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CSS3133 Knowledge Management

Unit 04: Knowledge Capture and Codification



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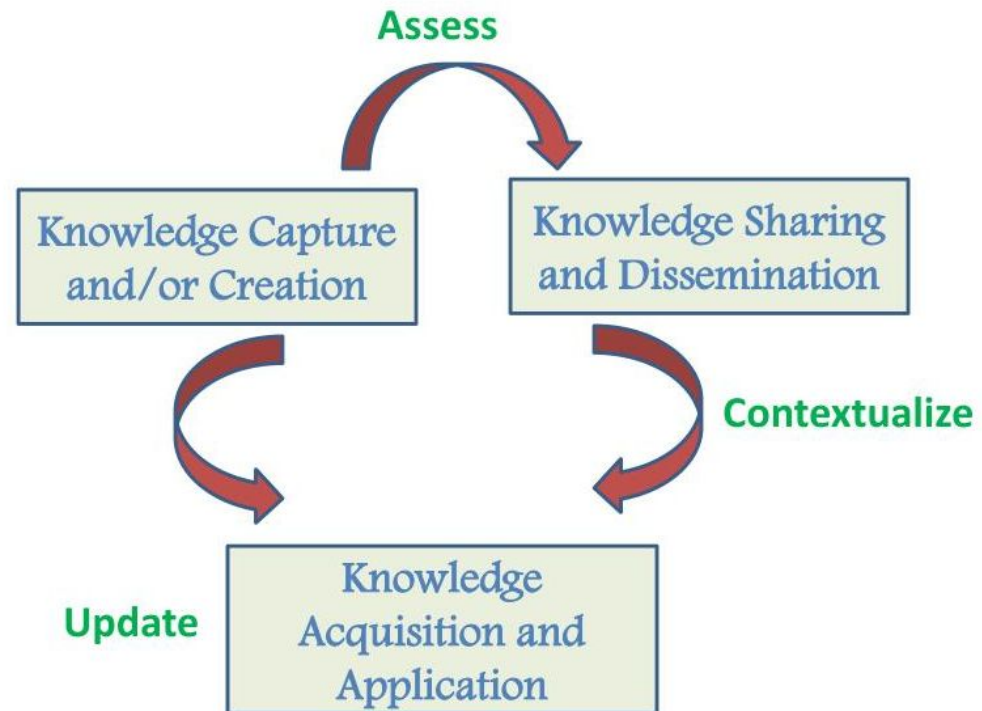
Learning outcomes

- Identify the basic terminology and concepts related to knowledge capture and codification
- Describe the major techniques used to obtain tacit knowledge from subject matter experts
- Define the major roles and responsibilities that come into play during the knowledge capture and codification phase
- List the general taxonomic approaches used in classifying knowledge that has been captured

