

Systems Analysis and Design

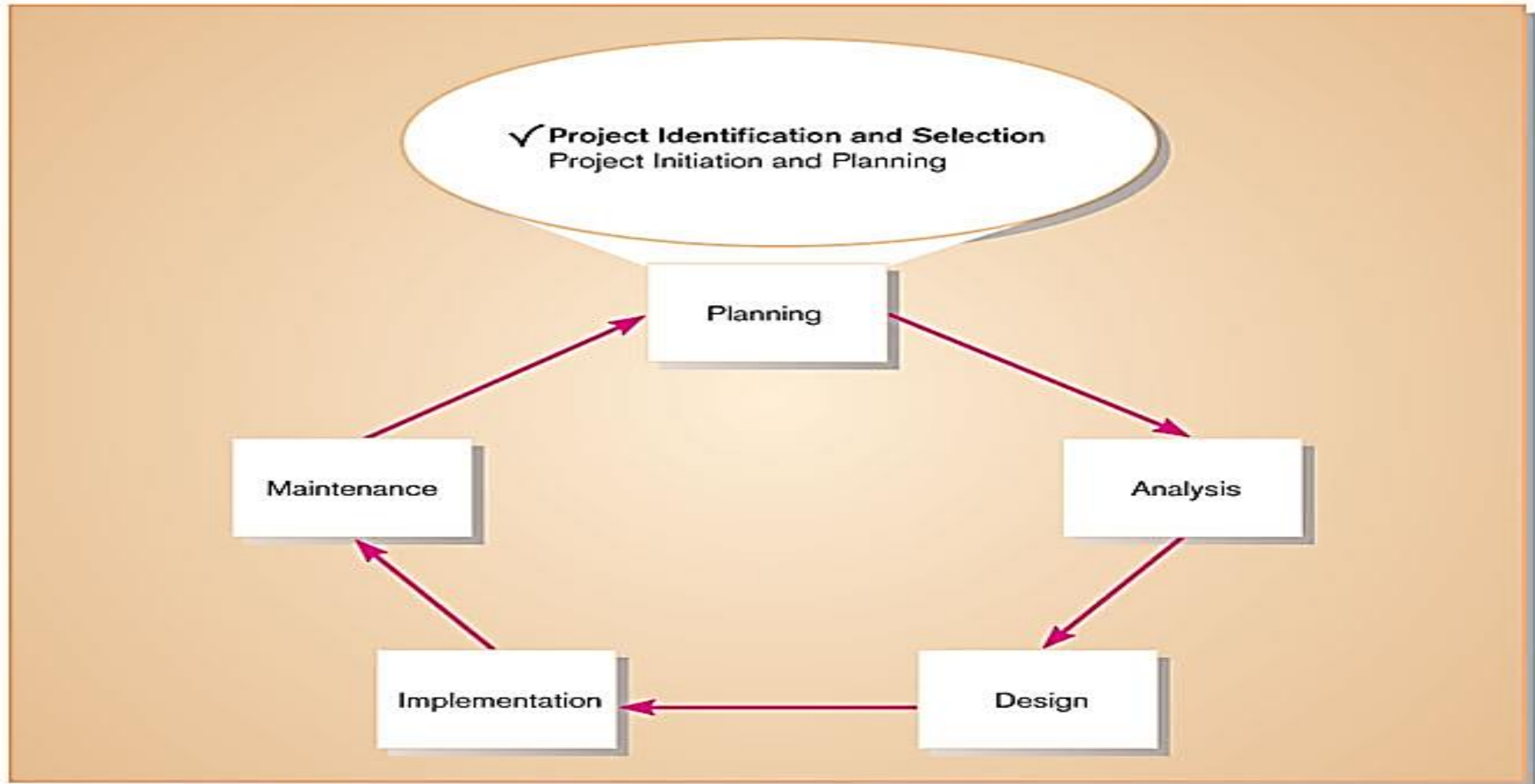
Unit 4

SYSTEM PLANNING

4.1

Identifying and Selecting Systems Development Projects

Figure 4-1 Systems development life cycle with project identification and selection highlighted



