

Project Management

Lecture: 2

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2. Project Planning Steps

- ▶ They can include such steps as:
 - ▶ Estimating resources and time: Figure out what you will need and how much time you'll need to complete the various stages.
 - ▶ Identify the order of tasks: Which tasks will take priority or logically come before others?
 - ▶ Execution schedule: This will help outline your implementation in a clear and focused way.
 - ▶ Risk Analysis: Think about different setbacks you could face during the project and make alternate plans for them in the event they do happen.
 - ▶ Communication Systems: Set up standards for reporting progress, setbacks and any changes in plans.
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2. Project Planning

- ▶ Once we define the project and assemble the project team, we are ready to enter the in depth Project Planning phase.

Example: Project management plan template



By using tools: Project plan steps (**Read Only**)

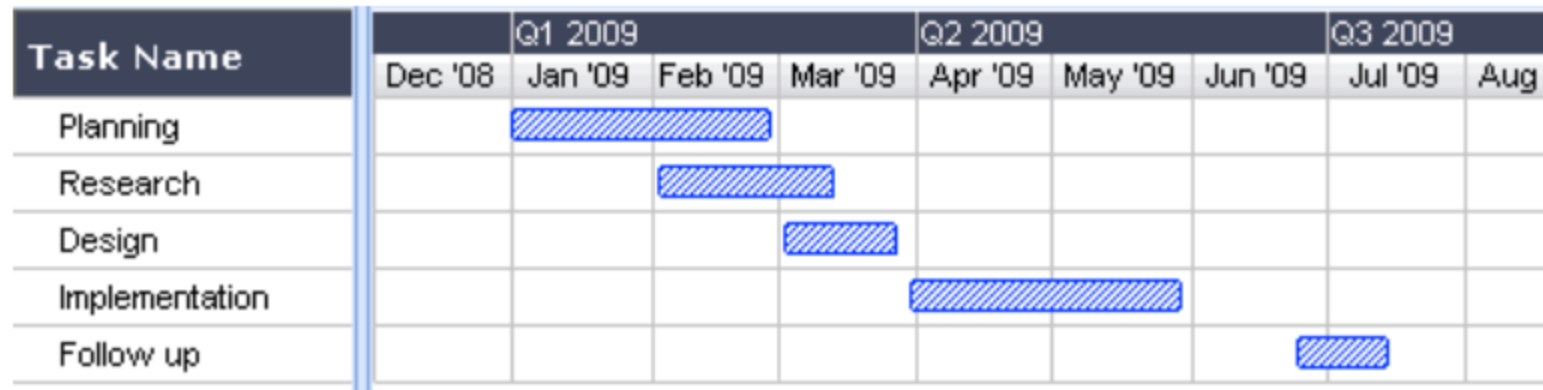
- ▶ **Step 1: Create a task list and work breakdown structure (WBS)**
- ▶ **Step 2: Indent or outdent tasks to finalize the WBS**
- ▶ **Step 3: Enter task durations or work estimates**
- ▶ **Step 4: Create dependencies between tasks**
- ▶ **Step 5: Assign resources**

Tools examples: Microsoft project - Primavera



Example : Gantt Chart

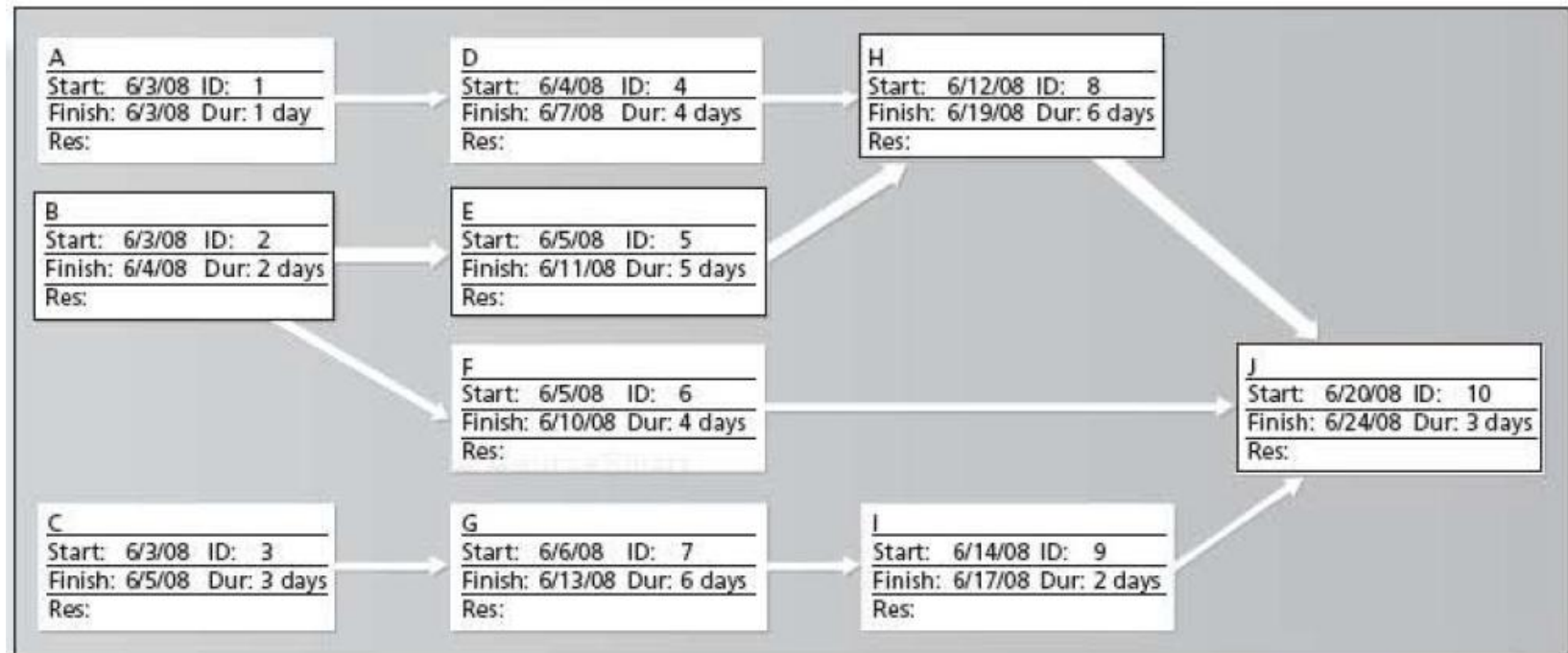
A **Gantt chart** is a standard format for displaying project schedule information by listing project activities and their corresponding start and finish dates in a calendar format. Initially, managers drew Gantt charts by hand to show project tasks and schedule information, and this tool provided a standard format for planning and reviewing all the work on early military projects.