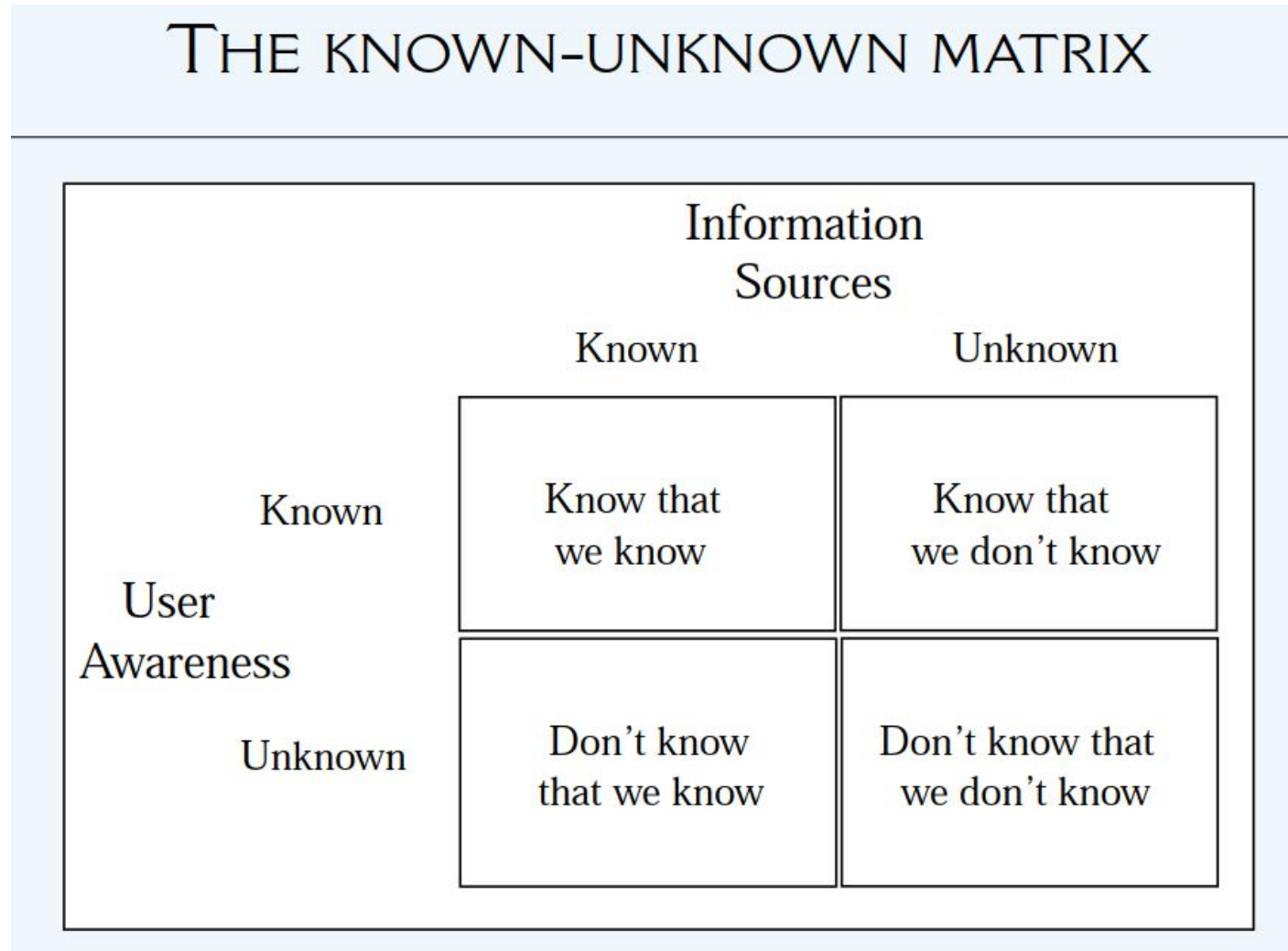
Introduction

- The first high-level phase of the knowledge management cycle begins with **knowledge capture and codification**.
- Knowledge capture spans a whole host of activities and need **to capture both types of knowledge – explicit and tacit**.
- Knowledge capture:
 - The capture or identification of existing knowledge.
 - The capture of new knowledge.
 - The capture of knowledge that we do not know about.

An Integrated KM Cycle



The known-unknown matrix



Knowledge capture and the organisation

- Knowledge has to be captured and codified in such a way that it can become a part of the **existing knowledge base of the organization.**
- In today's fast-paced economy, an organization's knowledge base is quickly becoming its only sustainable competitive advantage.
- Increasingly, competitive advantage is to be gained by making individual knowledge available within the organization, transforming it into organizational knowledge.
 - Organizational knowledge complements individual knowledge, making it stronger and broader.
- As such, this resource must be protected, cultivated, and shared among organizational members.

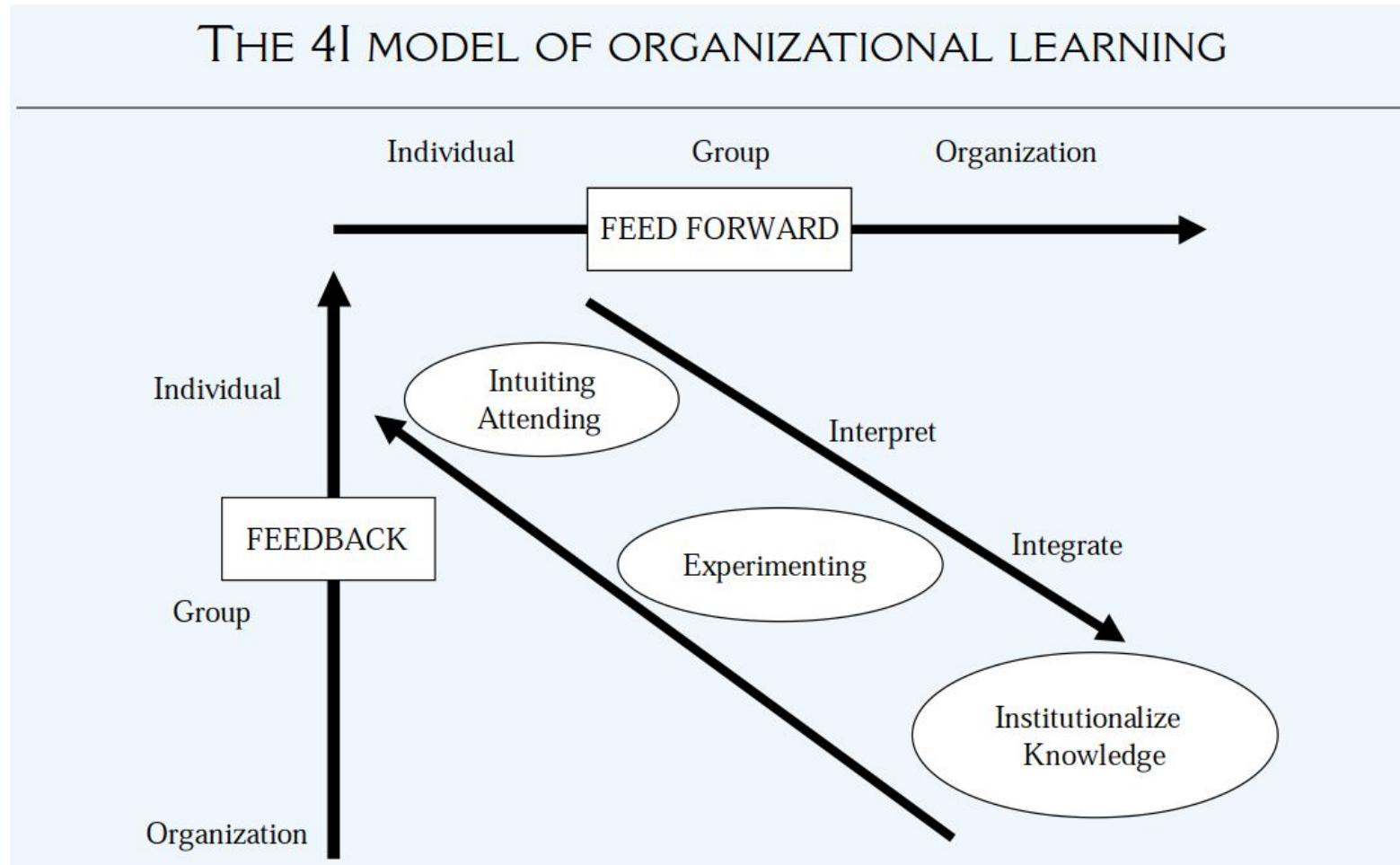
Difficulties in capturing knowledge

- Without doubt knowledge capture may be difficult, particularly in the case of tacit knowledge.
- Knowledge often remains tacit until someone asks a direct question.
- At that point, tacit can become explicit
- However, unless that information is captured for someone else to use again at a later date, learning, productivity, and innovation are stifled.
- Once knowledge is explicit, it should be organized in a structured document that will enable multipurpose use.
- A wide variety of techniques may be used to capture and codify knowledge.
- Many of these techniques have their origins in fields other than knowledge management (e.g., artificial intelligence, sociology, and instructional design), which will be described in the following slides.