Project Identification and Selection

Project identification and selection consists of three primary activities:

1. Identifying potential development projects
2. Classifying and ranking IS development projects
3. Selecting Information System (IS) development projects

Project Identification and Selection

1. Identifying potential development projects

- Organizations vary as to how they identify projects.
- This process can be performed by
 - a key member of **top management**, either the CEO of a small- or medium sized organization or a senior executive in a larger organization;
 - a **steering committee**, composed of a cross section of managers with an interest in systems;
 - **user departments**, in which either the head of the requesting unit or a committee from the requesting department decides which projects to submit (often you, as a systems analyst, will help users prepare such requests); or
 - the **development group** or a senior IS manager.

Project Identification and Selection

Table 4-1 Characteristics of Alternative Methods for Making Information Systems Identification and Selection Decisions

<i>Selection Method</i>	<i>Characteristics</i>
Top Management	Greater strategic focus Largest project size Longest project duration
Steering Committee	Cross-functional focus Greater organizational change Formal cost-benefit analysis Larger and riskier projects
User Department	Narrow, nonstrategic focus Faster development Fewer users, management layers, and business functions
Development Group	Integration with existing systems focus Fewer development delays Less concern with cost-benefit analysis

Project Identification and Selection



Top-down Source

- Reflect broader organizational needs
- Broader understanding of business objectives and constraints

Bottom-up Source

- Designed for a particular business need
- Don't reflect overall goals of the organization

Project Identification and Selection

2. Classifying and Ranking IS Development Projects

- The second major activity in the project identification and selection process focuses on assessing the relative merit of potential projects.
- As with the project identification process, classifying and ranking projects can be performed by top managers, a steering committee, business units, or the IS development group.
- Additionally, the criteria used when assigning the relative merit of a given project can vary.
- In any given organization, one or several criteria might be used during the classifying and ranking process.

Project Identification and Selection

TABLE 4-2 Possible Evaluation Criteria When Classifying and Ranking Projects

Evaluation Criteria	Description
Value Chain Analysis	Extent to which activities add value and costs when developing products and/or services
Strategic Alignment	Extent to which the project is viewed as helping the organization achieve its strategic objectives and long-term goals
Potential Benefits	Extent to which the project is viewed as improving profits, customer service, and so forth, and the duration of these benefits
Resource Availability	Amount and type of resources the project requires and their availability
Project Size/Duration	Number of individuals and the length of time needed to complete the project
Technical Difficulty/Risks	Level of technical difficulty to successfully complete the project within given time and resource constraints

Project Identification and Selection

Value chain analysis

- **Value chain analysis** is an important project evaluation method that is widely used for assessing information systems development projects
- It is the process of analyzing an organization's activities to determine where value is added to products and/or services and the costs incurred for doing so.
- It usually also includes a comparison with the activities, added value, and costs of other organizations for the purpose of making improvements in the organization's operations and performance.