A simple Gantt chart

Example : Network diagrams

These diagrams helped managers model the relationships among project tasks, which allowed them to create schedules that were more realistic.



3,4. Project Execution

- ▶ This is the stage in which the requirements are actually built and programmed.



5. Project Closure

- ▶ **Project Closure** involves releasing the final product to the customer, handing over project documentation, Manuals, Source code, and Network layouts. Last remaining step is to undertake a Post Implementation Review to identify the level of project success and note down any lessons learned.



Stages of a Conventional Project:

- ▶ **Stages of a Conventional Project:**
 - ▶ Slow beginning
 - ▶ Buildup of size
 - ▶ Peak
 - ▶ Begin a decline
 - ▶ Termination



The Project Life Cycle (**Read Only**)

- ▶ It is essential for the Project Manager to understand the characteristics of the life cycle curve for his project



Risk during project life cycle

- ▶ With most projects there is some uncertainty about the ability to meet project goals
- ▶ Uncertainty of outcome is greatest at the start of a project
- ▶ Uncertainty decreases as the project moves toward completion

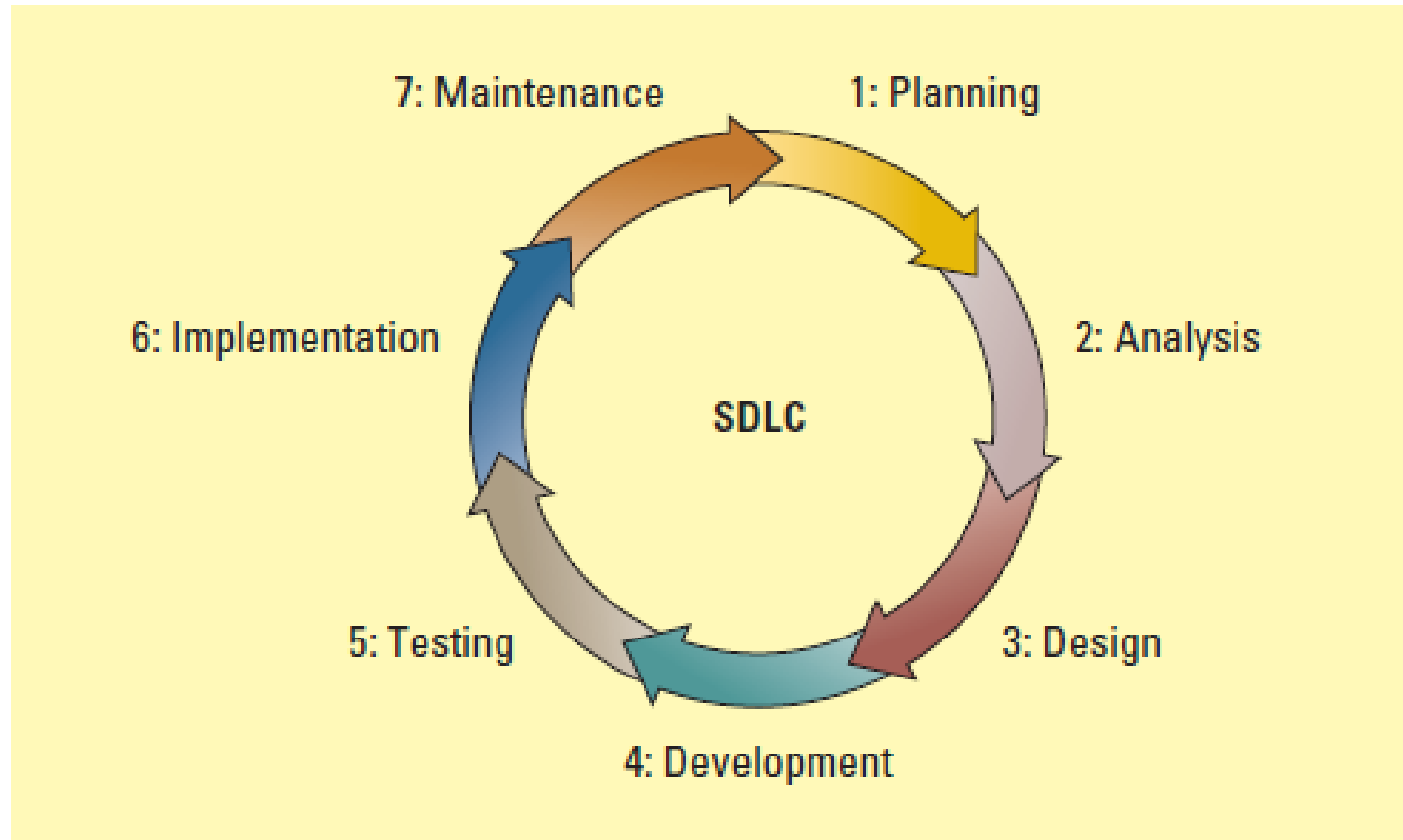


Product Life Cycles (**Read Only**)

- ▶ The systems development life cycle (SDLC) is the overall process for developing information systems from planning and analysis through implementation and Maintenance.
- ▶ The SDLC is comprised of seven distinct phases: planning, analysis, design, development, testing, implementation, and maintenance.