Individual learning

- Traditionally, knowledge capture has emphasized the individual's role in gathering information and creating new knowledge.
- However, learning at the individual level is widely accepted to be a fundamentally social process – **something that cannot occur without some form of group interaction.**
 - **Individuals thus learn from the collective, and at the same time the collective learns from individuals.**
- Individual, group, and organizational levels of learning are linked by the social and psychological processes of the 4I model, i.e.
 - Intuiting (and attending)
 - Interpreting (and experimenting)
 - Integrating
 - Institutionalizing
- According to the model, organizational learning involves a tension between assimilating **new learning (exploration) and using what has been learned (exploitation).**

4I model of organizational learning



Tacit knowledge capture

- In KM, knowledge creation or capture may be done by individuals who work for the organization or a group within that organization, by all members of a community of practice (CoP), or by a dedicated CoP individual.
- Within the firm, individuals share perceptions and jointly interpret information, events, and experiences.
 - At some point, knowledge acquisition extends beyond the individuals and is coded into corporate memory.
- Unless such tacit knowledge is embedded into corporate memory, the firm cannot leverage the knowledge held by individual members of the organization.



Knowledge acquisition

- Many of the tacit knowledge capture techniques, also known as knowledge acquisition, derive from techniques that were originally used in artificial intelligence – more specifically, in the development of expert systems.
 - Knowledge acquisition – refer to various techniques such as structured interviewing, protocol or talk aloud analysis, questionnaires, surveys, observation, and simulation.
- Knowledge acquisition from individuals or groups can be characterized as the transfer and transformation of valuable expertise from a knowledge source (e.g., human expert, documents) to a knowledge repository (e.g., corporate memory, intranet).
- This process involves reducing a vast volume of content from diverse domains into a precise, easily usable set of facts and rules

Tacit knowledge capture at individual and group levels

- The approach used to capture, describe, and subsequently code knowledge depends on the type of knowledge:
 - Explicit knowledge is already well described, but we may need to abstract or summarize this content.
 - Tacit knowledge, on the other hand, may require much more significant up-front analysis and organization before it can be suitably described and represented.
 - The ways in which we can tackle tacit knowledge range from simple graphical representations to sophisticated mathematical formulations.

Knowledge engineers & subject matter experts (1)



- In knowledge-based systems or expert systems:
 - knowledge engineers interviewed subject matter experts
 - produced a conceptual model of their critical knowledge
 - Translate the model into a computer-executable model.
- The aim of such systems was to extract and render explicit the primarily procedural knowledge that comprised specialized know-how—typically in a very narrow field.
 - **Procedural knowledge** is knowledge of how to do things, how to make decisions, how to diagnose, The interactions with subject matter experts that were rendered tacit knowledge explicit.

Knowledge engineers & subject matter experts (2)

- The major tasks carried out by knowledge engineers included:
 - Analyzing information and knowledge flow.
 - Working with experts to obtain information.
 - Designing and implementing an expert system.
- Subject matter experts are able to:
 - Explain important knowledge and know-how.
 - Be introspective and patient.
 - Have effective communication skills.

Major approaches to knowledge acquisition

- The following approaches are applicable to tacit knowledge capture:

Tacit Knowledge Capture

Interviewing Experts

Learning By Being Told

Learning By Observation

- However, no one approach should be used to the total exclusion of the others.
- In many cases, a combination of these approaches will be required to capture tacit knowledge.

Knowledge acquisition approaches – structured interviews

- Two of the more popular techniques for optimizing the interviewing of experts:
 - Structured interviewing
 - Stories
- Structured interviewing:
 - Structured interviewing of subject matter experts is the most often used technique to render key tacit knowledge of an individual into more explicit forms.
 - Structured interviewing techniques require strong communication and conceptualization skills.
 - In addition, interviewers need to have a good grasp of the subject matter at hand.
 - Structured interviews may also be used to clarify or refine knowledge originally elicited during unstructured interactions.
 - Two major types of questions are used in interviewing:
 - Open questions
 - Closed questions



Types of questions in interviews – open questions

- Open questions:
 - tend to be broad and place few constraints on the expert.
 - They are not followed by choices because they are designed to encourage free response
 - These types of questions allow interviewers to observe the expert's use of key vocabulary, concepts, and frames of reference.
 - The expert can also offer information that was not specifically asked for, e.g.
 - “How does that work?”
 - “Why did you choose this one rather than that one?”
 - “What is your general reaction to . . . ?”

Types of questions in interviews – closed questions

- Closed questions:
 - Set limits on the type, level, and amount of information an expert will provide.
 - A choice of alternatives is always given.
 - A moderately closed question would be something like:
 - “which symptom led you to conclude that ...?”
 - A very strong closed question is one that can only be answered by yes or no.

