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# KNOWLEDGE ENGINEERING COURSE

## CHAPTER V

## KNOWLEDGE MANAGEMENT TOOLS

# Outline

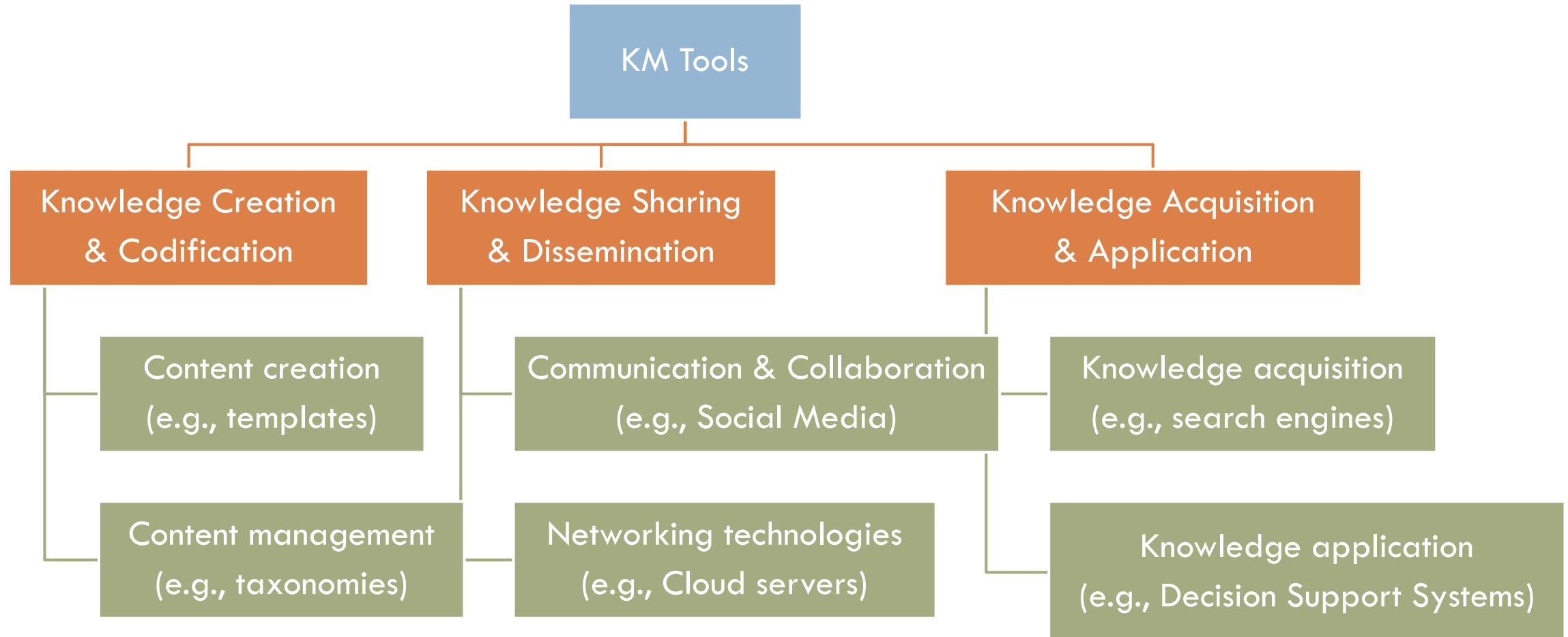


- Introduction
- Knowledge Capture and Creation Tools
- Content Management Tools
- Knowledge Sharing and Dissemination Tools

# Introduction

- KM has the complication that no single tool covers all the bases → a suite or tool kit of technologies, applications, and infrastructures are required to address capturing, coding, sharing, disseminating, applying, and reusing knowledge.
- Implementations of KM require quite diverse tools that come into play throughout the KM cycle.
- Technology plays a pivotal role in enabling seamless communication, fostering collaboration, and managing content.
- Tools come from different disciplines which are in intersection with KM and only few are specific for KM. All need to be appropriately mixed and matched to address the needs of the KM discipline, and the tools included in the KM tool kit must be consistent with the overall business strategy of the organization.
- KM tools often treated as black boxes by most users → data goes in and knowledge magically comes out.

