System Analysis and Design (SAD)

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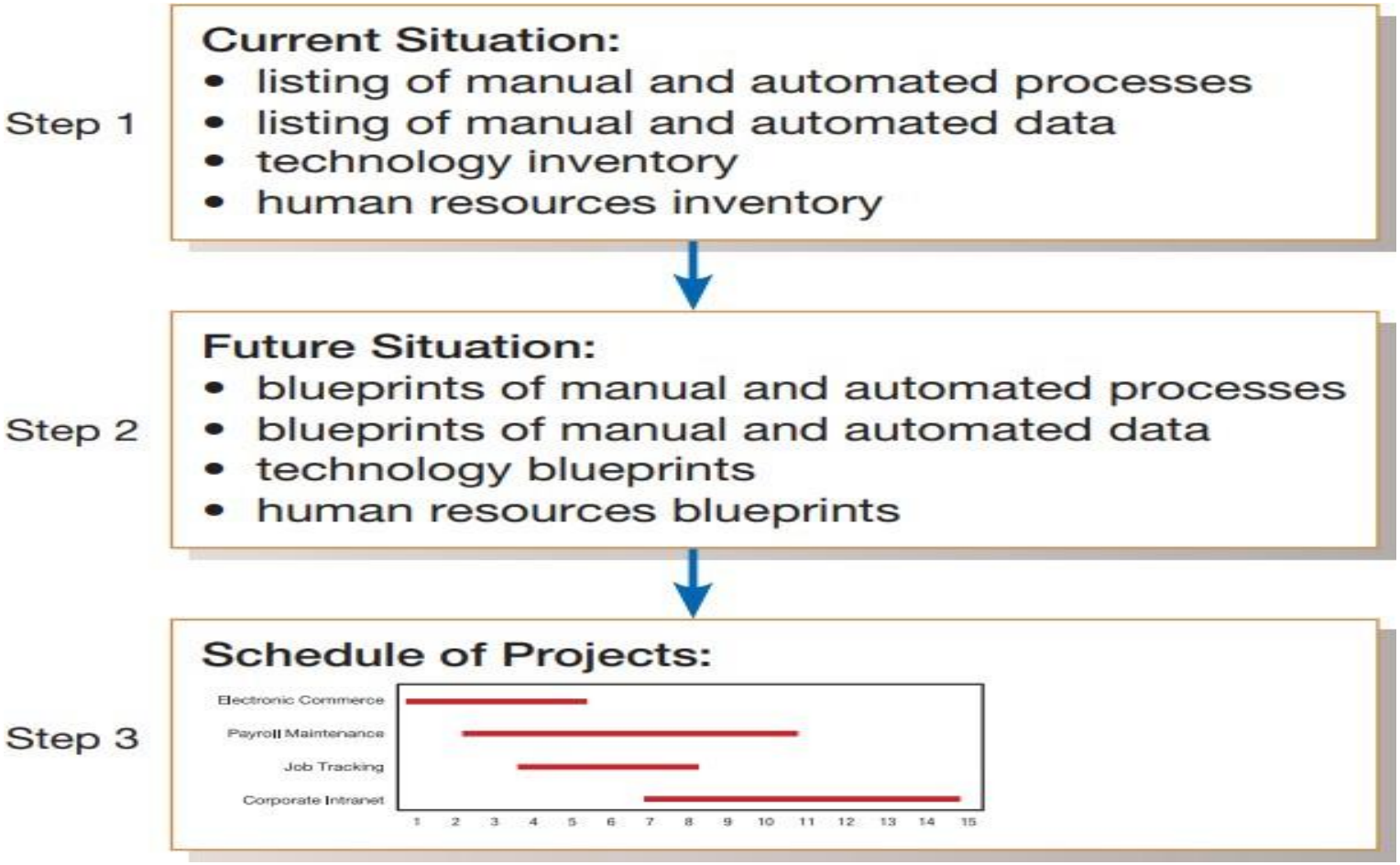
Information Systems Planning[1]

- The second planning process that can play a significant role in the quality of project identification and selection decisions is called information systems planning (ISP).
- ISP is an orderly means of assessing the information needs of an organization and defining the information systems, databases, and technologies that will best satisfy those needs.
- This means that during ISP you (or, more likely, senior IS managers responsible for the IS plan) must model current and future organization informational needs and develop strategies and project plans to migrate the current information systems and technologies to their desired future state

Information Systems Planning[2]

- ISP is a top-down process that takes into account the outside forces— industry, economic, relative size, geographic region, and so on—that are critical to the success of the firm.
- This means that ISP must look at information systems and technologies in terms of how they help the business achieve its objectives as defined during corporate strategic planning.

- The three key activities of this modeling process are represented in Figure 4-9.



CONT.

- Like corporate strategic planning, ISP is a three-step process in which the first step is to assess current IS-related assets—human resources, data, processes, and technologies.
- Next, target blueprints of these resources are developed. These blueprints reflect the desired future state of resources needed by the organization to reach its objectives as defined during strategic planning.
- Finally, a series of scheduled projects is defined to help move the organization from its current to its future desired state.