SDLC phases (**Read Only**)



Phase 1: Planning (**Read Only**)

- ▶ The *planning phase involves establishing a high-level plan of the intended project* and determining project goals.
- ▶ Identify and select the system for development
- ▶ Assess project feasibility
- ▶ Develop the project plan



Phase 2: Analysis (**Read Only**)

- ▶ The *analysis phase involves analyzing end-user business requirements and refining* project goals into defined functions and operations
 - ▶ Gather business requirements.
 - ▶ Create process diagrams.
 - ▶ Perform a buy versus build analysis. of the intended system.

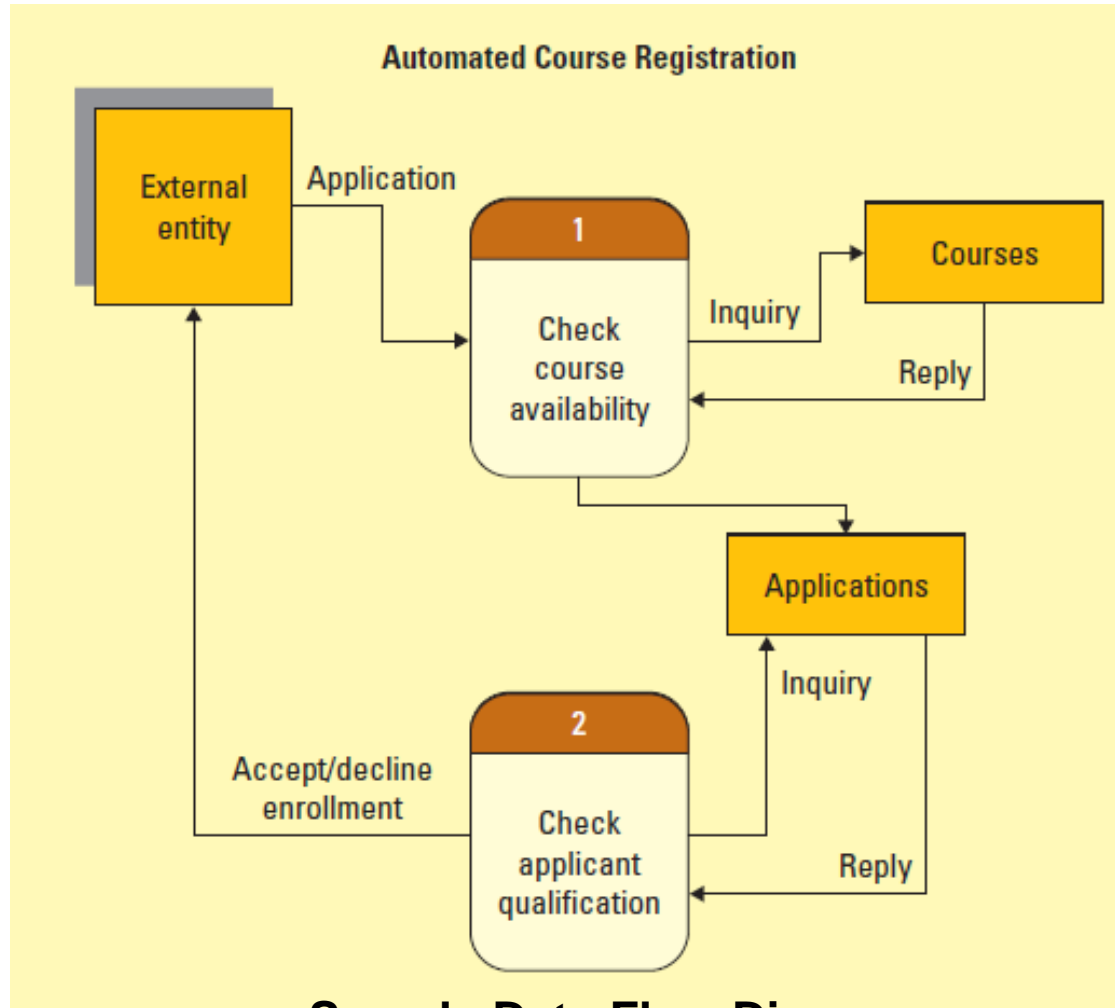


Buy versus decision

- ▶ **Three Key Factors in Buy versus Build Decisions:**
 - ▶ Time to market
 - ▶ Availability of corporate resources
 - ▶ Corporate core competencies



Example: PROCESS DIAGRAMS (**Read Only**)



