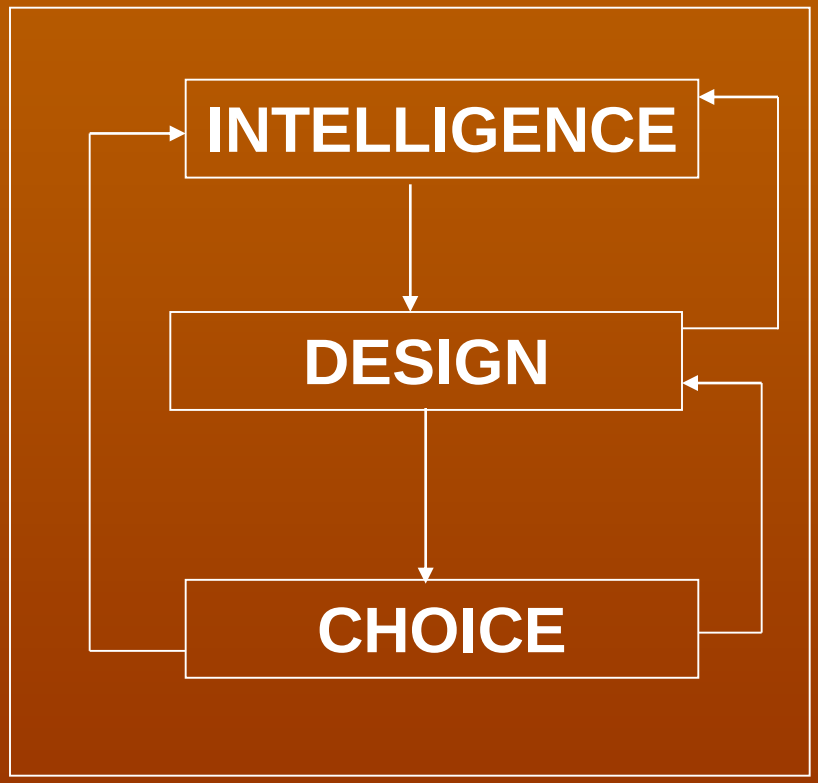
DECISION SUPPORT SYSYEM CONCEPTS & APPROACHES

DEFINITION:

An interactive and computer based system that can help decision makers utilize data and models to solve *unstructured* or *semi structured problems.*

DECISION MAKING PROCESS:



Potential Problems and opportunities are identified and defined

Alternative solutions to the problem are developed

Select a course of action

Components of a DSS:

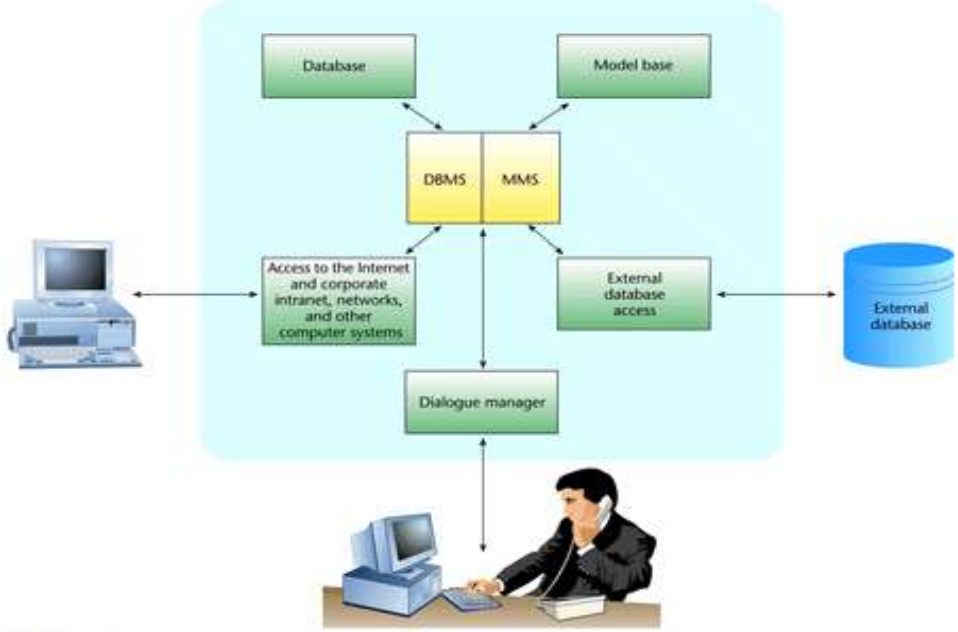


FIGURE 10.16

A Conceptual Model of a DSS

DSS components include a model base; database; external database access; access to the Internet and corporate intranet, networks, and other computer systems; and a dialogue manager.

statistical analysis model

model that can provide summary statistics, trend projections, hypothesis testing, and more

Characteristics:

* An explicit design to solve ill-structured problems,

* Powerful and easy-to-use interface,

* Ability to combine analytical models flexibly with data,

*Ability to explore the solution space by building alternatives,

* Capability of supporting the variety of decision making styles, and

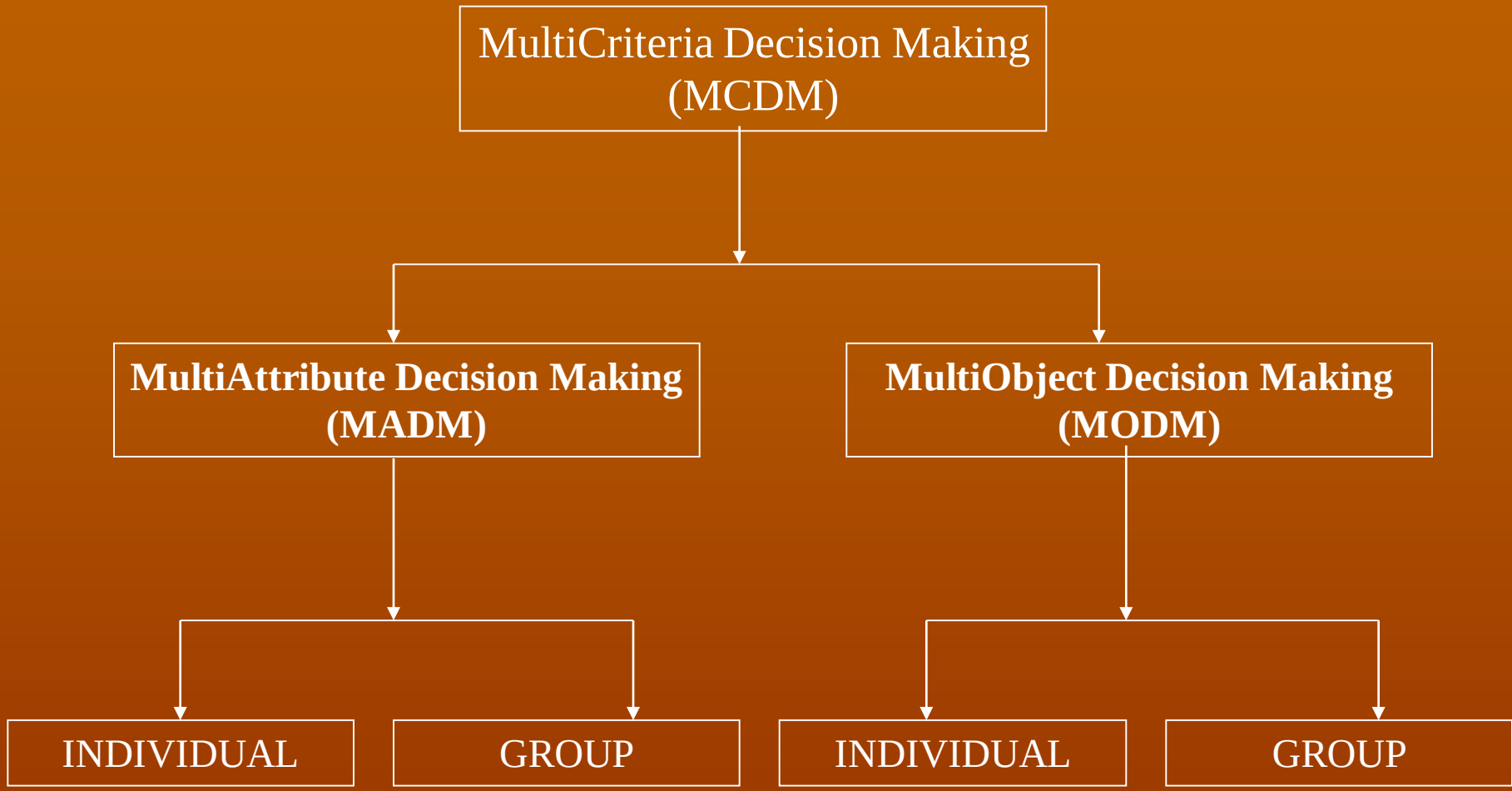
* Allowing interactive and recursive problem solving.

MultiCriteria Decision Analysis (MCDA):

Multi-criteria analysis methods makes possible to make our systems more intelligent.

CLASSIFICATION:

* MultiAttribute Decision Making (MADA)
* MultiObjective Decision Making (MODA)


MultiCriteria Decision Making (MCDM)
MultiAttribute Decision Making (MADM)
MultiObject Decision Making (MODM)
INDIVIDUAL
GROUP
INDIVIDUAL
GROUP

SPATIAL DECISION SUPPORT SYSTEM (SDSS)

DEFINITION:

It is a software application that is based on manipulation of relationships in space.

SDSS

- It is a system that assist the user by providing a problem-solving environment.
- It is designed to help decision makers solve complex spatial problems

SDSS

- It provides a framework for Integrating:
  1. Analytical modeling capabilities
  2. Database management systems
  3. Graphical display capabilities
  4. Tabular reporting capabilities
  5. Decision-maker's expert knowledge.

Uses Of SDSS:

- It is a geographic technology that captures, stores, manipulates, displays and analyzes data spatially referenced to the earth.
- Used traditionally in geographic mapping in natural resource management, public administration, NASA, military, etc

Integration To Business:

- In 1990's, its applicability to business systems was initially thought experimented.
- Its successful integration to business processes at the beginning of 21st century, gives business owners and experts more recognition to the inherent spatial meaning of most business data.

Uses of a Decision Support System

- Look at more facets of a decision
- Generate better alternatives
- Respond to situations quickly
- Solve complex problems
- Consider more options for solving a problem
- Utilise multiple analyses to solve problem

- Generate new insights into problems, eliminate ***tunnel vision***
- Implement a variety of decision styles and strategies
- Use more appropriate data
- Utilise better models, and better utilise existing models


ThankYou