CONT.

- For example, a project may focus on reconfiguration of a telecommunications network to speed data communications or it may restructure work and data flows between business areas.
- Projects can include not only the development of new information systems or the modification of existing ones, but also the acquisition and management of new systems, technologies, and platforms.
- These three activities parallel those of corporate strategic planning, and this relationship is shown in Figure 4-10.

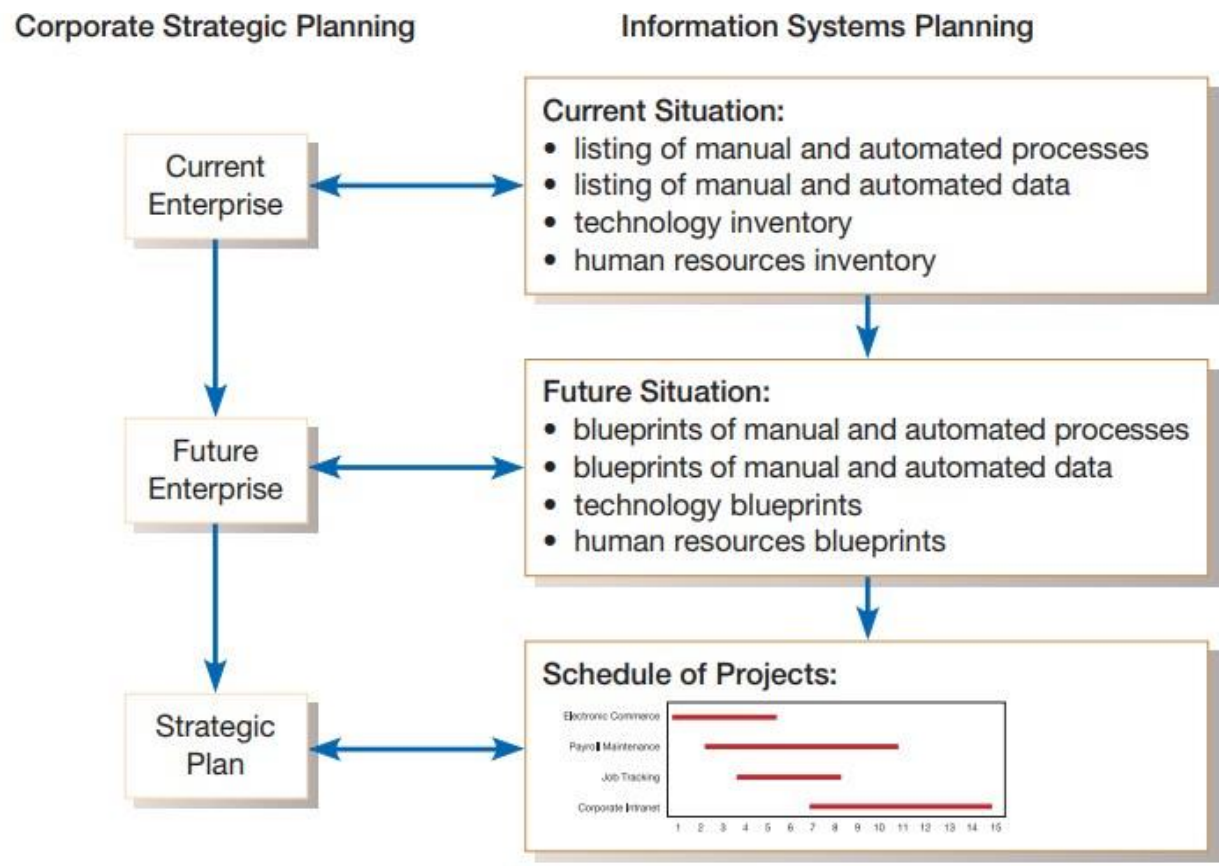


FIGURE 4-10
Parallel activities of corporate strategic planning and information systems planning

Approaches to IS Planning

- Top-down planning
  - Attempts to gain a broad understanding of information system needs of the entire organization
- Bottom-up planning
  - Identifies IS development projects based on solving specific operational business problems or taking advantage of specific opportunities