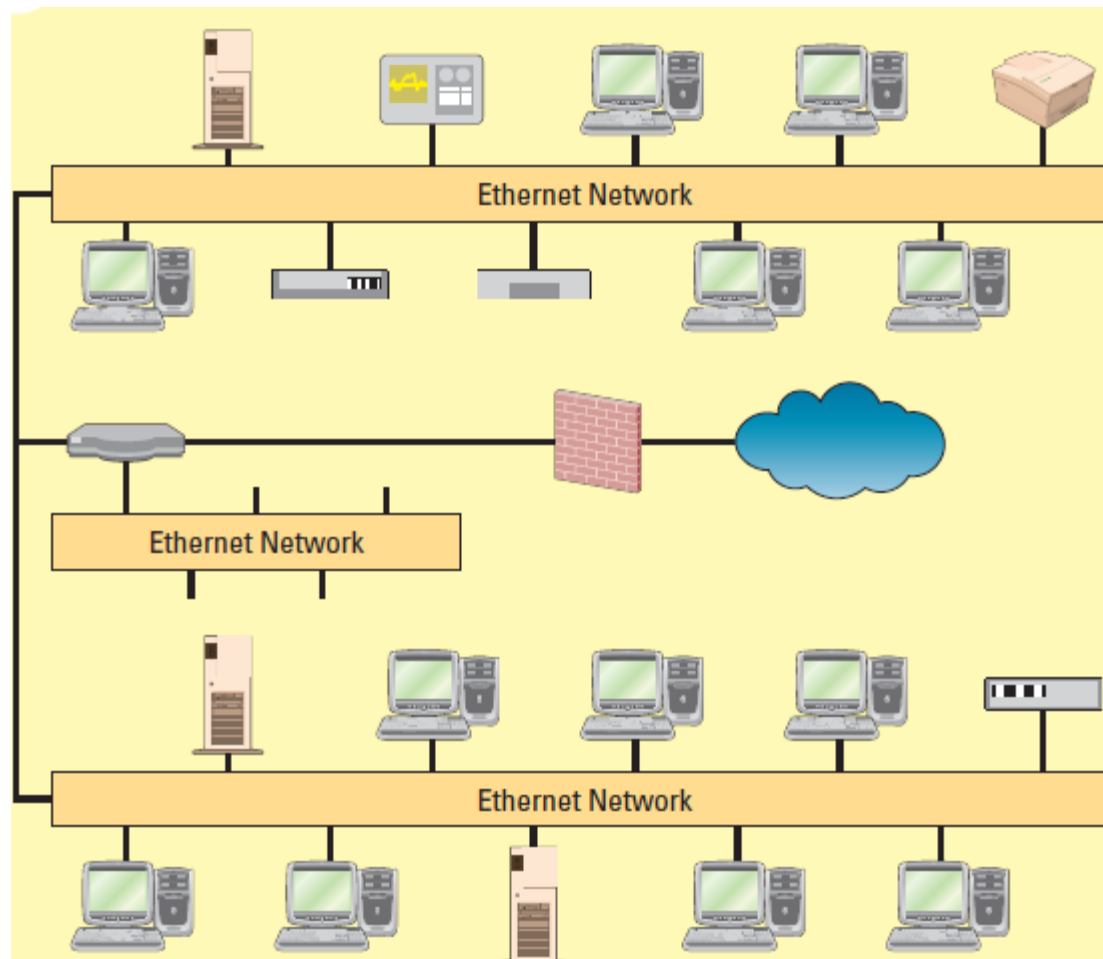
Sample Data Flow Diagram

Phase 3: Design (**Read Only**)

- ▶ The *design phase involves describing the desired features and operations of the system including screen layouts, business rules, process diagrams, pseudo code, and other documentation.*
 - ▶ Design the IT infrastructure.
 - ▶ Design system models.



Example: IT infrastructure. (**Read Only**)



Sample IT Infrastructure



Example: DESIGN SYSTEM MODELS

(**Read Only**)

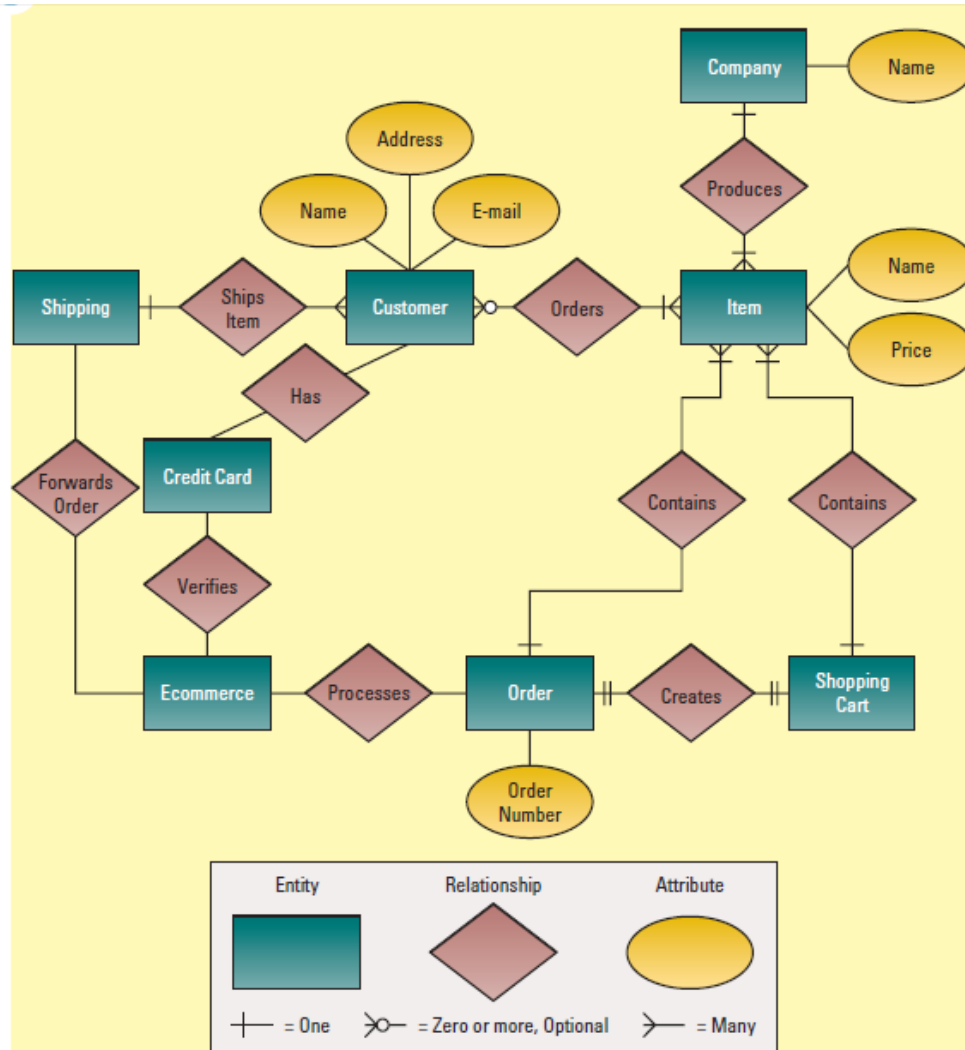
- ▶ **Modeling** is the activity of drawing a graphical representation of a design.
 - ▶ The graphical user interface (GUI)
 - ▶ Data models
 - ▶ Entity relationship diagram (ERD)