# KM Tools classification (Young 2010)





# Knowledge Capture & Creation Tools

# Tools for Knowledge Capture and Codification

- **Big Data:** Big Data tools handle massive and complex data sets. They facilitate storage, processing, and analysis of large volumes of structured and unstructured data, providing valuable insights for decision-making. Tools like Hadoop, Spark, and NoSQL databases are used to manage and derive insights from large datasets.
- **Data Mining and Knowledge Discovery:** Data mining involves extracting patterns and useful information from large datasets. It uses statistical and machine learning techniques to uncover hidden knowledge within the data. Knowledge discovery is the broader process of identifying valuable information or patterns from data. Tools like RapidMiner and Weka aid in data mining and knowledge discovery.
- **Analytics Visualization Tools and Knowledge Maps:** Analytics visualization tools create visual representations of data to make complex information more accessible and understandable. They help in presenting trends, correlations, and insights in a comprehensible format. Tools like Tableau, Power BI, and D3Js enable the creation of visual dashboards and knowledge maps, aiding in decision-making.

# Tools for Knowledge Capture and Codification

- ❑ **Videos for Exit Interviews:** Exit interviews captured via video provide rich, qualitative data regarding an employee's experience and insights into the organization. Video documentation tools, combined with interview analytics, capture sentiments, experiences, and feedback that text-based surveys might miss.
- ❑ **Folksonomies and Social Tagging/Bookmarking:** Folksonomies and social tagging involve user-generated categorization and labeling of content. They enable the collective organization of information by allowing users to tag or bookmark content with their own keywords. Tools like Del.icio.us (now part of Pinboard) and Diigo offer social bookmarking, fostering collaborative information categorization and retrieval.
- ❑ **Wiki Platforms:** Platforms like Confluence, MediaWiki, and DokuWiki enable collaborative documentation. They provide a user-friendly interface for creating, editing, and organizing knowledge in the form of articles, manuals, and documentation.

# Tools for Knowledge Capture and Codification

- ❑ **Note-Taking and Collaboration Tools:** Tools like Evernote, Microsoft OneNote, and Google Keep offer simple yet effective note-taking functionalities. They allow users to capture and organize information, collaborate, and access content across multiple devices.
- ❑ **Mind Mapping Software:** Mind mapping tools such as MindManager and XMind facilitate the visual organization of thoughts and ideas. They help in capturing and structuring information in a hierarchical and interconnected manner.
- ❑ **Digital Whiteboard Tools:** Digital whiteboard applications like Miro, MURAL, and Lucidspark enable collaborative brainstorming and idea visualization. They help in capturing and organizing group ideas and concepts.
- ❑ **Screen Capture and Recording Tools:** Tools like Snagit, Camtasia, and Loom allow for capturing screenshots, recording video tutorials, and documenting step-by-step processes. These are particularly useful for knowledge transfer and training materials.



# Tools for Knowledge Capture and Codification

- **Voice Transcription Tools:** Tools such as Otter.ai and Dragon NaturallySpeaking aid in converting spoken content into written text. They help in transcribing meetings, interviews, or any spoken knowledge into text format for documentation and future reference.
- **Email Management Tools:** Email organization and management tools like Microsoft Outlook, Gmail, and tools such as Mailbird help capture and structure information by categorizing, labeling, and archiving emails and their content.



# Content Management Tools

# Tools for Content Management

Content management tools organize, store, and manage different forms of content. They facilitate easy access to documents, images, videos, and other information. Tools like SharePoint, Drupal, and WordPress allow for structured content management, version control, and collaborative workflows.