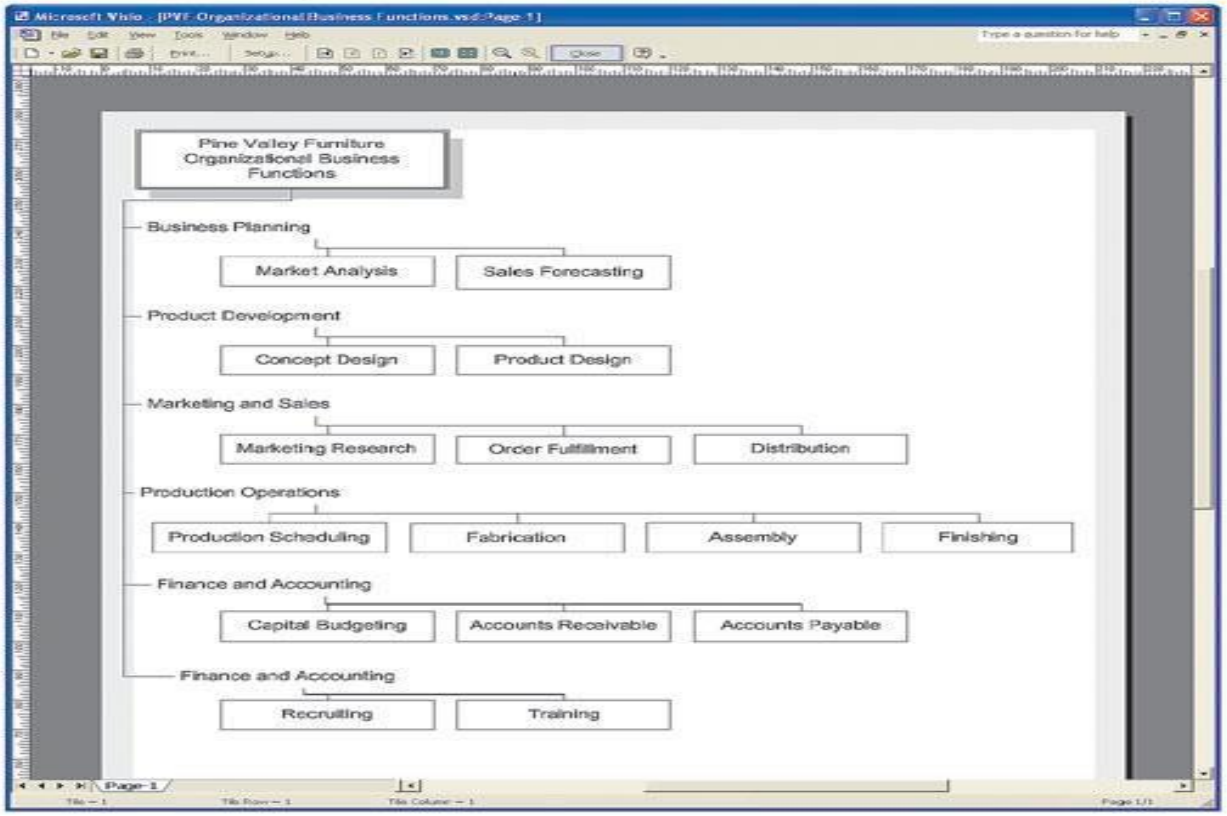
Benefits of Top-Down Planning

- Broader perspective
- Improved integration
- Improved management support
- Better understanding

But, bottom-up planning can be faster and less costly, so may be beneficial in certain circumstances

Functional Decomposition

Figure 4-12 Functional decomposition of information systems planning information (Pine Valley Furniture)



Decomposition: breaking high-level abstract information into smaller units for more detailed planning

IS Planning Matrix

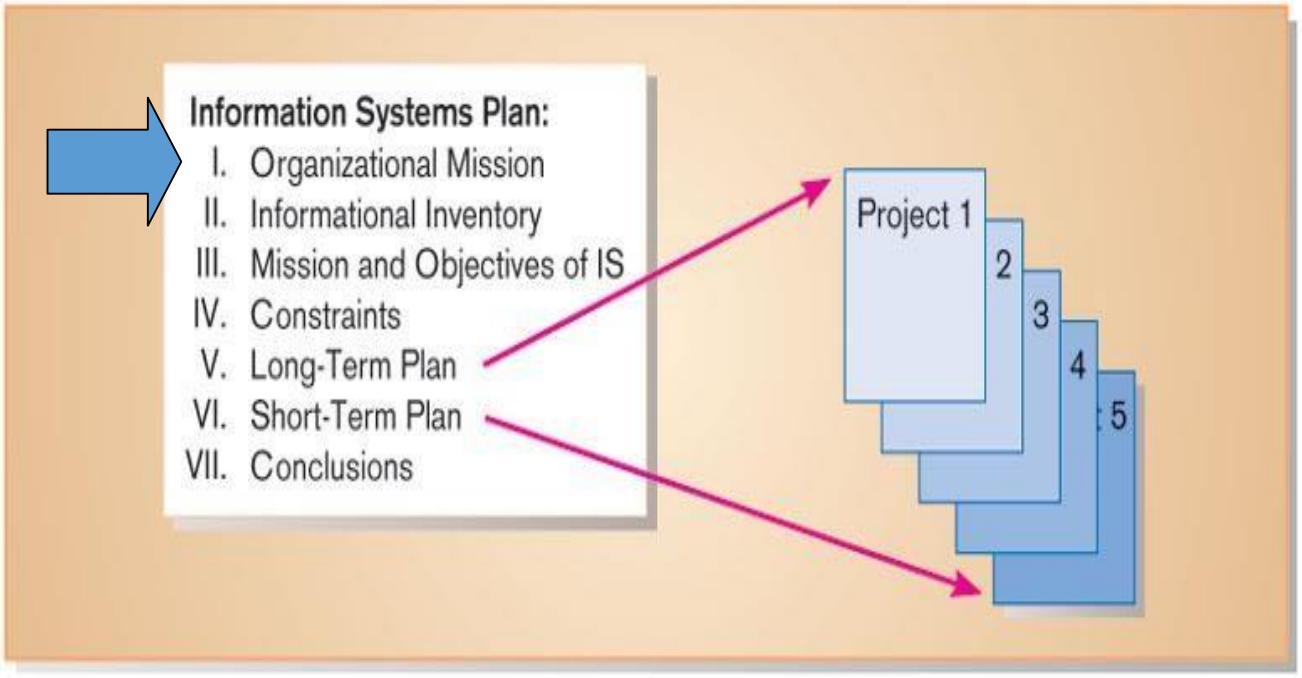
Figure 4-13 Data Entity-to-Function matrix (Pine Valley Furniture)