Reflective listening

- The structured interviewing process is primarily a people-focused one, and techniques such as reflective listening serve to facilitate the interactions can greatly contribute to the successful outcome of such sessions.
- Reflective listening helps in cases where words may have multiple meanings.
- The interview participants may hold very different mental models, and personal characteristics such as background, attitude, training, and level of comfort with current position in the organization, may influence how an expert communicates his or her knowledge.
- **Major techniques used in reflective listening include:**
 - Paraphrasing
 - Clarifying
 - Summarizing
 - Reflecting feelings



Reflective listening techniques (1)

- **Paraphrasing:**

- Its the restating of the perceived meaning of the speaker's message but using your own words.
- The goal is to check the accuracy with which the message was conveyed and understood.
- Examples include:
 - "What I believe you said was..."
 - "If I am wrong, please correct me but I understood you to say..."

- **Clarifying:**

- lets the expert know that the message was not immediately understandable.
- These responses encourage the expert to elaborate or clarify the original message so that the interviewer gets a better idea of the intended message.
- One should always focus on the message and not on the expert's ability to communicate, and the expert should be encouraged to elaborate or explain by using open questions wherever possible.
- Examples include:
 - "Could you please explain..."
 - "Please repeat that last part again..."

Reflective listening techniques (2)

- **Summarizing:**

- This helps the interviewer compile discrete pieces of information and form a knowledge acquisition session into a meaningful whole.
- It also helps confirm that the expert's message was heard and understood correctly.
- The summary should be expressed in the words of the interviewer.
- Examples would be:
 - "To sum up what you have been saying..."
 - "I believe that we are in agreement that..."

- **Reflecting feelings:**

- mirrors back to the speaker the feelings that seem to have been communicated.
- The main focus is on emotions, attitudes, and reactions, and not on the content itself.
- The purpose is to clear the air of some emotional reaction or negative impact of the message.
- Some examples are:
 - "You seem frustrated about..."
 - "I sense that you are uncomfortable with..."


Post-interview actions

- Transcripts of interviews are then analyzed in order to identify key concepts, common themes, and major methods or techniques that were mentioned.
 - If multiple experts were interviewed for the same procedure or subject, **then conflict resolution might be needed.**
 - Usually, each individual will be interviewed more than once so that interviewers can **validate their understanding** of the knowledge that has been elicited, fill in any missing gaps, and better conceptualize the content in an organized manner.
 - Each interview will raise additional questions, whether these are aimed at clarifying, correcting, or expanding upon critical elements.
 - After a number of interviews and follow-up sessions, the interviewer will be able to start identifying key themes and have a preliminary framework for organizing these themes.
 - Unlike the initial interview sessions, where new content is generated and captured, subsequent interviews are more focused and target a more detailed level.
- The best test of whether enough content has been captured is to switch roles:
 - the interviewer can assume the role of novice practitioner and verbally or physically go through the key tasks discussed to date.
 - The interviewee can then validate until both are satisfied that the knowledge has been understood and captured in as complete and valid a manner as possible.

Stories

- This is another excellent vehicle for **both capturing and coding tacit knowledge.**
- **A story can be defined as the telling of a happening or a connected series of happenings, whether true or fictitious.**
- An organizational story is a detailed narrative of management actions, employee interactions, and other intra-organizational events that are communicated informally within the organization.
- Conveying information in a story provides a rich context:
 - **Causing the story to remain in the conscious memory longer**
 - **Creating more memory traces than is possible with information not in context.**
- Stories can...
 - **Greatly increase organizational learning**
 - **Communicate common values and rule sets**
 - **Serve as an excellent vehicle for capturing, coding, and transmitting valuable tacit knowledge.**

Storytelling conditions

- A number of conditions must be in place, however, in order to ensure that storytelling in its various enacted forms creates value in a particular organization.
 1. While all stories are narratives, not all narratives are good knowledge-sharing stories.
 - Movies, which tell stories, are primarily used to entertain and therefore need not necessarily be authentic—or even believable.
 - In organizational storytelling, stories are often used to promote knowledge sharing, inform, and/or prompt a change in behavior, as well as communicate the organizational culture and create a sense of belonging.
 - Therefore, knowledge-sharing stories need to be authentic, believable, and compelling. 
 2. Stories need to evoke some type of response, and, above all, they need to be concise.
 - the moral of the story or the organizational lesson to be learned should be easily understood, remembered, and acted upon.
 - In other words, organizational stories should have an impact:
 - ❖ They should prevent similar mistakes from being repeated, or
 - ❖ They should promote organizational learning and adoption of best practices stemming from the collective organizational memory.

Springboard story

- This is a brief story that has the ability to create a strong impact on its audience.
- Key elements required to use stories to encapsulate valuable knowledge include:
 - The explicit story should be relatively brief and detailed just enough that the audience can understand it.
 - The story must be intelligible to the specific audience so that they are “hooked.”
 - The story should be inherently interesting.
 - The story should spring the listener to a new level of understanding.
 - The story should have a happy ending.
 - The story should embody the change message.
 - The change message should be implicit.
 - The listeners should be encouraged to identify with the protagonist.
 - The story should deal with a specific individual or organization.
 - The protagonist should be prototypical of the organization’s main business.
 - Other things being equal, true is better than invented.
 - One should test, test, and test again.

Fables

- The use of fables is often quite helpful in capturing tacit knowledge.
- A fable can consolidate multiple viewpoints and recollections of different individuals because it is not dependent on a single story to deliver its message.
- A simple approach is to invite participants to a workshop where they are given several classic fables to read:
 - They are asked to recollect some of what they have heard and to identify the lesson to be learned in each.
 - Participants are given a fable minus the “punch line,” and they are asked to fill in the moral of the story.
 - Asking for a punch line is a highly effective way of acquainting participants with the objectives of stories or the purpose of organizational storytelling—that is, what the reader should learn from it.
 - Participants also become sensitized to the fact that stories, like fables, need to be concise.
 - Finally, the best way to end a fable—the punch line—is to have an ironic end in which the reader realizes how a happy ending could have come about without the narrative actually stating this in any form.



