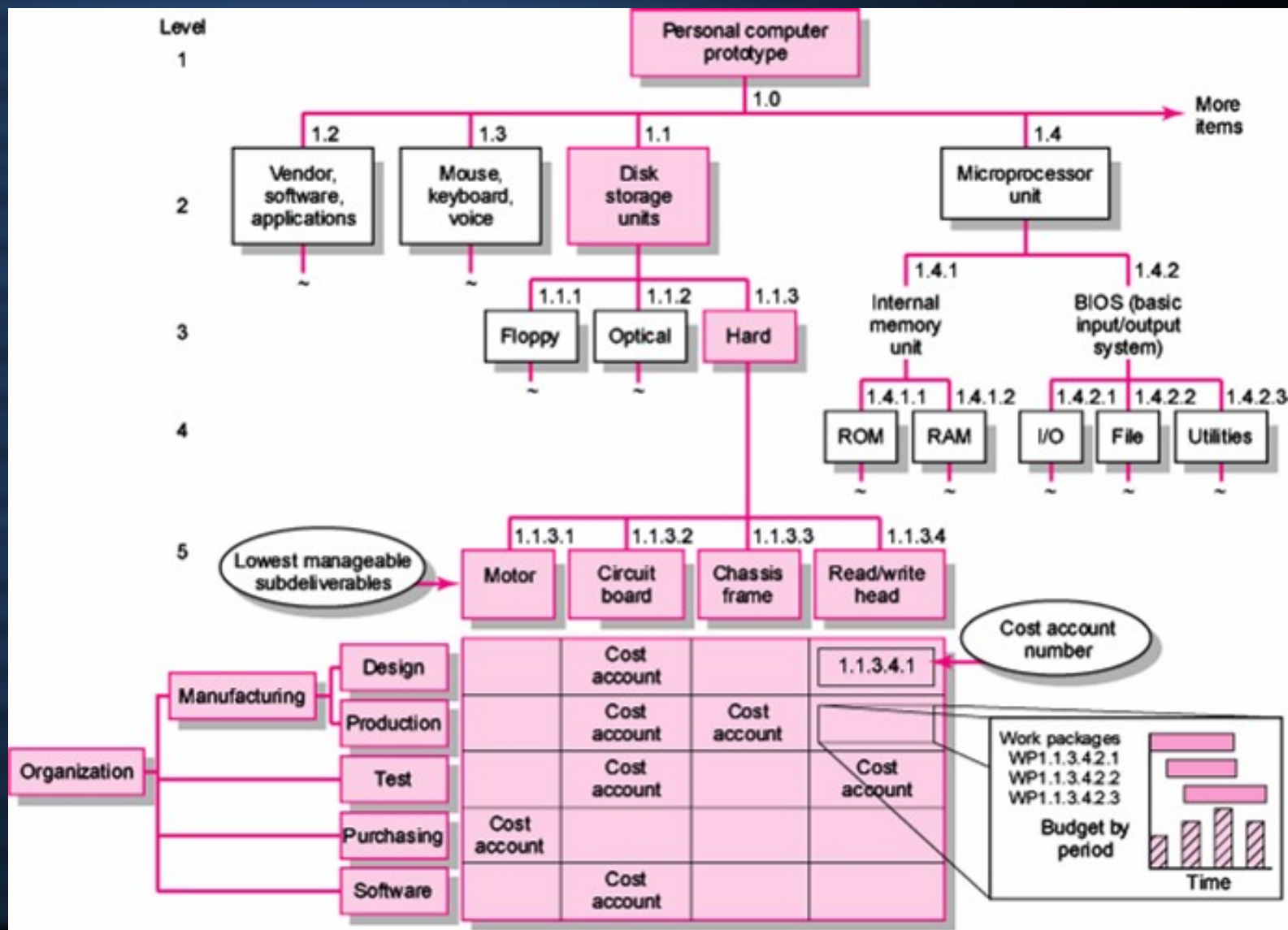


FIGURE 4.5

# Step 5: Coding the WBS for the Information System

## ■ WBS Coding System

### □ Defines:

- Levels and elements of the WBS
- Organization elements
- Work packages
- Budget and cost information