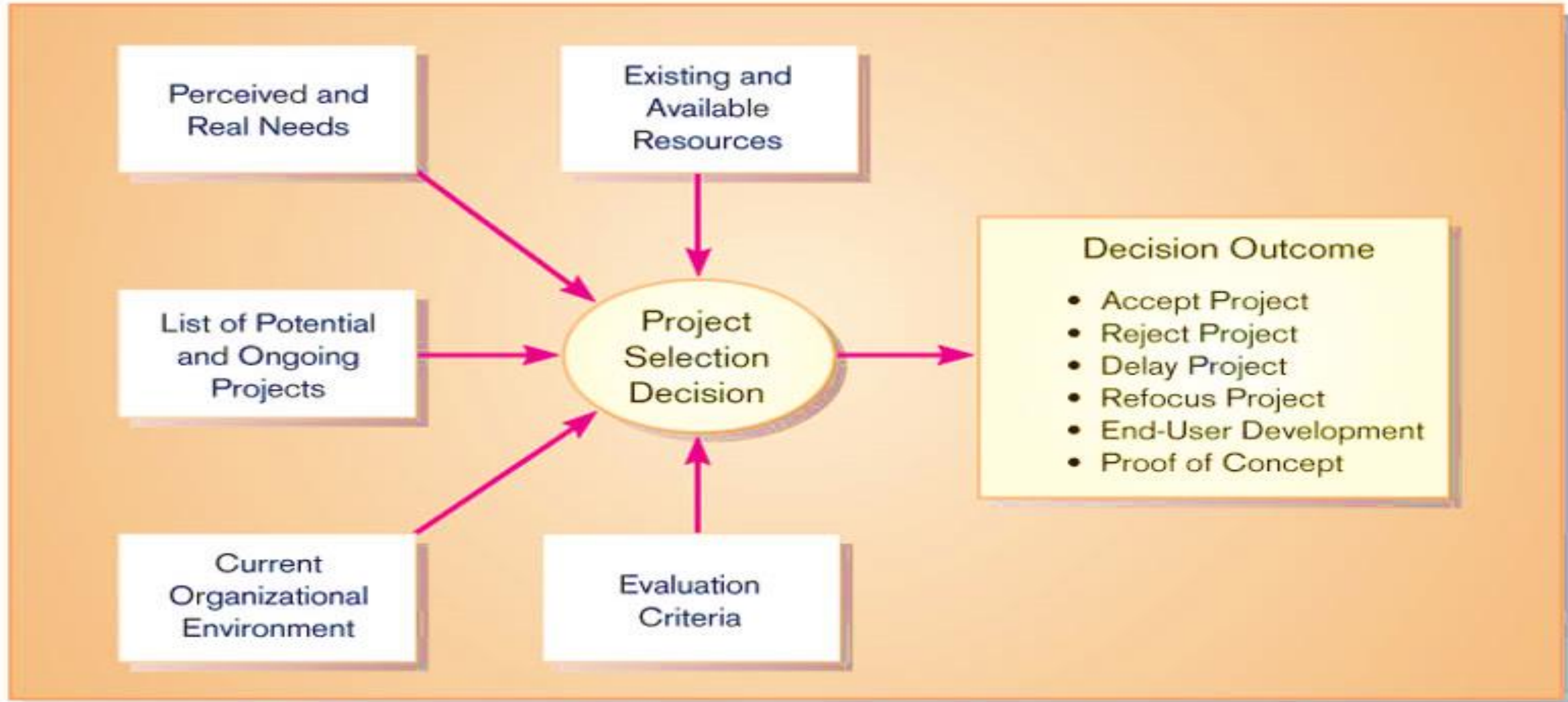
Project Identification and Selection

3. Selecting IS Development Projects

- The final activity in the project identification and selection process is the **actual selection** of projects for further development.
- Project selection is a process of **considering both short- and long-term projects** and selecting those **most likely to achieve** business objectives.
- Additionally, as business **conditions change over time**, the relative **importance** of any single project may substantially **change**.
- Thus, the identification and selection of projects is a **very important** and **ongoing activity**.
- **Numerous factors** must be considered when making project selection decisions.

Project Identification and Selection

Figure 4-3 Project selection decisions must consider numerous factors and can have numerous outcomes.



Project Identification and Selection

- Selecting IS Development Projects decision outcomes:
 - Project Acceptance
 - Project Rejection
 - Delay
 - Refocus
 - End-User Development
 - Proof of Concept

Project Identification and Selection

Deliverables and Outcomes

- Primary deliverable from the first part of the planning phase is a schedule of specific IS development projects.
- Outcome of the next part of the planning phase – project initiation and planning – is the assurance that careful consideration was given to project selection and each project can help the organization reach its goals.
- Clear **understanding** of project's **relation** to organizational objectives and the **project role** of achieving these objectives.