Example: Entity relationship diagram (ERD)

(Read Only)

Sample Entity Relationship Diagram



Phase 4: Development (**Read Only**)

- ▶ The development phase involves taking all of the detailed design documents from the design phase and transforming them into the actual system.
 - ▶ Develop the IT infrastructure.
 - ▶ Develop the database and programs.



Phase 5: Testing (**Read Only**)

- ▶ The ***testing phase involves bringing all the project pieces together into a special*** testing environment to test for errors, bugs, and interoperability, in order to verify that the system meets all the business requirements defined in the analysis phase.
 - ▶ Write the test conditions.
 - ▶ Perform the system testing.



Phase 6: Implementation (**Read Only**)

- ▶ The **implementation phase** involves placing the system into production so users can begin to perform actual business operations with the system.
 - ▶ System Training
 - ▶ Implementation Method



Phase 7: Maintenance (**Read Only**)

- ▶ The ***maintenance phase*** involves performing changes, corrections, additions, and upgrades to ensure the system continues to meet the business goals.
- ▶ Three activities:
 - ▶ Build a help desk to support the system users.
 - ▶ Perform system maintenance.
 - ▶ Provide an environment to support system changes.



Help desk

- ▶ ***A help desk is a group of people who respond to internal system user questions.***
- ▶ Typically, internal system users have a help desk extension or phone number they call when they have issues or questions about the system. Staffing a help desk that answers internal user questions is an excellent way to provide comprehensive support for new systems.

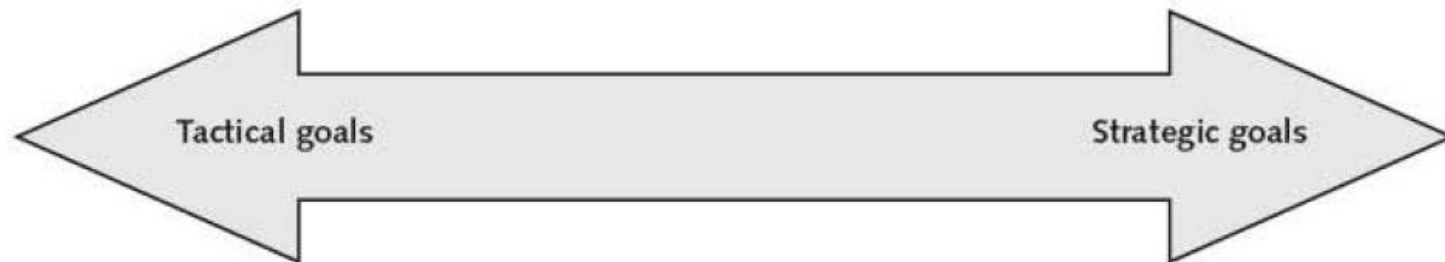


SDLC phases (**Read Only**)

SDLC Phase	Activities
1. Planning	<ul style="list-style-type: none">■ Identify and select the system for development■ Assess project feasibility■ Develop the project plan
2. Analysis	<ul style="list-style-type: none">■ Gather business requirements■ Create process diagrams■ Perform a buy versus build analysis
3. Design	<ul style="list-style-type: none">■ Design the IT infrastructure■ Design system models
4. Development	<ul style="list-style-type: none">■ Develop the IT infrastructure■ Develop the database and programs
5. Testing	<ul style="list-style-type: none">■ Write the test conditions■ Perform the system testing
6. Implementation	<ul style="list-style-type: none">■ Determine implementation method■ Provide training for the system users■ Write detailed user documentation
7. Maintenance	<ul style="list-style-type: none">■ Build a help desk to support the system users■ Perform system maintenance■ Provide an environment to support system changes

Project Portfolio Management

project portfolio management (also called just **portfolio management** in this text), in which organizations group and manage projects and programs as a portfolio of investments that contribute to the entire enterprise's success.



Project management

- Are we carrying out projects well?
- Are projects on time and on budget?
- Do project stakeholders know what they should be doing?

Project portfolio management

- Are we working on the right projects?
- Are we investing in the right areas?
- Do we have the right resources to be competitive?

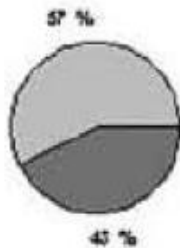
Project management compared to project portfolio management



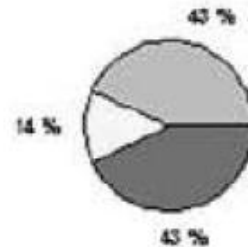
Project Portfolio Management: Project health (**Read Only**)

PLANVIEW

Project Health (Effort Based)