	Customer	Product	Vendor	Raw Material	Order	Work Center	Equipment	Employees	Invoice	Work Order	...
Marketing and Sales											
Marketing Research	X	X									
Order Fulfillment	X	X			X				X		
Distribution	X	X									
Production Operation											
Production Scheduling						X	X	X		X	
Fabrication						X	X	X		X	
Assembly						X	X	X		X	
Finishing						X	X	X		X	
Finance and Accounting											
Capital Budgeting					X	X	X				
Accounts Receivable	X	X	X	X	X				X		
Accounts Payable											
...											

Matrix describe relationships between pairs of organizational elements (location, function, business unit, objective, process, data, information system). The “X” in various cells of the matrix represents which business functions utilize which data entities.

IS Plan Components

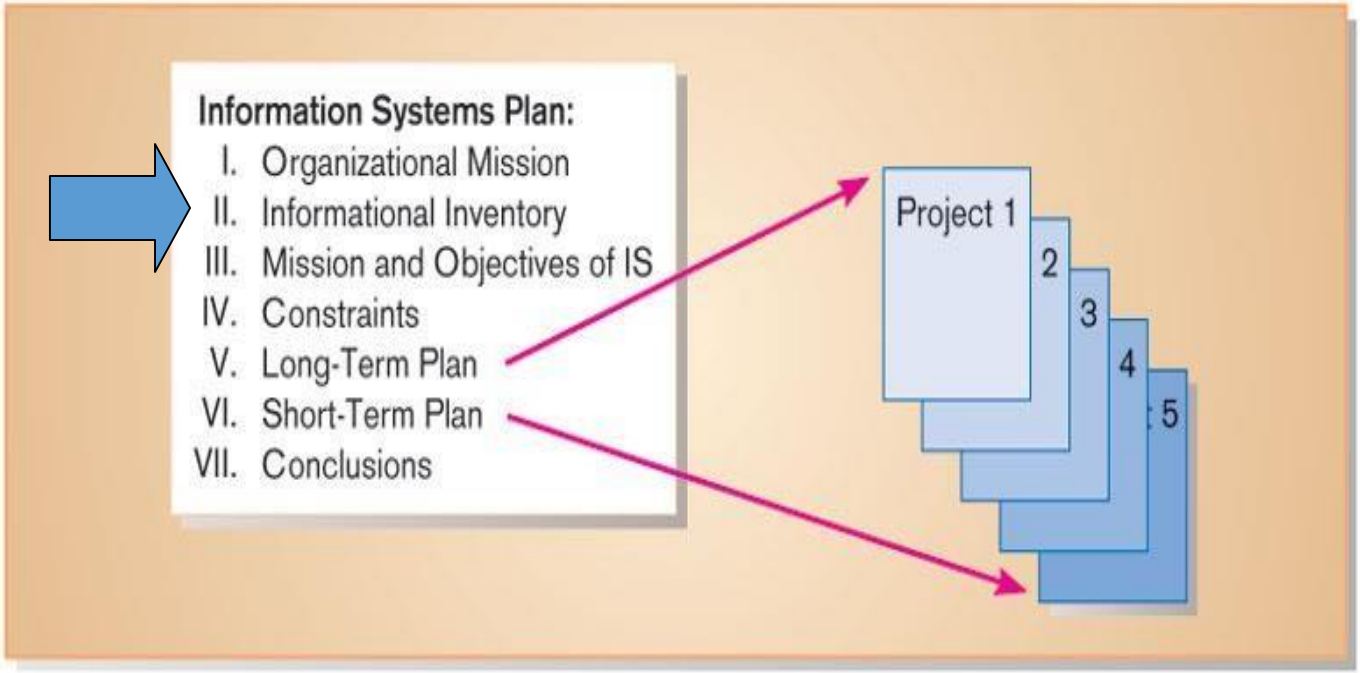
Figure 4-16 Systems development projects flow from the information systems plan.



