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A Knowledge-Based Technical Support System for ECRC

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Outline

- Introduction
- ECRC Services
- What is Knowledge Management?
- KM Technologies
- KBTS System
- Summary

Introduction

- ECRC Program:

  To promote awareness & implementation of EC technologies

- Objective

  To design a model of KBTSS (Knowledge-Based Technical Support System) for ECRC

ECRC Services

- Education & Training
- Outreach
- Consulting & Technical Support

What is Knowledge Management

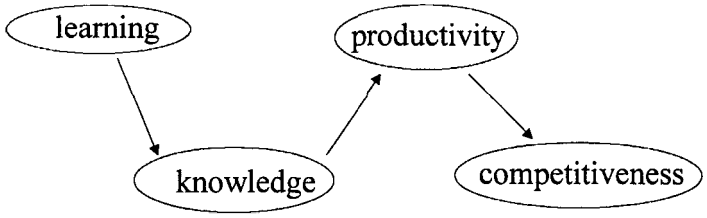
- Is it Data, Information or Knowledge?
  - No generally accepted definition
  - Value added hierarchy
    - Enables creativity & innovation
    - Improves organizational effectiveness
    - Makes better decisions

- Data
  - A set of known facts regarding discrete events
  - (e.g. product costs)
- Information
  - Created when data is analyzed & structured
  - (e.g. customer records)

- Knowledge
  - The awareness & understanding of the meaning of data & information in a specific context
  - Explicit knowledge
    - (e.g. the form of a document)
    - Rule-based knowledge
    - Can be applied multiple times
  - Tacit Knowledge
    - (e.g. experience, skills & rules of thumb)
    - Judgement-based knowledge
    - Context sensitive to specific situation

- Knowledge Sources
  - Desktop applications
  - E-mail message & attachments
  - Web pages
  - Groupware platforms
    (e.g. Lotus Notes databases)
  - Line-of business databases
  - Paper documents
    (both form-based & free-form)

- Knowledge Management
  - The art of transforming information & intellectual assets into enduring value for an organization's customers & people
  - A discipline that manages & improves the organizational learning process



KM Technologies

- A wide range of technologies
  - Line-of-business Databases
  - Document Management
  - Groupware/Intranet
  - Agents/Push Technology
  - CBR (Case Based Reasoning)
  - etc.

- Evaluating KM Technologies
  - Knowledge Capture & Organization
    - How is knowledge captured
    - Which types of users are allowed to capture or contribute knowledge
    - Which information types and formats are supported
    - Does the system provide ways to categorize the information

  - Knowledge Sharing & Distribution
    - How is information delivered to users
    - Does the system allow users to search for information?
    - What kinds of searches ?
    - Can the system push information to users via e-mail or via channel technology?
    - Can information be related and linked with other information (providing context) ?
    - Does the system allow users to collaborate ?

– Knowledge Refining

- Does the system provide utilities for analyzing the contents of a knowledge base ?
- Can the system project the types of knowledge different users require ?
- Can the system be used for data mining ?

– System Architecture

- Is the system designed for business units ?
- What type of back-end technologies does the product use (operating systems, databases, etc.)?
- Does the system leverage existing groupware infrastructures ? Internet or Intranet infrastructures ?
- Does the system require a dedicated client, or can users access the system via a browser from any machine on any platform (ubiquitous) ?

KBTS System

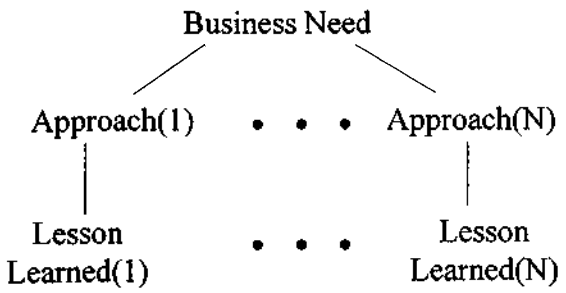
(Knowledge-Based Technical Support System)

- Explicit Knowledge
  ==> Mistakes KMS
- Tacit Knowledge
  ==> Discussion KMS
  (Report with BBS)

- Mistakes Knowledge-Management
  - Why are so many mistakes of the past repeated ?: "Learning from history" (Center for lessions learned)
  - Mistakes Knowledge
    - Not affirmative but negative information
    - Sharing of worst practices (not best practices): "Learn by doing not by planning"

- Mistakes KMS
  - Know-why: knowledge Maps (links between each item of knowledge)
  - Mistakes knowledge items
    - Business Need (Objective, Considerations)
    - Approach (Business process, Technologies, Investment)
    - Lesson Learned (ROI, Reason, Doubt)
    - Pointers to experts

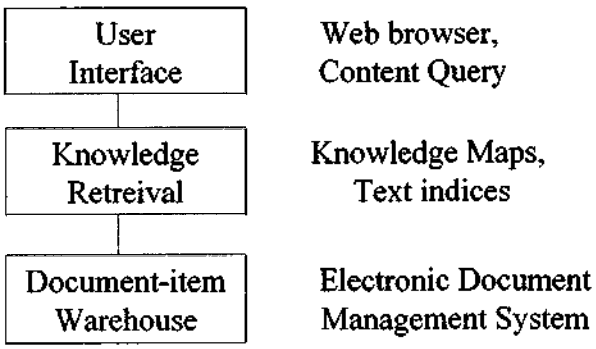
- Mistakes Knowledge Strcuture



- Architecture of Mistakes KMS
  - Document item-based KMS (EDMS)
  - Knowledge Retrieval using Knowledge Maps
    - Text indices
    - Content analysis (identifies and records relationships between document items)
  - Query & Negative Answer

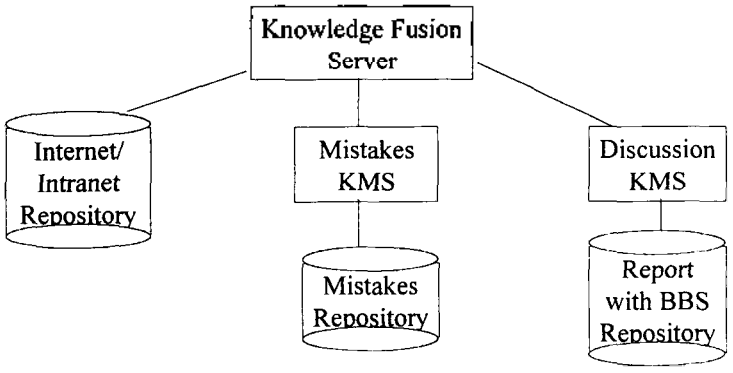
  ==> Mistakes Repository with Complex Search

- Mistakes KMS Architecture



- Discussion KMS
  - Collaborative Computing Model
  - Report with BBS
  - Example

- ECRC KM Architecture



- Distinguished Features
  - Mistakes KM for Explicit Knowledge
  - Collaborative Computing for Tacit Knowledge
  - Knowledge acquisition & sharing
  - Lost cost

Summary

- ECRC
- Knowledge Management
- KM technologies
- KBTS System
  - Mistakes KMS
  - Discussion KMS
  - Distinguished Features