Schedule Variance	Project Count
On Target	4
In Trouble	3



Cost Variance	Project Count
On Target	3
At Risk	1
In Trouble	3

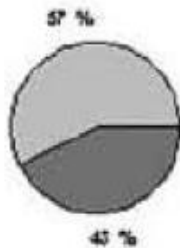
Work Id	Project	% Complete	Schedule Variance	Cost Variance	Budget Variance	Risk Pct
0000051	Upgrade Sales Staff Laptop PC's	100.0 %	✓ 0.0	▲ -74.0	▲ -74.0	✓ -
CAW-035	CRM Website	75.8 %	✓ 8.0	✓ 18.0	✓ 18.0	● 39.7 %
CW-2002	MyMystic.com Customer Website	97.0 %	● -120.0	● -343.0	● -263.0	✓ -
PARMS-0	PARMS Implementation	50.4 %	● -440.0	● -192.0	✓ -8.0	✓ 3.9 %
POS-2002	PlanView and SAP Financial Integration	98.6 %	✓ 0.0	● -221.0	● -221.0	✓ -
SSR-012	Strategic Systems Review	0.0 %	✓ 0.0	✓ 0.0	▲ -72.0	▲ 15.9 %
TAU-2002	Tax Accounting Update 2002	24.9 %	● -119.0	✓ -15.0	✓ 33.0	✓ 0

Sample project portfolio management screen showing project health

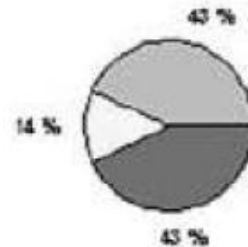
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Sample project portfolio management screen showing project health

Ten most important skills and competencies for project managers

1. People skills
2. Leadership
3. Listening
4. Integrity, ethical behavior, consistent
5. Strong at building trust
6. Verbal communication
7. Strong at building teams
8. Conflict resolution, conflict management
9. Critical thinking, problem solving
10. Understands, balances priorities

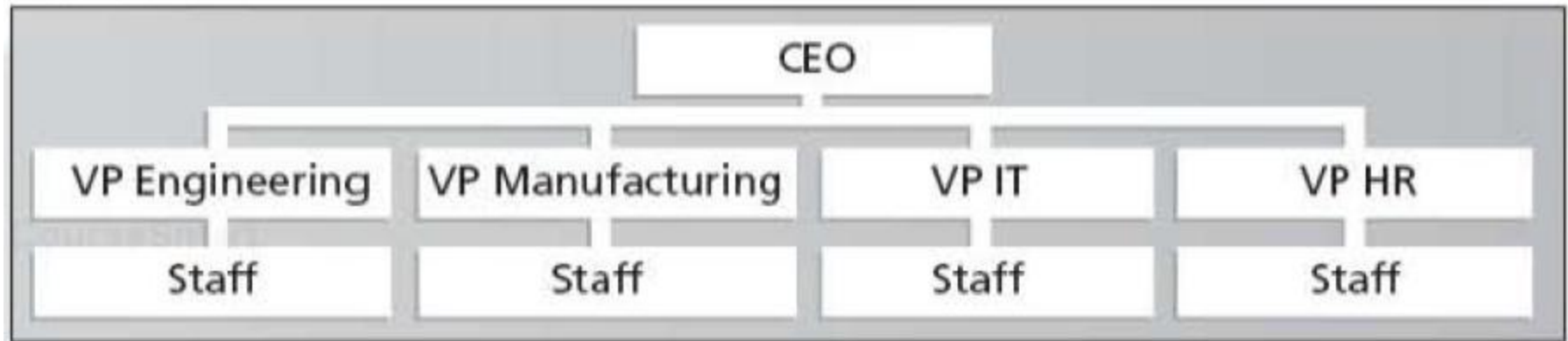


Chapter 2: Organizational Structures

- ▶ Three basic organization structures
 - ▶ **Functional:** functional managers report to the CEO
 - ▶ **Project:** program managers report to the CEO
 - ▶ **Matrix:** middle ground between functional and project structures; personnel often report to two or more bosses; structure can be weak, balanced, or strong matrix

Functional Organizational Structure

- ▶ A functional organization structure is a classical hierarchy in which each employee has a single superior. Employees are then organized by specialty and work accomplished is generally specific to that specialty.



Projectized Organizational Structure

- ▶ In a projectized organization, there is no defined hierarchy. Resources are brought together specifically for the purpose of a project. The necessary resources are acquired for the project, and the people assigned to the project work only for the PM for the duration of the project. At the end of each project, resources are either reassigned to another project