Briefly describe mission, objectives, and strategy of the organization

IS Plan Components Cont.

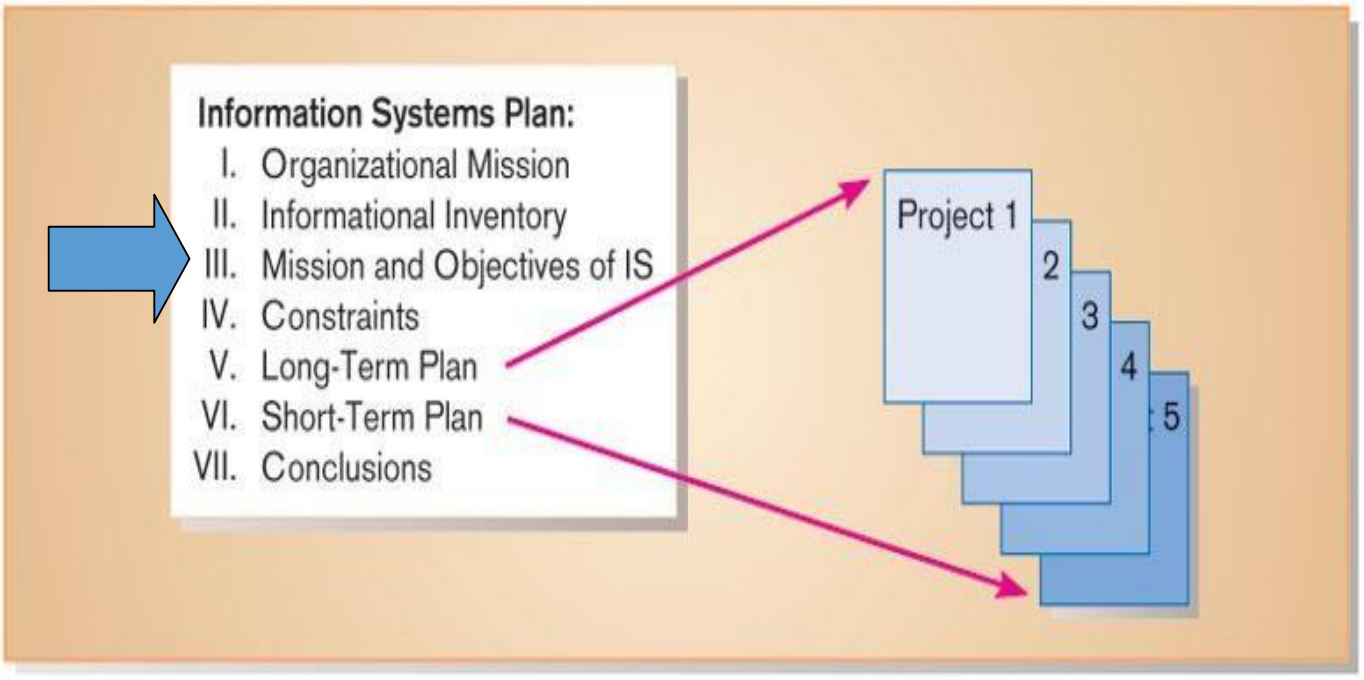
Figure 4-16 Systems development projects flow from the information systems plan.



Provide summary of current and future processes, functions, data entities, and information needs of the enterprise

IS Plan Components Cont.