Project Identification and Selection

- **Incremental commitment**, is a strategy in system analysis in which the project is reviewed after each phase and continuation of the project is re-justified.
- Due to the principle of **incremental commitment**, a selected project does not necessarily result in a working system.
- After each subsequent SDLC phase, the project team, and organizational officials will reassess your project to determine whether the business conditions have changed or whether a more detailed understanding of a system's costs, benefits, and risks would suggest that the project is not as worthy as previously thought.

Project Identification and Selection

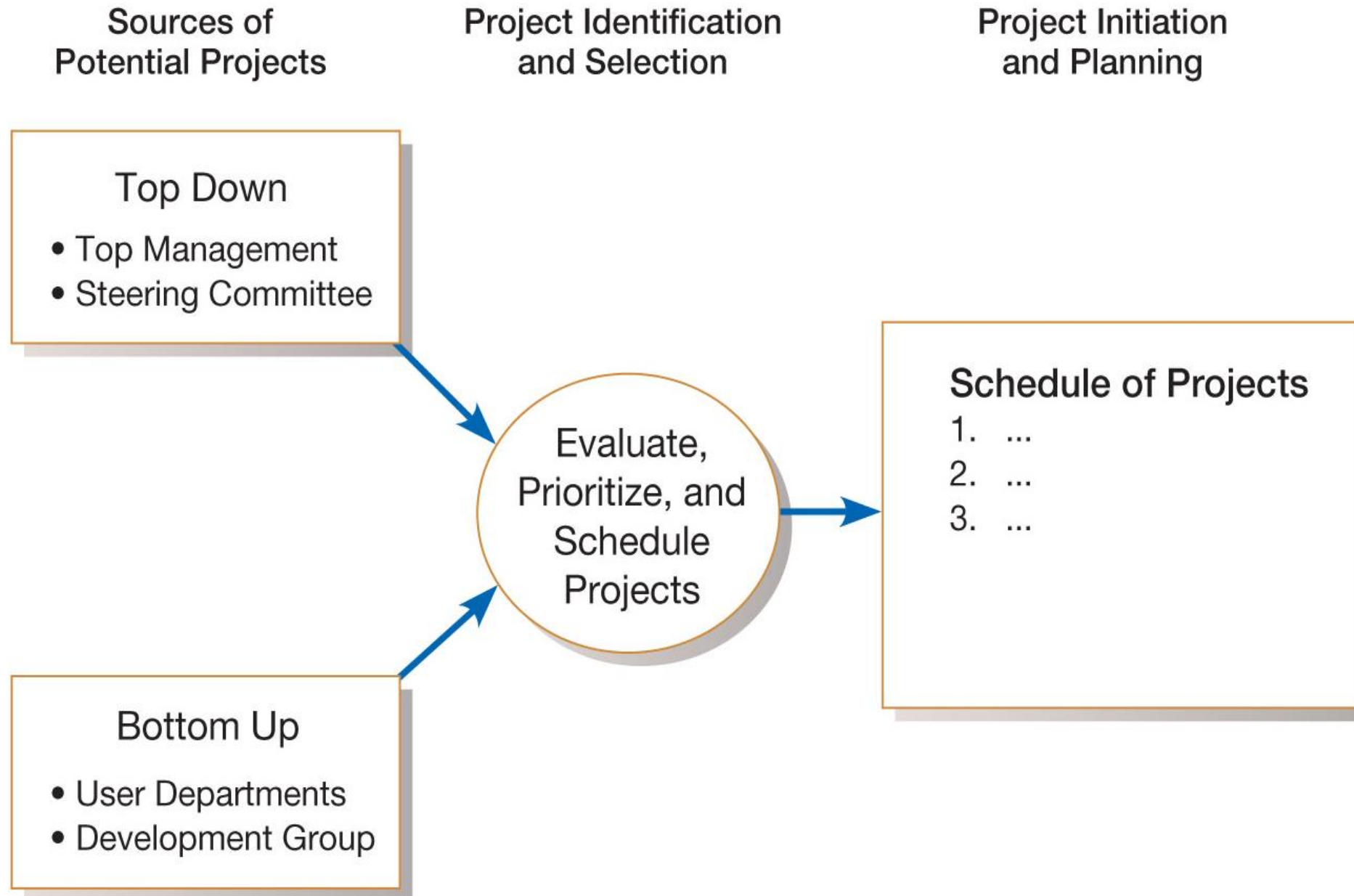


Figure 4-5
Information systems development projects come from both top-down and bottom-up initiatives

Project Identification and Selection

Corporate and Information Systems Planning

- Although there are numerous motivations for carefully planning the identification and selection of projects, organizations have not traditionally used a systematic planning process when determining how to allocate IS resources.
- Instead, projects have often resulted from attempts to solve isolated organizational problems.

Project Identification and Selection

Corporate and Information Systems Planning

Traditional Approach to Project Identification and Selection	Planning-Based Approach to Project Identification and Selection
<ul style="list-style-type: none">• Solves isolated problems• Focuses on business processes• Does not easily allow for organizational change • What procedure (application program) is required to solve this particular problem as it exists today?	<ul style="list-style-type: none">• Focuses on present and future information needs• Information needs change slower than business processes • What information (or data) requirements will satisfy the decision-making needs or business processes of the enterprise today and well into the future?

Project Identification and Selection

Corporate and Information Systems Planning

- **Importance of Planning**

- **Improperly planned** projects result in systems that **cannot** be shared across an organization