Example of capturing tacit knowledge – IBM (1)

- IBM views stories as a powerful means of knowledge discovery and knowledge transfer.
- Storytelling workshops can be run to elicit the knowledge and cultural values of an organization as well as both its best and worst practices.
- It has a four-stage storytelling approach:
 1. Anecdotal elicitation through interviews, observation, and story circles
 2. Anecdotal deconstruction to analyze cultural issues, ways of working, values, rules, and beliefs to yield the story's key messages
 3. Intervention/communication design with a story constructed or enhanced
 4. Story deployment.

Example of capturing tacit knowledge – IBM (2)

- Capturing anecdotal or tacit knowledge...
 - Builds an accurate picture of the existing culture
 - Discloses enablers and inhibitors to sharing
 - Identifies business issues:
 - Values – moral principles or standards – are identified
 - Rules – the code of discipline that drives or conforms behavior – are also identified
 - Beliefs – the collection of ideas that a community regards as true or shares faith in – are elicited
- Once anecdotes are captured, they can be stored in a repository and aligned with communities, processes, and subject areas.
 - They can then be used to trigger and support discussion forums (e.g., lunch and learn), databases, intellectual capital management systems (e.g., training), document management systems, bulletin boards, online chats, portals (e.g., community kickoff days), and intranets (e.g., competency/skill profiling).

Example of capturing tacit knowledge - Xerox

- Xerox provides lots of rich environments where people can share:
 - Online Knowledge Universe with a catalog of best practices
 - Chat rooms for CoPs,
 - A company Yellow Pages
 - A section of the public website, Knowledge Street, which is devoted to promoting knowledge sharing.
- However, it is, of course, not enough to create such environments.
- Also required are good ideas, leadership, and motivated people.
 - Its employees in Dallas were not using a software called Eureka.
 - The management therefore decided workers needed an incentive to change by holding a contest in which workers could win points (convertible into cash) each time they solved a customer problem, by whatever means.
 - The winner was an eight-year veteran named Carlos, who really knew his stuff and more importantly, he never used the software.
 - The runner-up Trish, however, was a shock to everyone as she had been with the company only a few months, had no previous experience with copiers, and did not even have the software on her machine. Yet she scored double the points of the third-placed winner.
 - Her secret: she sat right across from Carlos. She overheard him as he talked, and she persuaded him to show her the inner workings of copiers during lunch breaks.
 - She asked other colleagues for tips too.
- This story illustrates how knowledge gets shared.

Informal storytelling

- There is no single best practice for sharing knowledge – both technology and subject matter experts are needed.
- Sometimes storytelling is the best way to transfer knowledge.
 - Even if most managers see this as a waste of time
- Instead of breaking up the coffee machine cliques, companies should make opportunities for storytelling at...
 - Informal get-togethers that are loosely organized as offsite meetings
 - Videotapes and bragging sessions.

Knowledge acquisition approaches – Learning by being told

- In this approach,
 - The interviewee expresses and refines his or her knowledge
 - At the same time, the knowledge manager clarifies and validates the knowledge artifact that renders this knowledge in explicit form.
- This form of knowledge acquisition typically involves:
 - **Domain and task analysis:**
 - Looks at each key task an expert performs and characterizes the tasks in terms of prerequisite knowledge/skills required, criticality, consequences of error, frequency, difficulty, and interrelationships with other tasks and individuals, as well as how the task is perceived by the person (routine, dreaded, or eagerly anticipated).
 - **Process tracing & protocol analysis:**
 - Adapted from psychological techniques.
 - They involve asking the subject matter expert to “think aloud” as he or she solves a problem or undertakes a task.
 - The information used, questions asked, actions taken, alternatives considered, and decisions taken are the types of knowledge acquired in such sessions
 - **Simulations:**
 - Especially effective for later stages of knowledge acquisition, validating, refining, and completing the knowledge capture process.
 - Tools may include software programs and “props” such as models, schematics, and maps.

Knowledge acquisition approaches – Learning by observation (1)

- This approach involves presenting the expert with a sample problem, scenario, or case study that the expert then solves.
 - Expertise is a demonstration of the application of knowledge.
 - There are at least two types of discernible expertise:
 - Skill or motor based (e.g., operating a piece of machinery, riding a bike)
 - Cognitive expertise (e.g., making a medical diagnosis).
- Although we cannot observe someone's knowledge, we can observe and identify expertise.

Knowledge acquisition approaches – Learning by observation (2)

- The key is to use audio or video to record what the expert knows.
 - video recordings of informal and unrehearsed expert demonstrations form a permanent record of task knowledge – one that can be mined repeatedly.
 - It is important to note one that should always accommodate the particular expert or interviewee at all times.
 - Many individuals end up feeling much less comfortable if they know they are being recorded.
 - A good compromise is to bring along recording equipment but allow the subject the choice and hand over the controls to them—so they can mute whenever they wish to “speak off the record.”
 - For physical demonstrations, inexpensive digital camcorders are recommended.
 - For software demonstrations, screen capture movie software that records the action directly from the desktop is recommended.
- Together, simple equipment and simple techniques can capture an amazing range of information and demonstrations.