- Allows reports to be consolidated at any level in the organization structure





ID	Task Name
1	<b>1 Computer project</b>
2	<b>1.1 Disk Storage units</b>
3	1.1.1 Floppy
4	1.1.2 Optical
5	<b>1.1.3 Hard</b>
6	<b>1.1.3.1 Motor</b>
7	1.1.3.1.1 Sourcing work package
8	1.1.3.1.2*
9	1.1.3.1.3*
10	1.1.3.1.4*
11	<b>1.1.3.2 Read/write head</b>
12	1.1.3.2.1 Cost account
13	1.1.3.2.2 Cost account
14	1.1.3.2.3 WP
15	1.1.3.2.4 WP
16	1.1.3.2.5 WP
17	1.1.3.2.6 Cost account
18	1.1.3.2.7*
19	1.1.3.2.8*
20	1.1.3.2.9*

# WBS Coding

# Process Breakdown Structure

- Process-Oriented Projects
  - Are driven by performance requirements in which the final outcome is the product of a series of steps of phases in which one phase affects the next phase
- Process Breakdown Structure (PBS)
  - Defines deliverables as outputs required to move to the next phase
  - Checklists for managing PBS:
    - Deliverables needed to exit one phase and begin the next
    - Quality checkpoints for complete and accurate deliverables
    - Sign-offs by responsible stakeholders to monitor progress

