

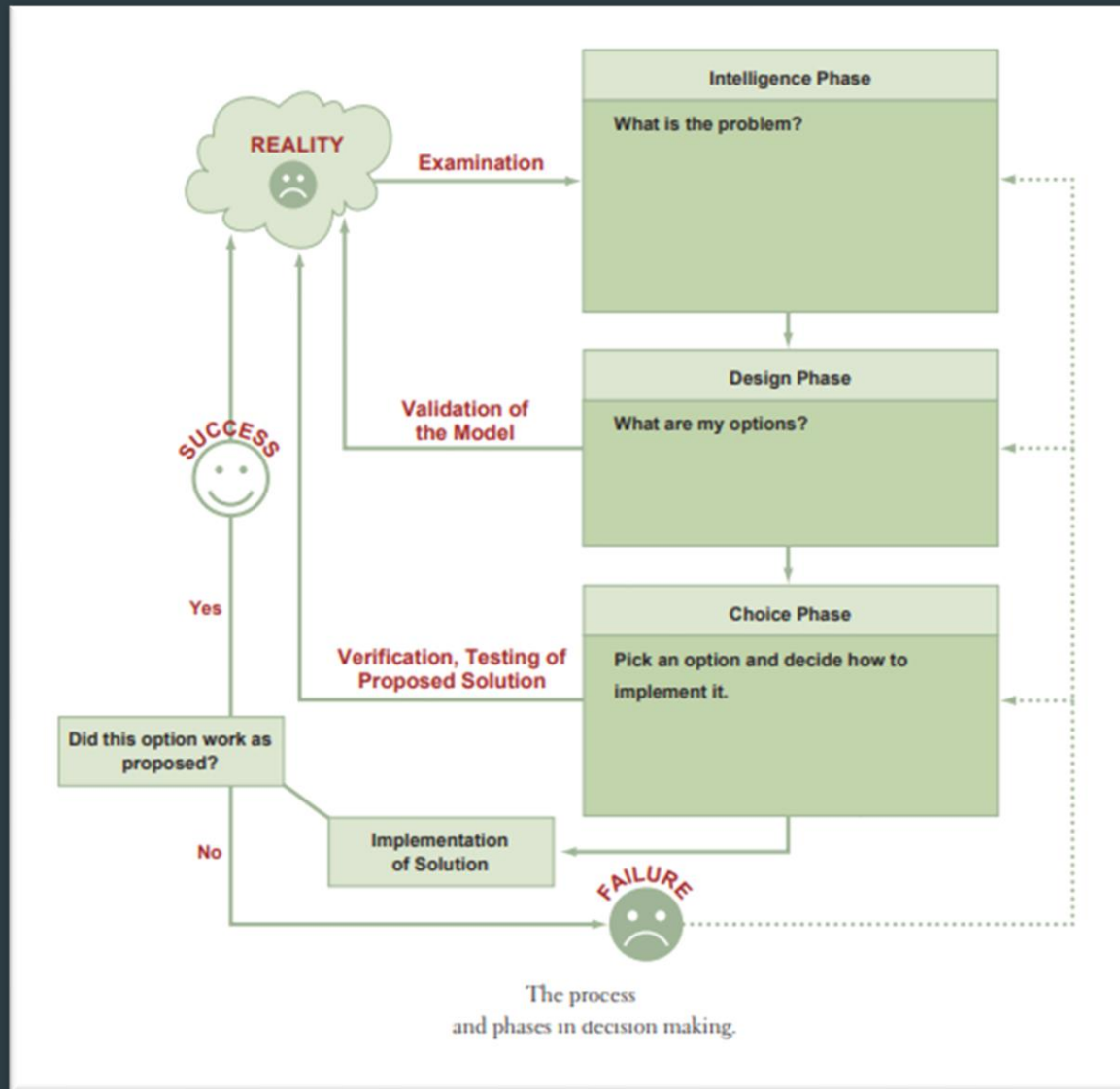
Management Support Systems

Overview Of Management Information Systems

Course Code: CIS414

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Phases of Decision-Making



Phases of Decision Making

Intelligence Phase

Design Phase

Choice Phase

Implementation Phase

Intelligence Phase

- ▶ Decision maker examines the organization's environment for conditions that need decisions
- ▶ Data is collected from a variety of sources and processed
 - Allows decision maker to discover ways to approach the problem

Design Phase

- ▶ Defines criteria for the decision
- ▶ Generates alternatives for meeting the criteria
- ▶ Defines associations between the criteria and the alternatives
 - ▶ Requires understanding how each alternative affects the criteria
- ▶ Information technology does not support this phase of decision making

Choice Phase

- ▶ Involves selecting best and most effective course of action is from the alternatives
- ▶ Analyzes each alternative and its relationship to the criteria to determine whether it is feasible
- ▶ Decision support system (DSS)
 - Helps sort through possible solutions to choose the best one for the organization
 - Includes tools for calculating cost-benefit ratios

