

SPK : SEBUAH TINJAUAN

**Kapabilitas
Struktur
Klasifikasi**

Referensi lihat SAP : [5] Bab 3, [7] Chapter 3

Definisi SPK

- Little (1970)
“model-based set of procedures for processing data and judgments to assist a manager in his decision making”
Assumption: that the system is computer-based and extends the user’s capabilities.
- Alter (1980)
Contrasts DSS with traditional EDP systems (Table 3.1)
 - Moore and Chang (1980)
 - 1. Extendible systems
 - 2. Capable of supporting ad hoc data analysis and decision modeling
 - 3. Oriented toward future planning
 - 4. Used at irregular, unplanned intervals
 - Bonczek et al. (1980)
A computer-based system consisting of
 - 1. A language system -- communication between the user and DSS components
 - 2. A knowledge system
 - 3. A problem-processing system--the link between the other two components

- **Keen (1980)**
DSS apply “to situations where a ‘final’ system can be developed only through an adaptive process of learning and evolution”
- **Central Issue in DSS**
support and improvement of decision making

TABLE 3.2 Concepts Underlying DSS Definitions.

Source	DSS Defined in Terms of
Gorry and Scott Morton [1971]	Problem type, system function (support)
Little [1970]	System function, interface characteristics
Alter [1980]	Usage pattern, system objectives
Moore and Chang [1980]	Usage pattern, system capabilities
Bonczek, et al. [1996]	System components
Keen [1980]	Development process

Konfigurasi SPK

- Mendukung secara pribadi dan kelompok.
- Digunakan berulang dan konstan
- 2 komponen utama : data dan model
- Berbasis web
- Digunakan secara subyektif, personal dan data obyektif
- Memiliki model simulasi
- Digunakan di sektor publik dan privat
- Memiliki kemampuan ‘what-if’
- Menggunakan model kuantitatif dan kualitatif



