CAPTURING TACIT KNOWLEDGE
Main Topics

- The Knowledge Capture Process
- How To Identify Experts
- Single vs. Multiple Experts (Pros and Cons)
- Interview As Knowledge Capture Tool
- Sources of Errors and Problems in Interview
### Stages of KMSLC

1. Evaluate Existing Infrastructure
2. Form the KM Team
3. Knowledge Capture
4. Design KM Blueprint
5. Verify and validate the KM System
6. Implement the KM System
7. Manage Change and Rewards Structure
8. Post-system evaluation

**Iterative Rapid Prototyping**
What Is Knowledge Capture?

- A process by which the expert’s thoughts and experiences are captured.
- A knowledge developer collaborates with an expert to **convert expertise into a coded program**.
- Knowing how experts know what they know.
Improving the Knowledge Capture Process

- Focus on how experts approach a problem
- Look beyond the facts or the heuristics
- Re-evaluate how well the problem domain is understood
- How accurate the problem is modeled
Using a Single Expert

**Advantages:**

- Ideal when building a simple KM system
- A problem in a restricted domain
- Easier coordination for knowledge capture
- Conflicts are easier to resolve
- Shares more confidentiality than does multiple expert
Using a Single Expert (cont’d)

**Drawbacks:**

- Expert’s knowledge is not easy to capture
- Single expert provides only a single line of reasoning
- Single expert more likely to change scheduled meetings than experts in a team
- Expert knowledge is sometimes dispersed
Using Multiple Experts

**Advantages:**

- Complex problem domains benefit from expertise of more than one expert
- Working with multiple experts stimulates interaction
- Allow alternative ways of representing knowledge
- Formal meetings often a better environment for generating thoughtful contributions
Using Multiple Experts (cont’d)

**Drawbacks:**

- Scheduling difficulties
- Disagreements often occur among experts
- Confidentiality issues
- Requires more than one knowledge developer
- Process loss in determining a solution
Developing a Relationship With Experts

- Create the right impression
- Do not underestimate the expert’s experience
- Prepare well for the session
- Decide where to hold the session
Styles of expert’s expressions

- **Procedure type**
  - methodical approach to the solution

- **Storyteller**
  - focuses on the content of the domain at the expense of the solution

- **Godfather**
  - compulsion to take over the session

- **Salesperson**
  - spends most of the time explaining his or her solution is the best
Approaching Multiple Experts

- **Individually**

- **Primary and secondary**
  - Start with the senior expert first, on down to others in the hierarchy.

- **Small groups**
  - Each expert tested against expertise of others in the group
Watch Out! Analogies and Uncertainties

- Experts use analogies to explain events.
- Expert’s knowledge is the ability to take uncertain information and use a plausible line of reasoning to clarify the fuzzy details.
- Reliable knowledge capture requires understanding and interpreting expert’s verbal description of information, heuristics, etc.
The Interview As a Tool

- Commonly used in the early stages of tacit knowledge capture
- The voluntary nature of the interview is important
- Interviewing as a tool requires training and preparation
- Convenient tool for evaluating the validity of information acquired
Types of Interviews

- **Structured**: Questions and responses are definitive. Used when specific information is sought.

- **Semi-structured**: Predefined questions are asked but allow expert some freedom in expressing the answers.

- **Unstructured**: Neither the questions nor their responses specified in advance. Used when exploring an issue.
Variations of Structured Questions

- **Multiple-choice questions** offer specific choices, faster tabulation, and less bias by the way answers are ordered.
- **Dichotomous (yes/no) questions** are a special type of multiple-choice question.
- **Ranking scale questions** ask experts to arrange items in a list in order of their important or preference.
Guide to a Successful Interview

- Set the stage and establish rapport
- Properly phrase the questions
- Question construction is important
- Listen closely and avoid arguments
- Evaluate session outcomes
Things to Avoid

- Taping a session without advance permission from the expert
- Converting the interview into an interrogation
- Interrupting the expert
- Asking questions that put the domain expert on the defensive
Things to Avoid (Cont’d)

- Losing control of the session
- Pretending to understand an explanation when you actually don’t
- Promising something that cannot be delivered
- Bring items not on the agenda
Sources of Error that Reduce Information Reliability

- Expert’s perceptual slant
- Expert’s failure to remember just what happened
- Expert’s fear of the unknown
- Communication problems
- Role bias
Errors Made by the Knowledge Developer

- Age effect
- Race effect
- Gender effect
Problems Encountered During the Interview

- Response bias
- Inconsistency
- Communication difficulties
- Hostile attitude
- Standardized questions
- Lengthy questions
- Long interview
End of Lecture Four
Nonaka’s Model of Knowledge Creation and Transformation

<table>
<thead>
<tr>
<th>Tacit to Tacit (Socialization)</th>
<th>Tacit to Explicit (Externalization)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.G., Individual and/or team meetings</td>
<td>E.G., Write memo of a meeting</td>
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<table>
<thead>
<tr>
<th>Explicit to Tacit (Internalization)</th>
<th>Explicit to Explicit (Combination)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E.G., Learn from a manual</td>
<td>E.G., Create a website from some form of explicit knowledge</td>
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KNOWLEDGE INFRASTRUCTURE

- **People core**: Evaluate employee profiles
- **Content core**: Identify knowledge centers
- **Technical core**: The total technology required to operate the knowledge environment
Layers of KM Architecture

1. **User Interface**
   (Web browser software installed on each user’s PC)

2. **Authorized access control**
   (e.g., security, passwords, firewalls, authentication)

3. **Collaborative intelligence and filtering**
   (intelligent agents, network mining, customization, personalization)

4. **Knowledge-enabling applications**
   (customized applications, skills directories, videoconferencing, decision support systems, group decision support systems tools)

5. **Transport**
   (e-mail, Internet/Web site, TCP/IP protocol to manage traffic flow)

6. **Middleware**
   (specialized software for network management, security, etc.)

7. **The Physical Layer**
   (repositories, cables)

- Databases
- Legacy applications (e.g., payroll)
- Groupware (document exchange, collaboration)
- Data warehousing (data cleansing, data mining)
## Elements in Build vs. Buying

<table>
<thead>
<tr>
<th>Option</th>
<th>Cost</th>
<th>Time Factor</th>
<th>Customization</th>
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</thead>
<tbody>
<tr>
<td>In-house development</td>
<td>Usually high</td>
<td>Much lower than development by user</td>
<td>High, depending on quality of staff</td>
</tr>
<tr>
<td>Development by end users</td>
<td>Usually low</td>
<td>Depends on skills set, system priority, and so forth</td>
<td>High to the user specifications</td>
</tr>
<tr>
<td>Outsourcing</td>
<td>Medium to high</td>
<td>Shorter than in-house</td>
<td>High</td>
</tr>
<tr>
<td>Off-the-shelf Solution</td>
<td>Low to medium</td>
<td>Nil</td>
<td>Usually up to 80% usable</td>
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</tbody>
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