- As business processes change, lack of data and systems integration will hamper the speed at which the organization can effectively make business strategy or process changes.

Project Identification and Selection

Corporate and Information Systems Planning

- There are two processes that can significantly improve the quality of project identification and selection decisions :
 - a. Corporate strategic planning
 - b. Information systems planning

Project Identification and Selection

a. Corporate Strategic Planning (CSP)

- An ongoing Process of developing and refining models of the current and future enterprise as well as a transition strategy

Project Identification and Selection

Corporate Strategic Planning results in several outcomes

- **Mission Statement :**
 - States in a very terms what business the company is in
- **Objective Statements :**
 - A series of statements that express an organization's qualitative and quantitative goals for reaching a desired future position
 - Objectives are referred to as *critical success factors*
- **Competitive Strategy:**
 - The method by which an organization attempts to achieve its mission and objectives
 - For example: lower cost producer, product differentiation, or product focus)

Project Identification and Selection

b. Information Systems Planning (ISP)

- An orderly means of assessing the **information needs** of an organization and defining the **systems**, **databases** and **technologies** that will best satisfy those needs
- Three key activities:
 - Describe the Current Situation
 - Describe the Target (or Future) Situation
 - Develop a Transition Plan and Strategy

Project Identification and Selection

Information Systems Planning is a three-step process

Step 1

Current Situation:

- listing of manual and automated processes
- listing of manual and automated data
- technology inventory
- human resources inventory



Step 2

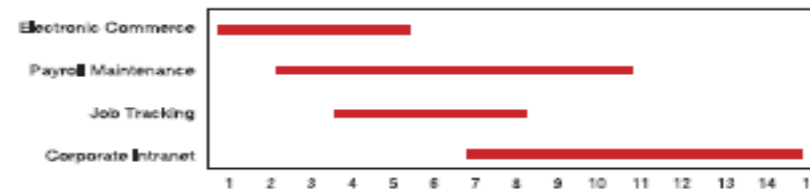
Future Situation:

- blueprints of manual and automated processes
- blueprints of manual and automated data
- technology blueprints
- human resources blueprints



Step 3

Schedule of Projects:



Project Identification and Selection

Corporate and Information Systems Planning

Figure 4-10

Parallel activities of corporate strategic planning and information systems planning