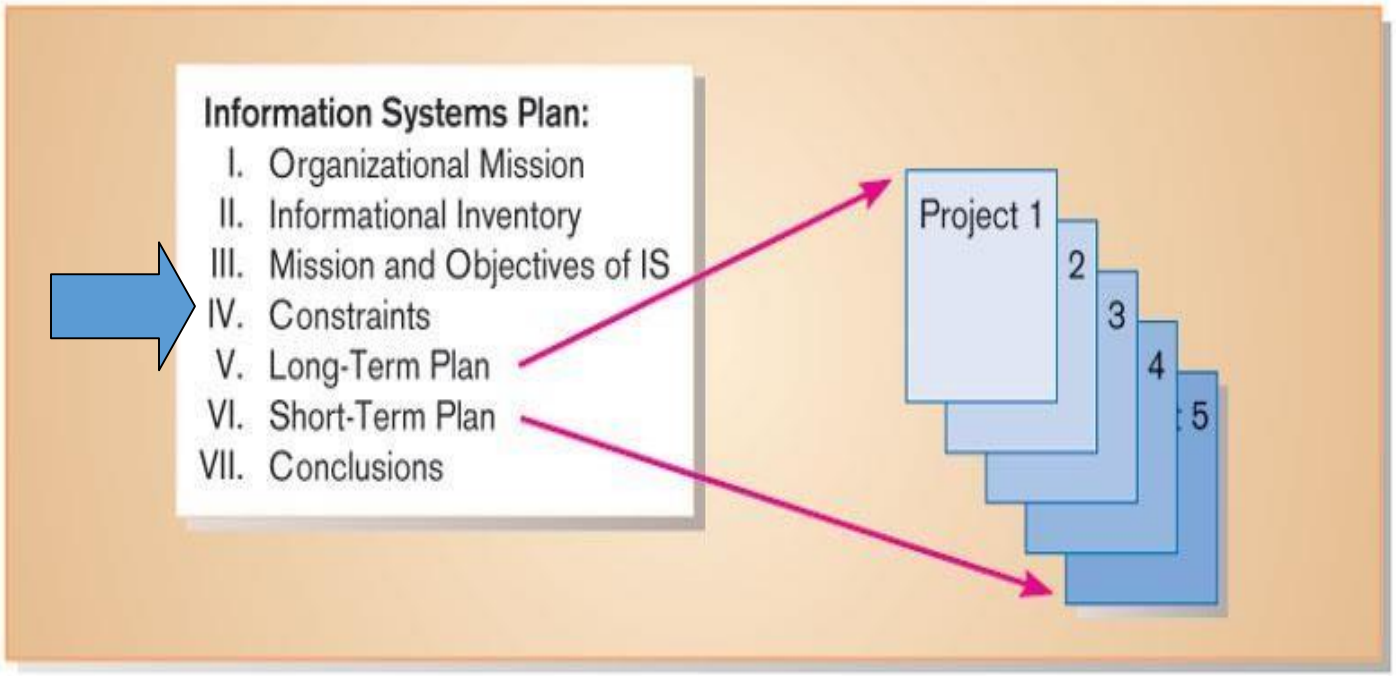
Figure 4-16 Systems development projects flow from the information systems plan.



Describe primary role IS will play in the organization to transform enterprise from current to future state

IS Plan Components Cont.

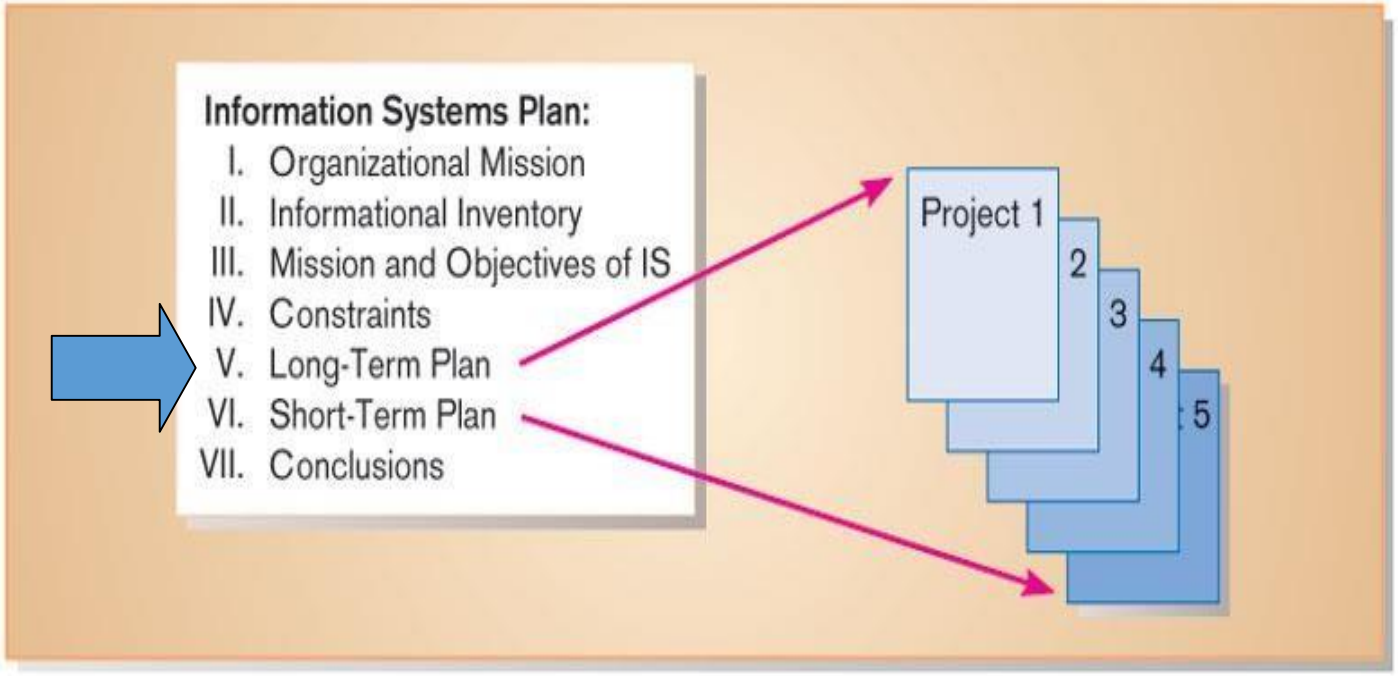
Figure 4-16 Systems development projects flow from the information systems plan.