Knowledge acquisition approaches – Other methods (1)

- A number of other techniques may be used to capture tacit knowledge from individuals and from groups, including:
 - **Ad hoc sessions:**
 - A means of rapidly mobilizing a community of practice or informal professional network to a member's call for help.
 - This is usually brainstorming sessions, no more than 30 minutes, and can be face-to-face meetings or via technologies such as instant messaging, e-mail, teleconferencing, and chat rooms.
 - **Road maps:**
 - more formal in nature, and tend to be facilitated problem-solving meetings that are scheduled, convened, and follow an agenda.
 - The focus is on solving day-to-day problems in a public forum.
 - This often leads to the development of guidelines and even standards for continuous process improvement within the company.
 - These sessions may also be “registered” so that they can also be used for internal benchmarking initiatives.

Knowledge acquisition approaches – Other methods (2)

– Learning histories:

- represent a retrospective history of significant events that occurred in the organization's recent past, as described in the voice of the people who took part in them.
- The learning history process consists of
 - Planning:
 - » Establishes the scope of the learning history to be captured
 - Reflective interviews:
 - » Consists of asking participants to talk about what happened from their own point of view.
 - » The capture and codification of these insights will help increase the organization's reflective capacity.
 - Distillation:
 - » Consists of synthesizing the information that was gathered from the interviews into a summary format that will make it very easy for others to access, read, and understand.
 - Writing, Validation and Published for dissemination, anchoring it as part of the organizational memory.

Knowledge acquisition approaches – Other methods (2)

– **Action learning:**

- Based on the fact that people tend to learn by doing.
- Small groups can be formed with participants who share common issues, goals, or learning needs.
- They can meet regularly, report on progress, brainstorm alternatives, try out new things, and evaluate the results.
- This is a form of task-oriented group work and learning that is well suited for narrow, specialized domains and specific issues.

– **E-learning:**

- Typically involves capturing valuable procedural knowledge, documenting a history of all procedural changes, and explaining or justifying for the changes made.
- In this way, a historical thread is maintained, and the context within which changes were deemed to be necessary is not lost.
- Online courses could then be created based on the information from threaded discussion archives.

– **Learning from others:**

- One typical way is through inviting guest speakers and benchmarking against best practices.
 - Typically, they give a seminar or workshop and leave behind a set of reference materials.

The key steps in knowledge acquisition

- The key steps involved in knowledge acquisition at the individual and group level.
 - **Identification:** refers to the process of characterizing key problem aspects such as participants, resources, goals, and existing reference materials.
 - **Conceptualization:** involves specifying the key concepts and the key relationships among them in the form of a concept or knowledge map.
 - **Codification:** renders this validated content into an explicit form that can then be more readily disseminated throughout the organization.

Recordkeeping in knowledge acquisition

- The importance of **recordkeeping during knowledge capture, especially tacit knowledge capture, cannot be emphasized enough.**
- **Original transcripts, recordings, and reference materials** need to be carefully organized in a knowledge acquisition database.
- The source of each piece of key knowledge must be carefully recorded for future reference, and key findings should also be systematically captured.
- Templates are often used to structure and standardize knowledge acquisition processes.
- **Sending back transcripts and summary forms to the people interviewed serves to validate and complete the content**
- It also gives the interviewee the chance to edit comments so that they are not taken out of context.



Tacit knowledge capture at the organizational level (1)

- Organizational knowledge acquisition is a qualitatively different process from that which occurs at individual and group levels, as it takes place on a more macro level.
- There are 4 major organizational knowledge acquisition processes:
 - **Grafting:**
 - Involves the migration of knowledge between firms.
 - This is typically achieved through **mergers, acquisitions, or alliances** in that there is a direct passing of explicit knowledge between firms.
 - **Vicarious learning:**
 - Processes occur through **one firm observing other firms'** demonstrations of techniques or procedures.
 - This is typically achieved through benchmarking studies where companies can adopt the best practices of other industry leaders.
 - Knowledge acquired is more tacit than through grafting, usually involving learning how to do something or know-how.



Tacit knowledge capture at the organizational level (2)

– **Experiential learning:**

- involves knowledge acquisition within a given firm, created by **doing and practicing**.
- **Repetition-based experience** relies on the learning curve to establish routines and procedures.
- This type of knowledge is initially tacit but can be easily codified and transferred.

– **Inferential processes:**

- **learning is within the firm and occurs by doing.**
- However, knowledge acquisition occurs primarily through interpretation of events, states, changes, and outcomes relative to the activities undertaken and decisions made.
- Learning is experimental, deductive learning that seeks to make sense of occurrences and to establish causal links between actions and outcomes.
- This type of learning is sometimes called double-loop learning because it involves changing underlying assumptions and frameworks (adaptivity for effectiveness).

- The results of all four types of organizational knowledge capture will ultimately reside in some type of **knowledge repository**.
- This is the recipient of organizational memory, and containers are usually some form of database on an intranet or extranet.