Implementation Phase

- ▶ Organization devises a plan for carrying out the alternative selected in the choice phase and obtains the resources to implement the plan
- ▶ DSS does a follow-up assessment on how well a solution is performing

Decision Support Systems (DSS)

- ▶ Interactive information system designed to assist decision makers in an organization
- ▶ Consists of:
 - Hardware
 - Software
 - Data
 - Mathematical and statistical models

Decision Support Systems (DSS)

► Requirements

- Be interactive and incorporate the human element as well as hardware and software
- Use internal and external data
- Include mathematical and statistical models
- Support decision makers at all organizational levels
- Emphasize semistructured and unstructured tasks

Components of a Decision Support System

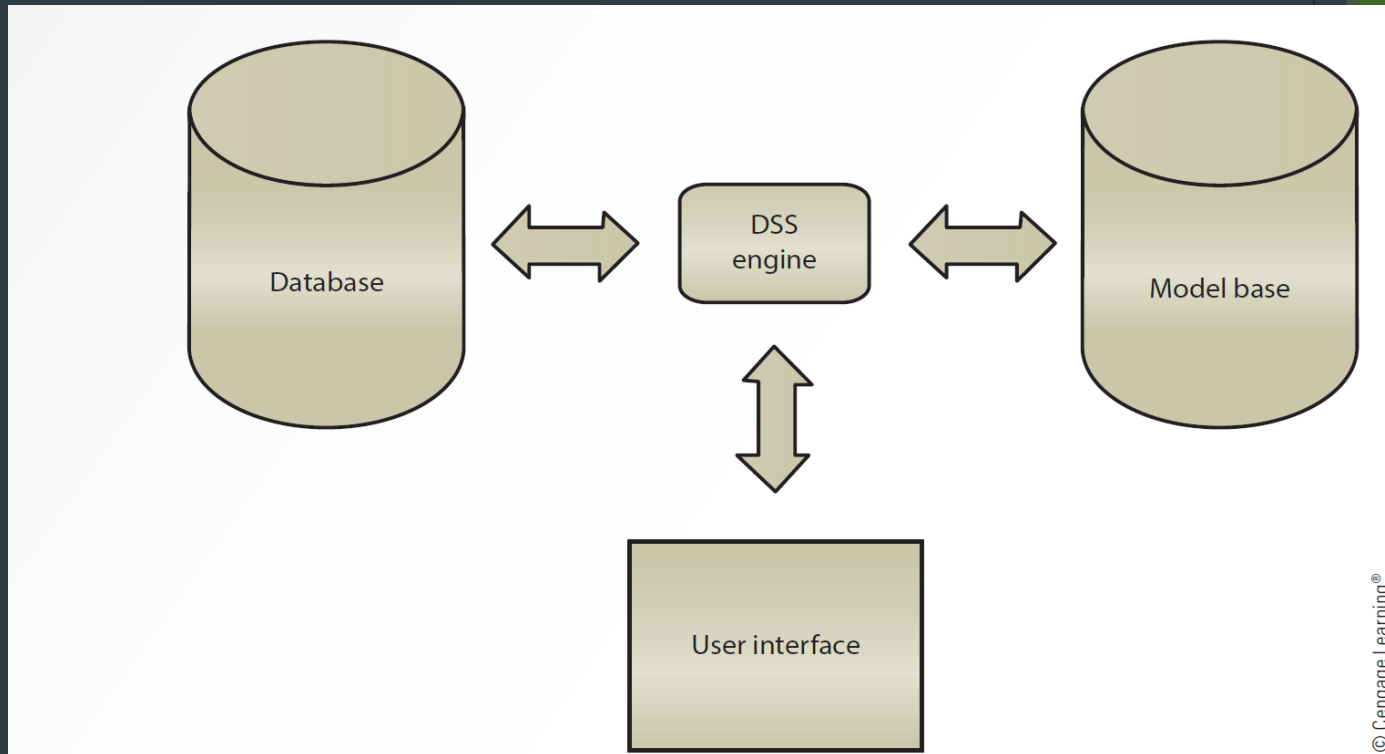
- ▶ **Database**
 - ▶ Includes internal and external data, and a database management system (DBMS)
 - ▶ Enables a DSS to perform data analysis operations
- ▶ **Model base**
 - ▶ Includes mathematical and statistical models that enable a DSS to analyze information

Components of a Decision Support System

- ▶ Users access the DSS through user interface
- ▶ DSS engine manages and coordinates the major components

Exhibit 12.2

Components of a DSS



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DSS Capabilities

- ▶ DSS includes following features to support decision making
 - ▶ What-if analysis
 - ▶ Goal-seeking
 - Sensitivity analysis
 - Exception reporting analysis
- ▶ Other capabilities
 - Graphical analysis, forecasting, simulation, statistical analysis, and modeling analysis