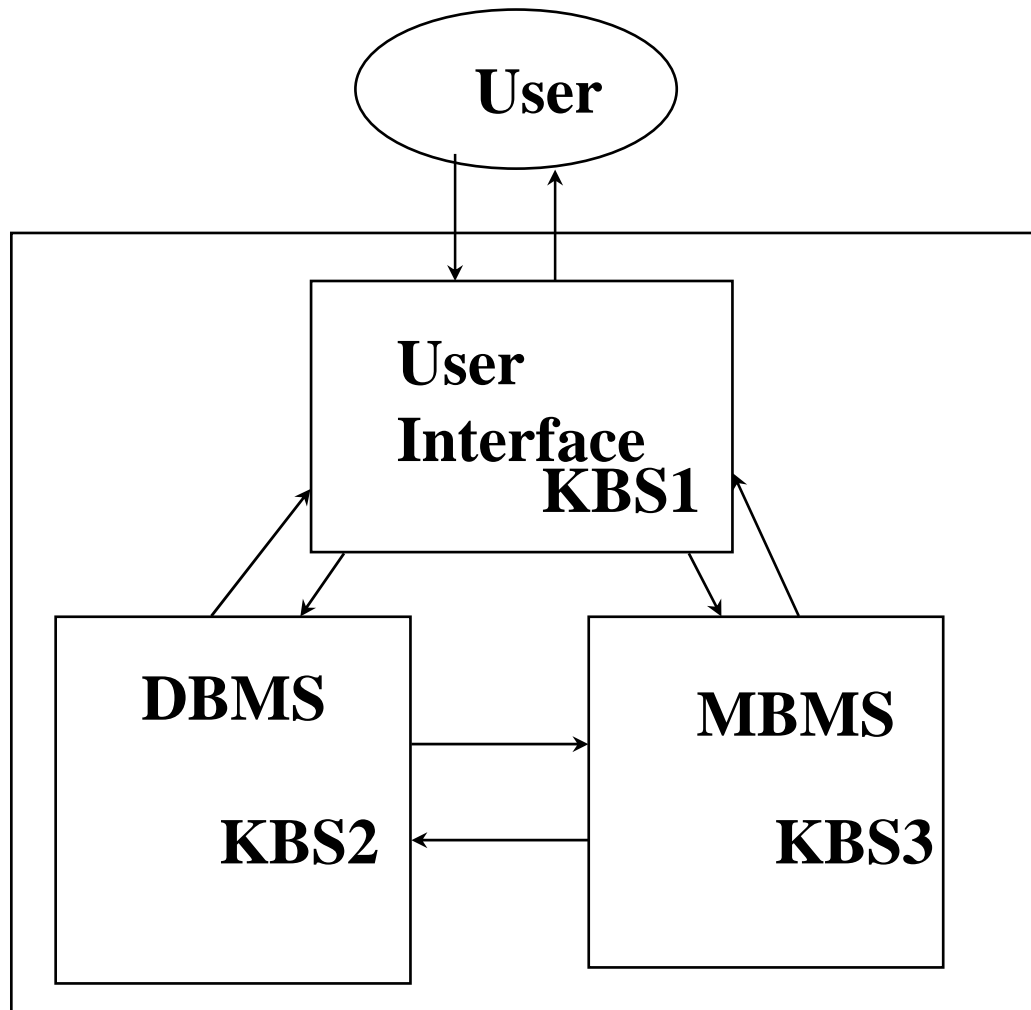
Working Definition of DSS

- A DSS is an interactive, flexible, and adaptable CBIS, specially developed for supporting the solution of a non-structured management problem for improved decision making. It utilizes data, it provides easy user interface, and it allows for the decision maker's own insights
- DSS may utilize models, is built by an interactive process (frequently by end-users), supports all the phases of the decision making, and may include a knowledge component

Karakteristik & Kapabilitas SPK

1. Provide support in semi-structured and unstructured situations, includes human judgment and computerized information
2. Support for various managerial levels
3. Support to individuals and groups
4. Support to interdependent and/or sequential decisions
5. Support all phases of the decision-making process
6. Support a variety of decision-making processes and styles
7. Are adaptive
8. Have user friendly interfaces
9. Goal: improve effectiveness of decision making
10. The decision maker controls the decision-making process
11. End-users can build simple systems
12. Utilizes models for analysis
13. Provides access to a variety of data sources, formats, and types

Komponen SPK



1. Data Management Subsystem
2. Model Management Subsystem
3. Knowledge-based (Management) Subsystem
4. User Interface Subsystem
5. The User

The Data Management Subsystem

- DSS database
- Database management system
- Data directory
- Query facility

DSS Database Issues

(Figure 3.3)

- Data warehouse
- Data mining
- Special independent DSS databases
- Extraction of data from internal, external, and private sources
- Web browser data access
- Web database servers
- Multimedia databases
- Special GSS databases (like Lotus Notes / Domino Server)
- Online Analytical Processing (OLAP)
- Object-oriented databases
- Commercial database management systems (DBMS)

The Model Management Subsystem

- Analog of the database management subsystem (Figure 3.4)
- Model base
- Model base management system
- Modeling language
- Model directory
- Model execution, integration, and command processor

The Model Management Issue

- Model level: Strategic, managerial (tactical), and operational
- Modeling languages
- Lack of standard MBMS activities. WHY?
- Use of AI and fuzzy logic in MBMS

The Knowledge Based (Management) Subsystem

- Provides expertise in solving complex unstructured and semi-structured problems
- Expertise provided by an expert system or other intelligent system
- Advanced DSS have a *knowledge* based (*management*) component
- Leads to intelligent DSS
- Example: Data mining

The User Interface (Dialog) Subsystem

- Includes all communication between a user and the MSS
- Graphical user interfaces (GUI)
- Voice recognition and speech synthesis possible
- To most users, the user interface *is* the system

The User

Different usage patterns for the *user*, the *manager*, or the *decision maker*

- Managers
- Staff specialists
- Intermediaries
 1. *Staff assistant*
 2. *Expert tool user*
 3. *Business (system) analyst*
 4. *GSS Facilitator*

Distinguishing DSS from Management Science and MIS

- **DSS is a problem-solving tool and is frequently used to address ad hoc and unexpected problems**
- **Different than MIS**
- **DSS evolve as they develop**

Klasifikasi SPK

Alter's Output Classification (1980)

Degree of action implication of system outputs
(supporting decision) (Table 3.3)

- Holsapple and Whinston's Classification
 1. Text-oriented DSS
 2. Database-oriented DSS
 3. Spreadsheet-oriented DSS
 4. Solver-oriented DSS
 5. Rule-oriented DSS
 6. Compound DSS

Kategori SPK Cerdas

- Descriptive
- Procedural
- Reasoning
- Linguistic
- Presentation
- Assimilative
- Symbiotic, Expert-system based, Adaptive, Holistic

Klasifikasi Lain

SPK Institusional vs SPK Ad Hoc

- Institutional DSS deals with decisions of a recurring nature
- Ad Hoc DSS deals with specific problems that are usually neither anticipated nor recurring
- Degree of nonprocedurality (Bonczek et al., 1980)
- Personal, group, and organizational support (Hackathorn and Keen, 1981)
- Individual versus group support systems (GSS)
- Custom-made versus ready-made systems

Kesimpulan

- **Dasar SPK**
- **Komponen SPK**
- **Kapabilitas utama dari komponen SPK**
- **Kategori utama SPK**