Describe limitations imposed by technology and current levels of financial, technical, and personnel resources

IS Plan Components Cont.

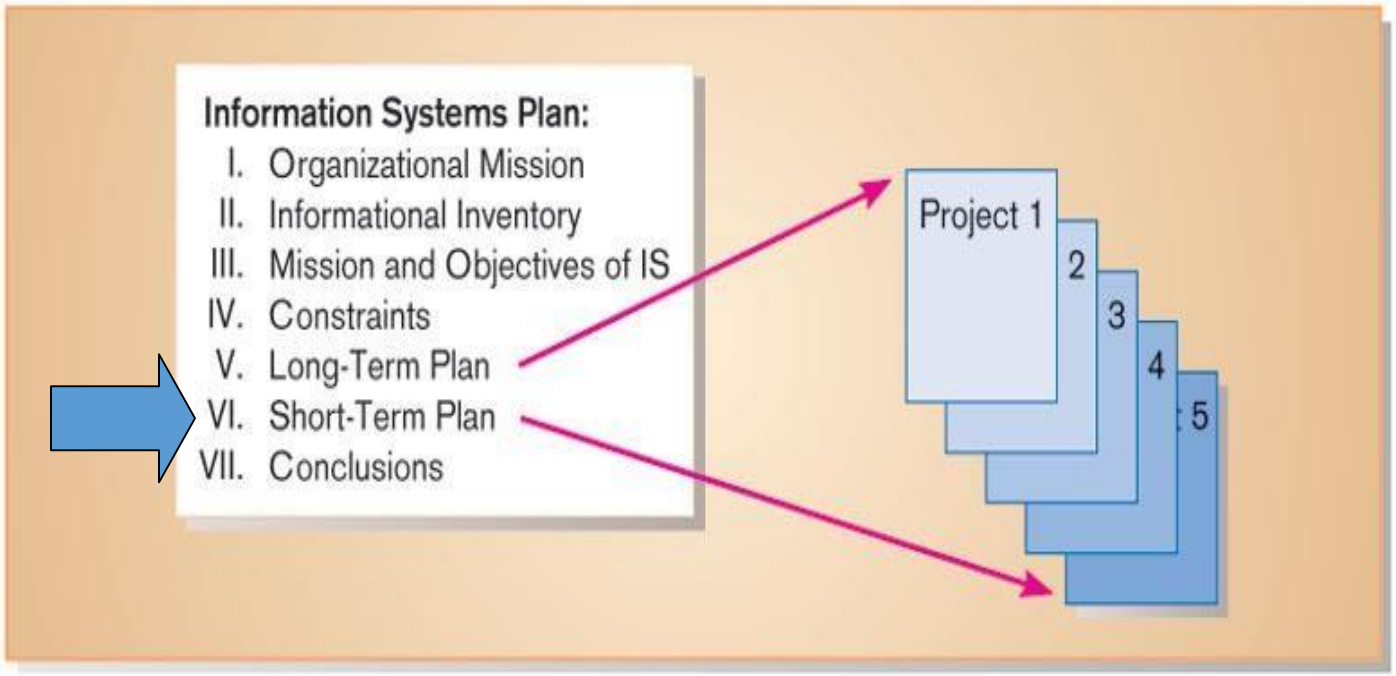
Figure 4-16 Systems development projects flow from the information systems plan.



Summarize overall information systems needs in the company and set long-term strategies for filling the needs

IS Plan Components Cont.