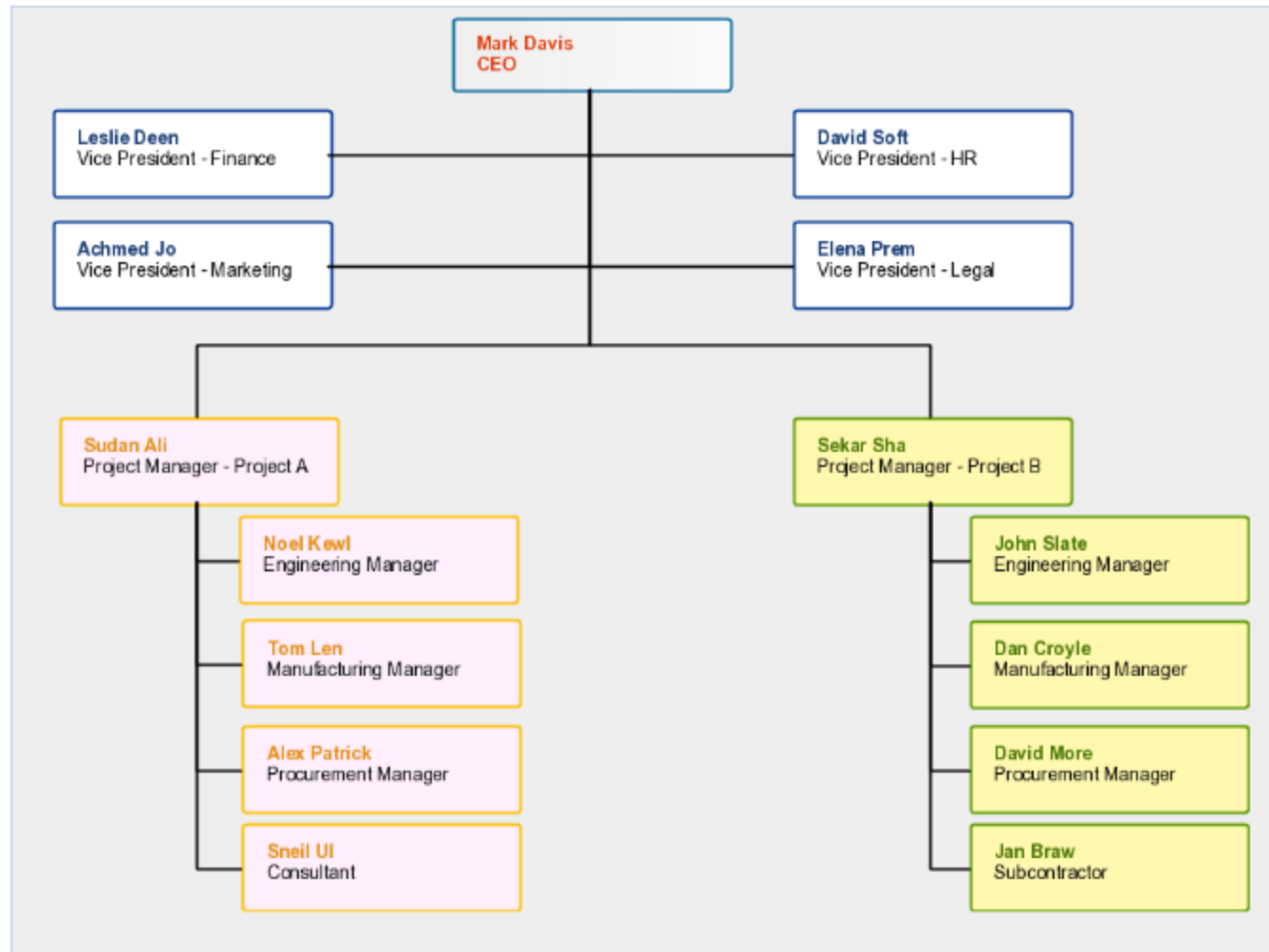


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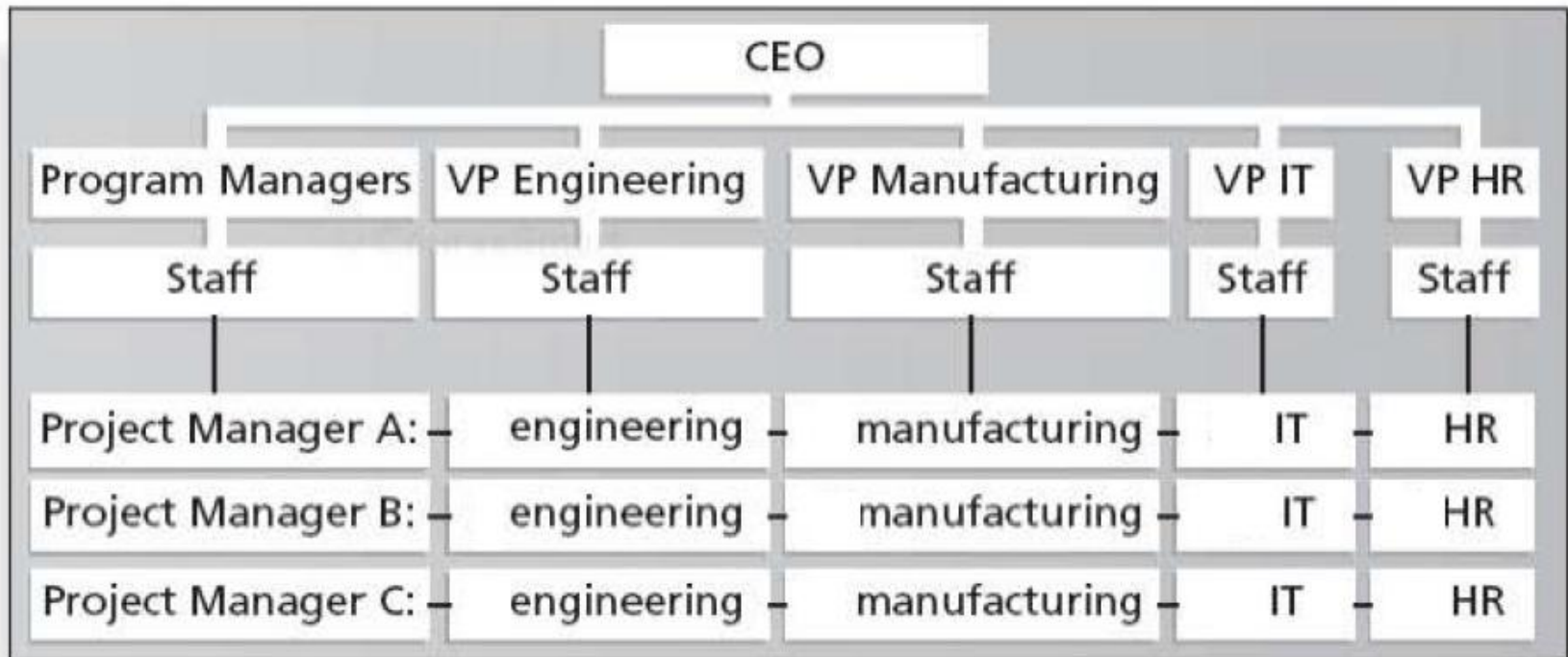


