

Specialized I.S.



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define K.M.S

A knowledge management system (KMS) is an organized collection of people, procedures, software, databases, and devices that **stores and retrieves knowledge, improves collaboration, locates knowledge sources, captures and uses knowledge, or in some other way enhances the knowledge management process.**

Consulting firms often use a KMS to capture and provide the collective knowledge of its consultants to one another.

define C.K.O and identify its roles

- The chief knowledge officer (CKO) is a top-level executive who helps the organization work with a KMS to create, store, and use knowledge to achieve organizational goals.

The CKO is responsible for the organization's KMS, and typically works with other executives and vice presidents, including the chief executive officer (CEO), chief financial officer (CFO), and others.

define A.I.S

- Artificial intelligence systems include the people, procedures, hardware, software, data, and knowledge needed to **develop computer systems and machines that can simulate human intelligence processes**, including learning (the acquisition of information and rules for using the information), reasoning (using rules to reach conclusions), and self-correction (using the outcome from one scenario to improve its performance on future scenarios).

define expert system and identify its component

- An expert system consists of hardware and software that stores knowledge and makes inferences, enabling a novice to perform at the level of an expert.

component

- **knowledge base** : stores all relevant information, data, rules, cases, and relationships used by the expert system.
- **The Inference Engine** its purpose is to seek information and relationships from the knowledge base and to provide answers, predictions, and suggestions similar to the way a human expert would.
- **explanation facility** allows a user or decision maker to understand how the expert system arrived at certain conclusions or results.
- **knowledge acquisition facility** provides convenient and efficient means of capturing and storing all the components of the knowledge base.
- **The User Interface** Specialized user interface software is employed for designing, creating, updating, and using expert systems

identify participant in developing expert system

Typically, several people are involved in developing and using an expert system.

The domain expert is the person or group with the expertise or knowledge the expert system is trying to capture (domain).

In most cases, the domain expert is a group of human experts.

A knowledge engineer is a person who has training or experience in the design, development, implementation, and maintenance of an expert system, including training or experience with expert system shells.

Knowledge engineers can help transfer the knowledge from the expert system to the knowledge user.

The **knowledge user** is the person or group who uses and benefits from the expert system.

Knowledge users do not need any previous training in computers or expert systems.

identify major application of expert system

- **Credit granting and loan analysis.** **KPMG Peat Marwick uses an expert system called : Loan Probe** to review its reserves to determine whether sufficient funds have been set aside to cover the risk of some uncollectible loans.
- **Catching cheats and terrorists.** **Some gambling casinos use expert system software to :catch gambling cheats.**
- **Plant layout and manufacturing.** **FLEXPERT was an expert system that uses fuzzy logic :** to perform plant layout. The software helped companies determine the best placement for equipment and manufacturing facilities.
- **Hospitals and medical facilities.** **Hospitals, pharmacies, and other healthcare providers :** can use **Alineo** by MEDecision to determine possible high-risk or high-cost patients.**MYCIN** is an expert system developed at Stanford University to analyze blood infections.**Up-to-date** is another expert system used to diagnose patients. To help doctors in the diagnosis of thoracic pain, **MatheMEDics** has developed **THORASK**, a straightforward, easy-to-use program, requiring only the input of carefully obtained clinical information. The program helps the less experienced to distinguish the three principal categories of chest pain from each other.

- **Employee performance evaluation.** An expert system developed by Austin Hayne, called **:Employee Appraiser**, provides managers with expert advice for use in employee performance reviews and career development.
- **Repair and maintenance.** **ACE** is an expert system used by AT&T to analyze the :maintenance of telephone networks. IET-Intelligent Electronics uses an expert system to diagnose maintenance problems related to aerospace equipment. General Electric Aircraft Engine Group uses an expert system to enhance maintenance performance levels at all sites and improve diagnostic accuracy.
- **Shipping.** **CARGEX** cargo expert system is used by Lufthansa, a German airline, to help : determine the best shipping routes.
- **Marketing.** **CoverStory** is an expert system that extracts marketing information from a : database and automatically writes marketing reports.

Reference :

- principles of information systems
13th & 9th