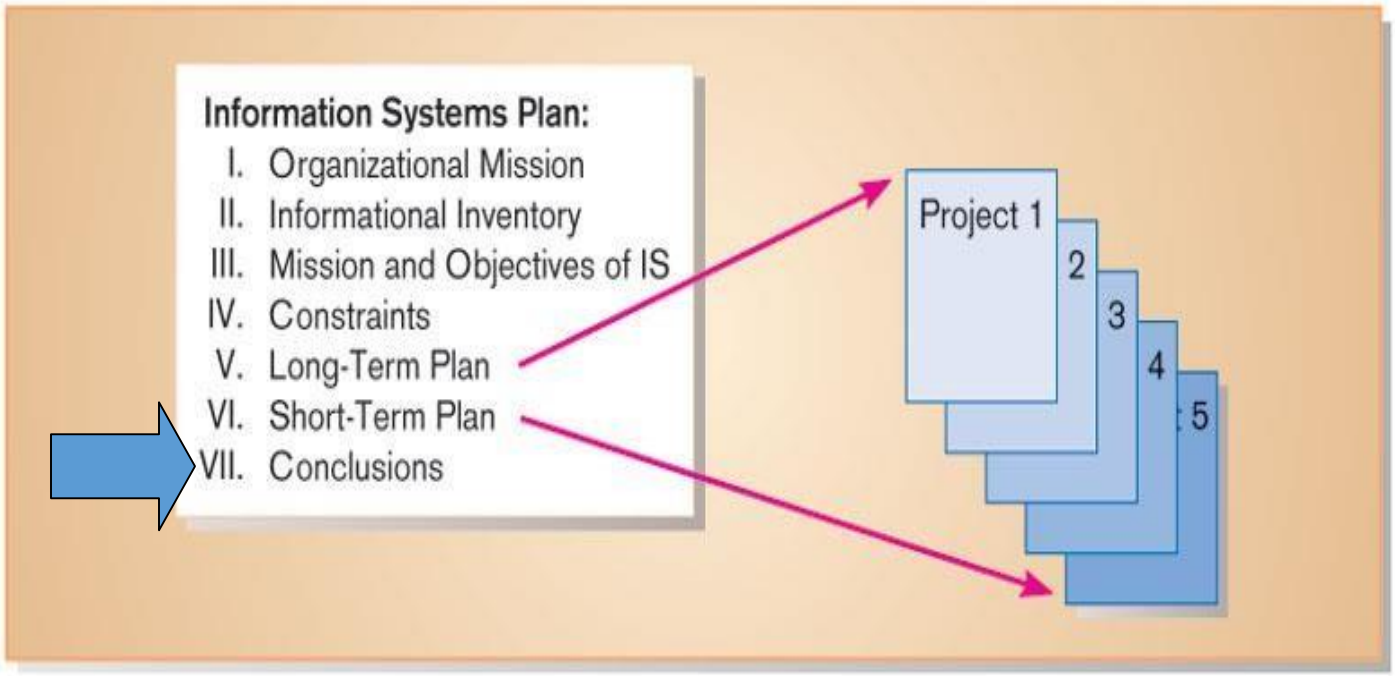
Figure 4-16 Systems development projects flow from the information systems plan.



Show detailed inventory of present projects and systems and detailed plan for the current year

IS Plan Components Cont.

Figure 4-16 Systems development projects flow from the information systems plan.



Describe unknown but likely events that can affect the plan, presently known business change elements, and description of their impact on the plan

Electronic Commerce Applications

- The Internet
  - A large worldwide network of networks that use a common protocol to communicate with each other
- Electronic Commerce
  - Internet-based communications to support day-to-day business activities

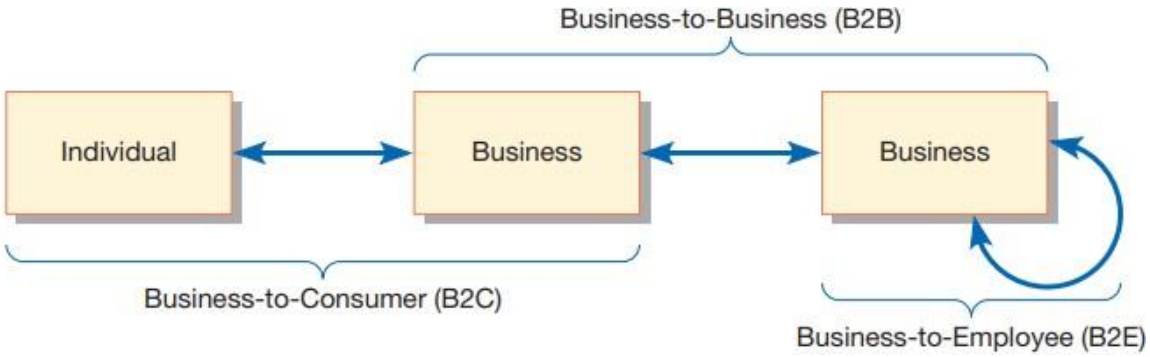


FIGURE 4-17
Three possible modes of electronic commerce

Three Modes of E-Commerce

- Internet-based
  - Supports business activities between a business and individual consumers
- Intranet-based
  - Supports business activities within a single organization
- Extranet-based
  - Supports business-to-business activities
  - A form of Electronic Data Interchange (EDI) – use of telecommunications for direct transfer of business documents between organizations

Issues in Internet Application Development

Table 4-5

Unknowns That Must Be Dealt with When Designing and Building Internet Applications

User	• Concern: Who is the user? • Example: Where is the user located? What is the user's expertise, education, or expectations?
Connection Speed	• Concern: What is the speed of the connection and what information can be effectively displayed? • Example: Modem, Cable Modem, DSL, Satellite, Broadband, Cellular
Access Method	• Concern: What is the method of accessing the net? • Example: Web browser, Personal Digital Assistant (PDA), Web-enabled Cellular Phone, Web-enabled Television

Summary

- In this chapter you learned how to:
  - ✓Describe the project identification and selection process.
  - ✓Describe corporate strategic planning and information systems planning.
  - ✓Explain the relationship between corporate strategic planning and IS planning.
  - ✓Describe how IS planning can assist in system development project identification and selection.
  - ✓Analyze IS planning matrices.
  - ✓Describe three classes of E-Commerce applications.


Thank
You