Explicit knowledge codification (1)



- This is the next stage of leveraging knowledge.
- **By converting knowledge into a tangible, explicit form such as a document, that knowledge can be communicated much more widely and with less cost.**
- **Interaction is limited in scope** to those within hearing or able to have face-to-face contact.
- **Documents can be disseminated widely over a corporate intranet, and they persist over time, which makes them available for reference as and when they are needed, both by existing and by future staff.**
- They constitute the only “real” corporate memory of the organization.
- There are costs and difficulties associated with knowledge codification.
 - The first issue is that of quality, which encompasses:
 - **Accuracy**
 - **Readability/Understandability**
 - **Accessibility**
 - **Currency**
 - **Authority/Credibility**

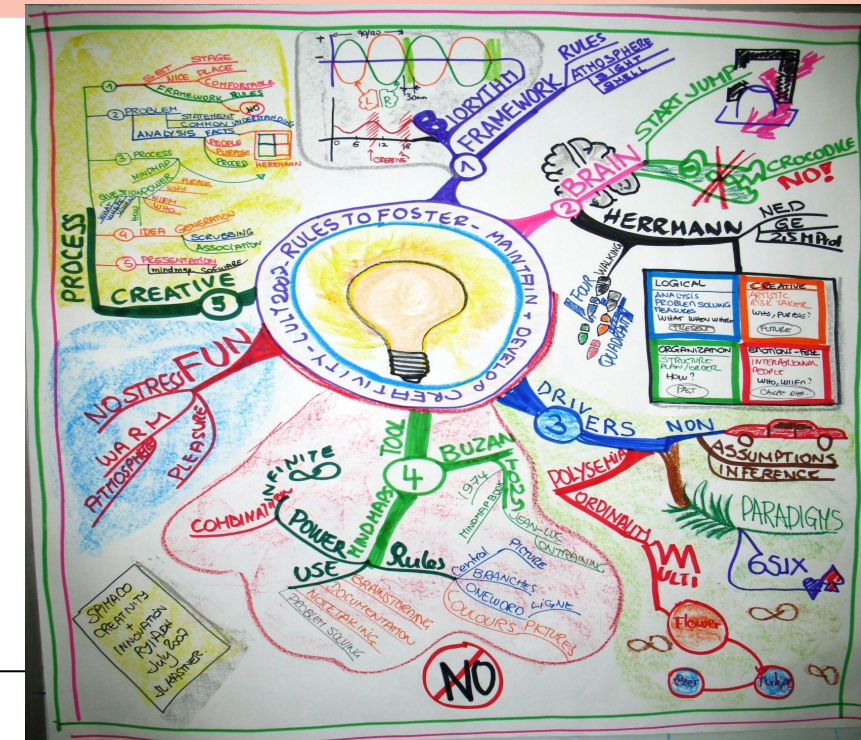
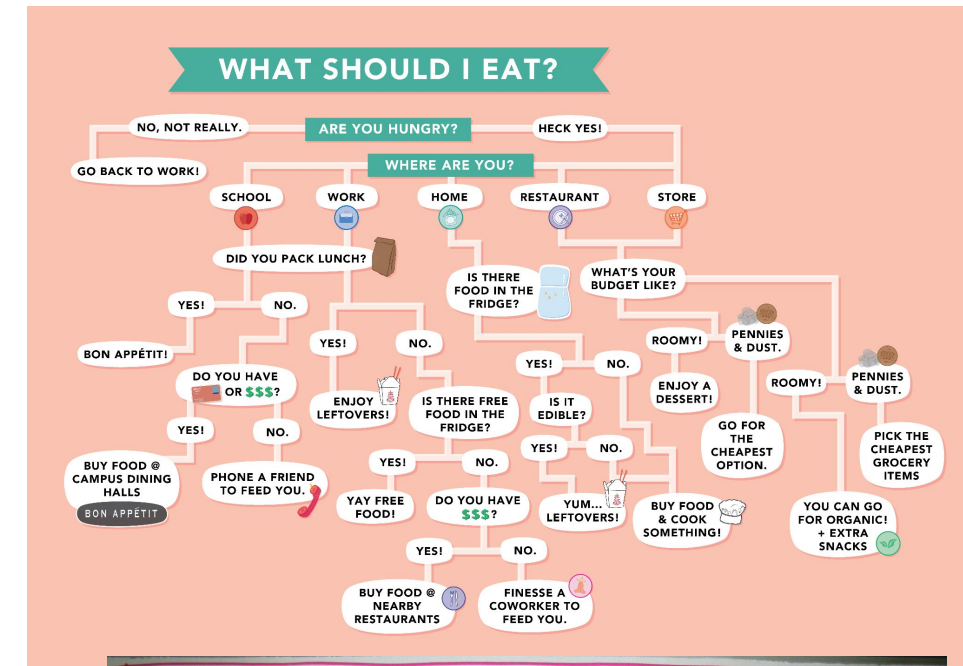


Explicit knowledge codification (2)

- Knowledge codification serves the pivotal role of allowing what is collectively known **to be shared and used.**
- If knowledge is codified in a material way (i.e., it is rendered explicit), then it can be shared more widely in terms of both audience and time duration.
- The codification of explicit knowledge can be achieved through a variety of techniques such as:
 - **cognitive mapping**
 - **decision trees**
 - **knowledge taxonomies**
 - **task analysis**