# PBS for Software Project Development

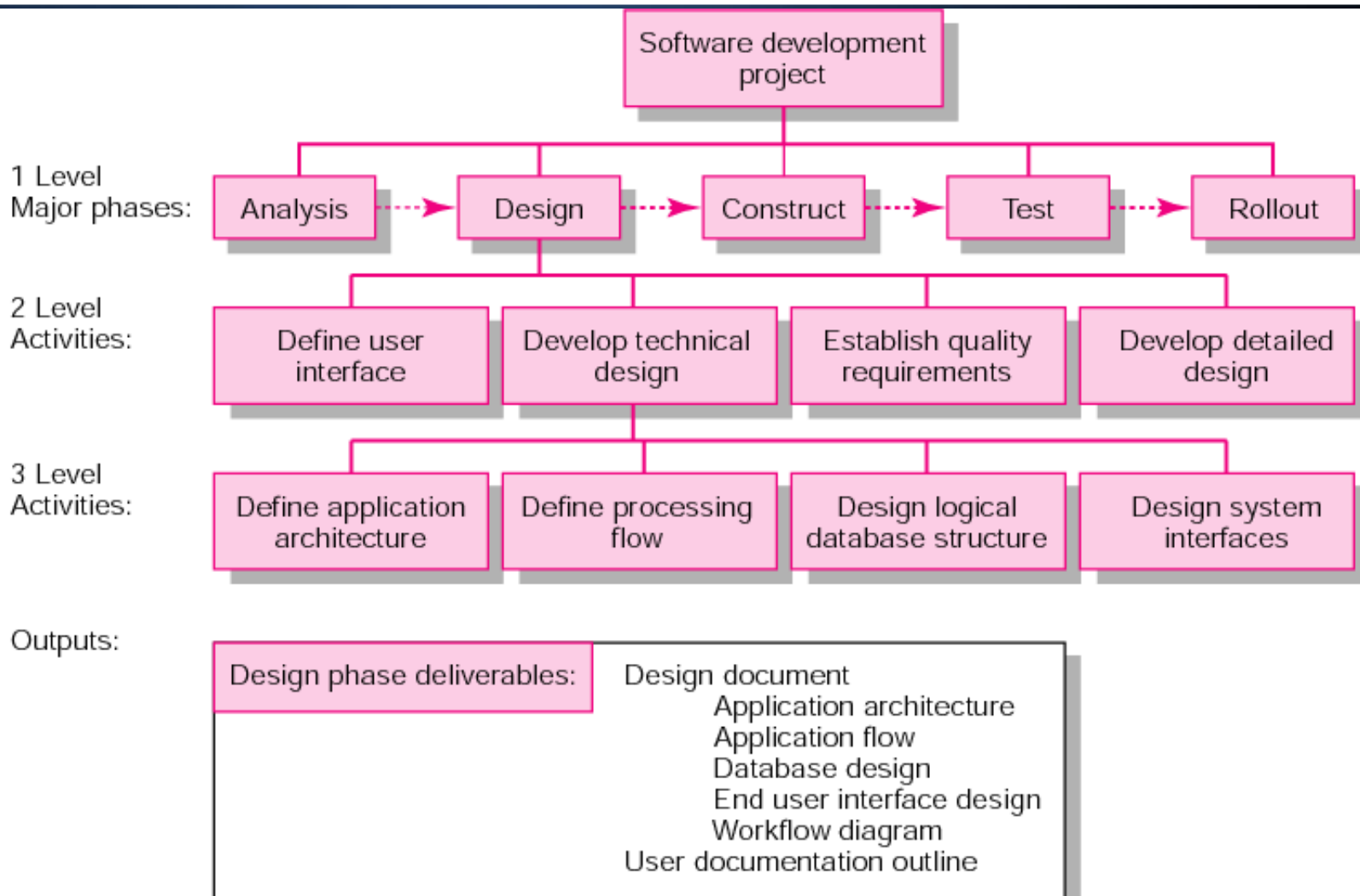


FIGURE 4.6

# Responsibility Matrices

- Responsibility Matrix (RM)
  - Also called a linear responsibility chart
  - Summarizes the tasks to be accomplished and who is responsible for what on the project
    - Lists project activities and participants
    - Clarifies critical interfaces between units and individuals that need coordination
    - Provide an means for all participants to view their responsibilities and agree on their assignments
    - Clarifies the extent or type of authority that can be exercised by each participant

# Responsibility Matrix for a Market Research Project

Project Team					
Task	Richard	Dan	Dave	Linda	Elizabeth
Identify target customers	R	S		S	
Develop draft questionnaire	R	S	S		
Pilot-test questionnaire		R		S	
Finalize questionnaire	R	S	S	S	
Print questionnaire					R
Prepare mailing labels					R
Mail questionnaires					R
Receive and monitor returned questionnaires				R	S
Input response data			R		
Analyze results		R	S	S	
Prepare draft of report	S	R	S	S	
Prepare final report	R		S		

R = Responsible  
S = Supports/assists

FIGURE 4.7

# Responsibility Matrix for the Conveyor Belt Project

Deliverables	Organization							
	Design	Development	Documentation	Assembly	Testing	Purchasing	Quality Assur.	Manufacturing
Architectural design	1	2			2		3	3
Hardware specifications	2	1				2	3	
Kernel specifications	1	3						3
Utilities specification	2	1			3			
Hardware design	1			3		3		3
Disk drivers	3	1	2					
Memory management	1	3			3			
Operating system documentation	2	2	1					3
Prototypes	5		4	1	3	3	3	4
Integrated acceptance test	5	2	2		1		5	5

1 Responsible  
 2 Support  
 3 Consult  
 4 Notification  
 5 Approval

FIGURE 4.8

# Project Communication Plan

- What information needs to be collected?
- Who will receive information?
- What information methods will be used?
- What are the access restrictions?
- When will information be communicated?
- How will information be communicated?

# Communication Plan:

<i>What Information</i>	<i>Target Audience</i>	<i>When?</i>	<i>Method of Communication</i>	<i>Provider</i>
Milestone report	Senior management and project manager	Bimonthly	E-mail and hardcopy	Project office
Project status reports & agendas	Staff and customer	Weekly	E-mail and hardcopy	Project manager
Team status reports	Project manager and project office	Weekly	E-mail	Team recorder
Issues report	Staff and customer	Weekly	E-mail	Team recorder
Escalation reports	Staff and customer	When needed	Meeting and hardcopy	Project manager
Outsourcing performance	Staff and customer	Bimonthly	Meeting	Project manager
Accepted change requests	Project office, senior mgmt., customer, staff, and project mgr.	Anytime	E-mail and hardcopy	Design department
Oversight gate decisions	Senior management and project manager	As required	E-mail meeting report	Oversight group or project office

FIGURE 4.9



# Key Terms

**Cost account**

**Milestone**

**Organization breakdown structure (OBS)**

**Scope creep**

**Priority matrix**

**Responsibility matrix**

**Scope statement**

**Process breakdown structure (PBS)**

**Work breakdown structure (WBS)**

**Work package**