- ❑ **Traditional Web Content Management Systems (WCMS):** designed for creating and managing content on websites. They often include features like blogging, user management, and customizable themes.
  - ▣ **Examples:** WordPress, Joomla, Drupal
- ❑ **Enterprise Content Management Systems (ECMS):** focus on managing enterprise-level content, including documents, records, and workflow processes. They often include version control, access permissions, and collaboration features.
  - ▣ **Examples:** Documentum, Alfresco, M-Files

# Tools for Content Management

- **Collaboration and Knowledge Management Tools:** emphasize collaboration and knowledge sharing among teams. They often include features like wikis, document sharing, and real-time communication.
  - ▣ **Examples:** Confluence, SharePoint, Slack
- **Cloud-Based File Sharing and Storage:** focus on secure file sharing and storage in the cloud, allowing users to collaborate on documents and access them from anywhere.
  - ▣ **Examples:** Box, ShareFile, Google Drive
- **Knowledge Base and Documentation Tools:** specialized in creating and managing knowledge bases, FAQs, and documentation for products or services.
  - ▣ **Examples:** WebProtégé, KnowledgeOwl, Helpjuice, Confluence
- **Social Media Content Management Tools:** help manage and schedule content across various social media platforms.
  - ▣ **Examples:** Hootsuite, Buffer, Sprout Social



# Knowledge Sharing and Dissemination Tools

# Tools for Knowledge Sharing and Dissemination

- **Collaboration and Communication Tools:** facilitate real-time communication, team collaboration, and information exchange through channels, chats, and integrations.
  - ▣ **Examples:** Microsoft Teams, Slack, Discord
- **Document Collaboration Platforms:** allow teams to create, edit, and collaborate on documents in real-time, promoting seamless knowledge sharing.
  - ▣ **Examples:** Google Workspace, Microsoft 365, Dropbox Paper
- **Social Intranet Platforms:** Intranet solutions with social features, fostering knowledge sharing through discussion forums, groups, and user-generated content.
  - ▣ **Examples:** Yammer, Jive, Bitrix24
- **Wikis and Knowledge Bases:** Platforms that allow users to collaboratively create, edit, and share content in a structured and easily accessible manner.
  - ▣ **Examples:** Wikipedia, MediaWiki, TikiWiki

# Tools for Knowledge Sharing and Dissemination

- **Learning Management Systems (LMS):** Platforms designed for creating, managing, and disseminating educational content and training materials.
  - ▣ **Examples:** Moodle, Blackboard, Canvas
- **Webinars and Virtual Meeting Tools:** Tools that enable virtual meetings, webinars, and online presentations, facilitating knowledge dissemination across remote teams.
  - ▣ **Examples:** Zoom, Webex, GoToMeeting
- **Podcasting and Audio Platforms:** Platforms for creating and sharing audio content, including podcasts and discussions, as a form of knowledge dissemination.
  - ▣ **Examples:** Anchor, Spotify, Apple Podcasts
- **Video Sharing and Streaming Platforms:** Platforms for creating, sharing, and streaming video content, supporting visual knowledge dissemination.
  - ▣ **Examples:** YouTube, Vimeo, Microsoft Stream

# Tools for Knowledge Sharing and Dissemination

- **Content Aggregation Tools:** Tools that aggregate content from various sources, providing a curated feed for users to stay informed and share relevant knowledge.
  - ▣ **Examples:** Feedly, Flipboard, Pocket
- **Social Media Platforms:** Social platforms that facilitate knowledge sharing through posts, discussions, and networking within professional or community-oriented contexts.
  - ▣ **Examples:** LinkedIn, Twitter, Facebook
- **Crowdsourcing and Idea Management Platforms:** Platforms that encourage employees or community members to contribute ideas, fostering innovation and knowledge sharing.
  - ▣ **Examples:** IdeaScale, Spigit, Crowdcity
- **Group Calendar Tools:** designed to help teams and organizations manage and share their schedules, events, and appointments collaboratively.
  - ▣ **Examples:** Doodle, Google Calendar, Microsoft Outlook Calendar, Teamup



# Tools for Knowledge Sharing and Dissemination

- **Workflow Tools:** designed to manage and automate the flow of tasks and information within an organization. They define a sequence of steps, conditions, and rules that guide the progression of work from initiation to completion:
  - ▣ Automate repetitive and manual tasks, reducing the likelihood of errors and increasing efficiency.
  - ▣ Assign tasks to specific individuals or groups based on predefined rules and criteria.
  - ▣ Notify users about pending tasks, deadlines, or changes in the workflow.
  - ▣ Monitor the progress of workflows, track performance metrics, and generate reports for analysis.
  - ▣ **Examples:** Microsoft Power Automate, Zapier, Jira



The End.