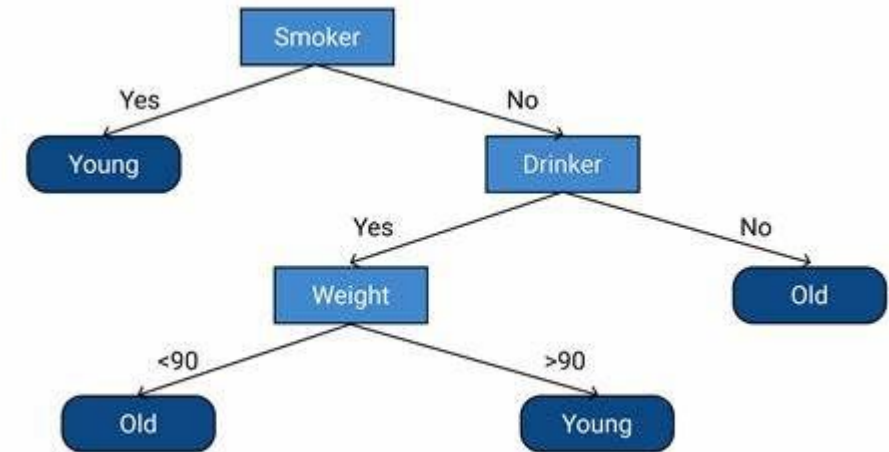
Cognitive maps

- Once expertise, experience, and know-how have been rendered explicit, the resulting content can be represented as a cognitive map.
- A cognitive or knowledge map is a representation of the “mental model” of a person’s knowledge and provides a good form of codified knowledge.
 - Mental model: a symbolic or qualitative representation of something in the real world.
- The nodes in a map are the key concepts, and the links represent the inter-relationships between the concepts.
- These may be drawn manually by taping small note pages on a wall, a whiteboard, or visualization software, ranging from simple brainstorming mapping tools to 3-D depictions.



Decision trees

- Decision trees are another widely used method to codify explicit knowledge.
- This representation is both compact and efficient.
- The decision tree is typically in the form of a flowchart, with alternate paths indicating the impact of different decisions being made at that juncture point.
- A decision tree can represent many “rules,” and when you execute the logic by following a path down it, you are effectively bypassing rules that are not relevant to the case in hand.
- Their graphical nature makes them very easy to understand, and they are obviously very well suited for the coding of process knowledge.



Knowledge Taxonomies

- Taxonomies are **basic classification systems** that enable us to describe concepts and their dependencies – typically in a **hierarchical fashion**.
 - The **higher** up the concept is placed, the **more general** or generic the concept is.
 - The lower the concept is placed, the more specific an instance it is of higher-level categories.
- Knowledge taxonomies allow knowledge to be graphically represented in such a way that it reflects the organization of concepts within a particular field of expertise or for the organization at large.
 - A knowledge dictionary is a good way to keep track of key concepts and terms that are used.
 - This may be compiled as you acquire and code knowledge.
 - It should clearly define and clarify the professional “jargon” of the subject matter domain.
- When creating a knowledge taxonomy of the organization, it is vitally important to identify content owners.
 - This helps ensure that content will always be kept up to date.
 - The organization will also have a clear idea of which staff members are holders of specialized knowledge.
- This knowledge taxonomy (sometimes called a knowledge map) should also make use of metadata, tagging on “information about information”.

Strategic implications of knowledge capture and codification

- Knowledge capture and codification are particularly critical when an issue of knowledge continuity arises.
 - **Knowledge management** is concerned with capturing and sharing know-how valuable to colleagues performing similar jobs throughout a company.
- **Knowledge continuity management** focuses on passing critical knowledge from **exiting employees to their replacements**.
 - **Knowledge continuity** should not only focus on the specific knowledge to be transferred between individuals but should also address strategic concerns at group and organizational levels.
- At its core, knowledge continuity management is about communication.
 - Employees need to understand just what it is that they know, that others need to know, and why this content needs to be shared with their peers.
 - The more sophisticated, complex, and tacit the worker's knowledge, the more difficult it will be to pass on – and even more important that it be passed on.

Securing knowledge capture and acquisition

- These raise important questions concerning security and access, in addition to a code of ethics that ensures that all concerned are treated in a professional manner.
- Recommendations include:
 - **Set up a knowledge profile for all critical workers.**
 - **Foster mentoring relationships.**
 - **Encourage communities of practice.**
 - **Ensure that knowledge sharing is rewarded.**
 - **Protect people's privacy.**
 - **Create a bridge to organizational memory for long-term retention of the valuable content.**

Practical implications of knowledge capture and codification



- Recommendations for promoting knowledge capture and codification:
 1. **Acknowledge knowledge contributors:**
 - Acknowledge workers who not only create original content, but also help improve the content over time by adding context from customer interactions.
 - KM software should offer reports to identify those who are contributing, or help to tap the tacit knowledge by building profiles of experts based on their contributions.
 2. **Remember to forget:**
 - The role of unlearning or reframing cannot be emphasized enough.
 - Unlearning involves disposing of old frameworks and breaking away from the status quo, and also involves responses to mistakes, as failures can play an important role in knowledge acquisition and deployment.
 3. **Don't spill any knowledge during transfer.**
 - Conversion of tacit to explicit knowledge must be accomplished without significant loss of knowledge.
 4. **Remember the paradox of knowledge value.**
 - The more tacit knowledge is, the more value it holds.
 - Tacit knowledge is generally of greater value and of greater competitive advantage to a firm. It may be in the firm's interest to maintain that content at a certain minimal level of tacitness so that it is not easily acquired or imitated by others.

Summary

- Firms need to adapt and adjust to some degree if they are to survive.
- Firms need to learn—the question is whether they do so in an ad hoc informal manner or whether there is deliberate intention to learn.
- Emergent knowledge acquisition (Malhotra, 2000) is spontaneous and unplanned. Because it is haphazard, there is no guarantee that anything will be retained in the organization's corporate memory.
- Methodical, systematic, intentional knowledge acquisition is of great strategic value to a firm.
- Knowledge bases must be populated and contents deployed in order to maximize efficiency and effectiveness throughout the organization.

Unit checkpoint

1. Why is it difficult to directly codify tacit knowledge?
2. What are some of the pitfalls that may be encountered in capturing tacit knowledge? How would you address these pitfalls?
3. What is the purpose of a learning history? What are its key components?
4. What are the major taxonomic approaches to codifying knowledge that has been captured? What sorts of criteria would help you decide which one(s) to use in a given organization? How would you maintain such a taxonomy?
5. Define knowledge continuity management and discuss its strategic implications for knowledge capture and codification.