Example: Projectized Organizational Structure

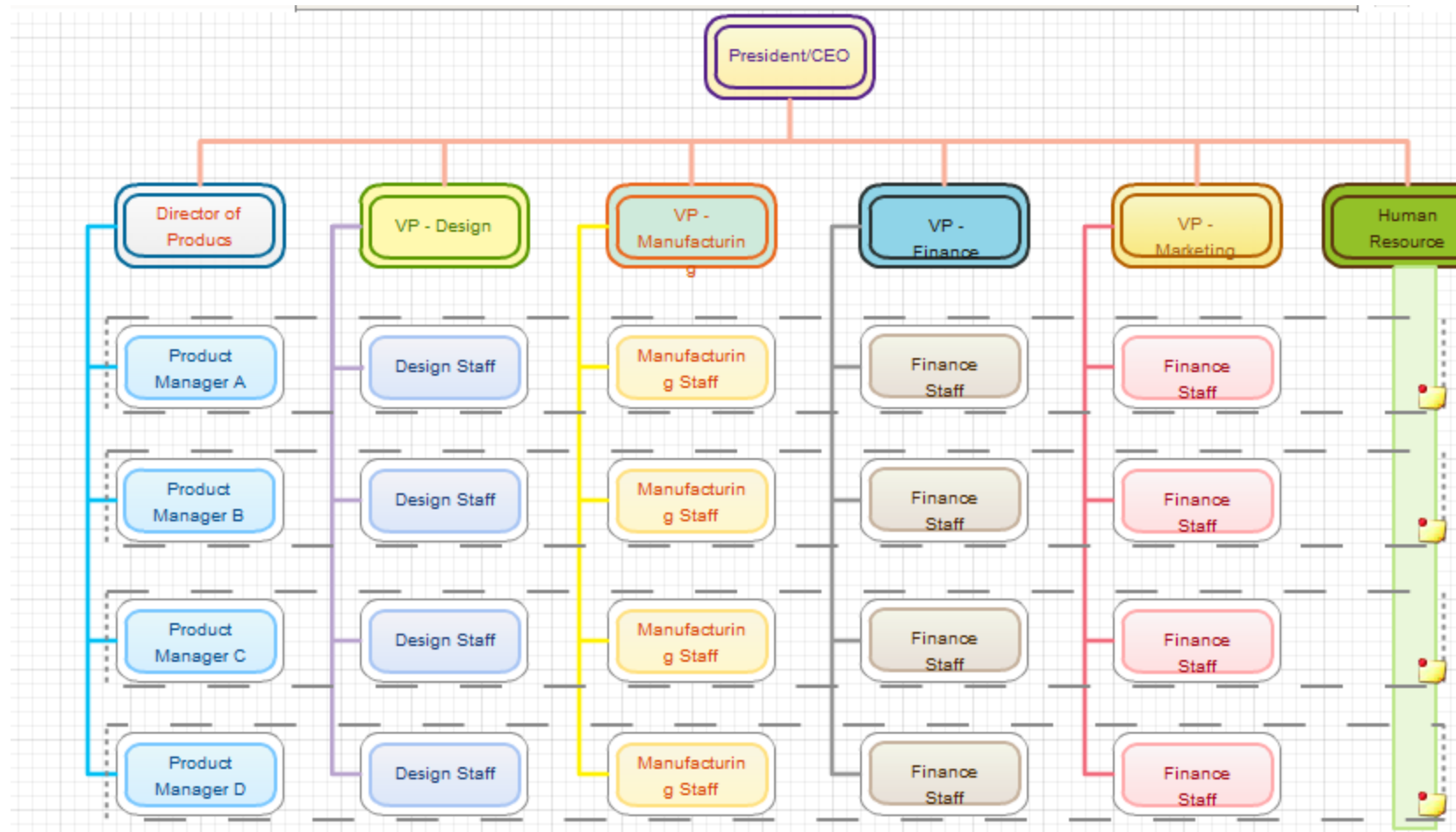


Matrix Organizational Structure

- ▶ A matrix organization is a blended organizational structure. Although a functional hierarchy is still in place, the project manager is recognized as a valuable position and is given more authority to manage the project and assign resources. Matrix organizations can be further divided into weak, balanced, and strong matrix organizations.



Example: Matrix Organizational Structure



Example: Matrix Organizational Structure



Organizational Structures					
	Functional	Weak Matrix	Balanced Matrix	Strong Matrix	<u>Projectized</u>
Description	Traditional organization with a direct supervisor.	The PM and FM share responsibility, with the FM having more authority.	The PM and FM share responsibility, with each having equal authority.	The PM and FM share responsibility, with the PM having more authority.	Projects do not exist under functional departments. The PM has sole management authority.

CEO vs. CIO

- ▶ A chief executive officer (CEO) is the highest-ranking corporate officer (executive) or administrator in charge of total management of an organization. An individual appointed as a CEO of a corporation, company, organization, or agency typically reports to the board of directors.
- ▶ Chief Information Officer (CIO) or Information Technology (IT) Director, is a job title commonly given to the most senior executive in an enterprise responsible for the information technology and computer systems that support enterprise goals. Generally, the CIO reports to the chief executive officer, chief operating officer or chief financial officer.

Organizational Culture

- ▶ **Organizational culture** is a set of shared assumptions, values, and behaviors that characterize the functioning of an organization
- ▶ Many experts believe the underlying causes of many companies' problems are not the structure or staff, but the culture

Project Management Process Groups

- ▶ A **process** is a series of actions directed toward a particular result
- ▶ Project management can be viewed as a number of interlinked processes
- ▶ The project management process groups include:
 - ▶ *Initiating processes*
 - ▶ Defining and authorizing a project or project phase
 - ▶ *Planning processes*
 - ▶ Devising and maintaining a workable scheme to ensure that the project addresses the organization's needs
 - ▶ *Executing processes*
 - ▶ Coordinating people and resources to carry out the various plans and produce the products, services or results of the project or phase
 - ▶ *Monitoring and controlling processes*
 - ▶ Regularly measuring and monitoring progress to ensure that the project objectives are met
 - ▶ *Closing processes*
 - ▶ Formalizing acceptance of the project or phase, closing out contracts, documenting lessons learned