Putting the knowing organization to value

Prof. Chun Wei Choo
Wittenburg, 10 June 1998

Three modes of information use in organizations

<table>
<thead>
<tr>
<th>Model</th>
<th>Process</th>
<th>Modes</th>
<th>Interactions / Resources</th>
</tr>
</thead>
</table>
| SENSE-MAKING   | Environmental change ◆ Enactment, selection, retention ◆ Enacted interpretations
               | "Looking backward": Retrospective sensemaking       | • Belief-driven processes                                             |                         |
| KNOWLEDGE CREATING | Knowledge-gap situation ◆ Tacit, explicit, cultural knowledge ◆ Knowledge conversion, building, linking ◆ New knowledge
              | "Looking across many levels": Multilevel learning from individuals, groups, organizations | • Knowledge conversion                                             |                         |
| DECISION MAKING | Choice situation ◆ Alternatives, outcomes, preferences ◆ Rules, routines ◆ Decisions
                | "Looking ahead": Goal-directed, future-oriented     | • Rational                                                            |                         |
                                                                      |                                                                 | • Process                                                             |
                                                                      |                                                                 | • Political                                                           |
                                                                      |                                                                 | • Anarchic                                                            |

SENSEMAKING

KNOWLEDGE CREATING

DECISION MAKING
Sensemaking

**Process**
- Environmental change
- Enactment, selection, retention
- Enacted interpretations
- "Looking backward": Retrospective sensemaking

**Modes**
- Belief-driven processes
- Action-driven processes

Knowledge creating

**Process**
- Knowledge-gap situation
- Tacit, explicit, cultural knowledge
- Knowledge conversion, building, linking
- New knowledge
- "Looking across many levels": Multilevel learning from individuals, groups, organizations

**Modes**
- Knowledge conversion
- Knowledge building
- Knowledge linking
Decision making

- Process
  - Choice situation ⇒
  - Alternatives, outcomes, preferences ⇒
  - Rules, routines ⇒
  - Decisions
  - "Looking ahead": Goal-directed, future-oriented

- Modes
  - Rational
  - Process
  - Political
  - Anarchic

The sensemaking recipe

- Inputs
  - Enactment: Raw data from the environment
  - Selection: Equivocal data from enactment process
  - Retention: Enacted environment from selection process

- Processes
  - Enactment: Bracket raw data
  - Selection: Select and impose meanings or interpretations on equivocal data
  - Retention: Storage of enacted environment as product of successful sense-making

- Outputs
  - Enactment: Equivocal data as raw data for sensemaking
  - Selection: Enacted or meaningful environment
  - Retention: Enacted interpretations for use in future ESR sequences
Belief-driven processes

Action-driven processes

<table>
<thead>
<tr>
<th>Arguing</th>
<th>Growing meaning by connecting the contradictory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Expecting</td>
<td>Growing meaning by connecting the similar</td>
</tr>
<tr>
<td>Committing</td>
<td>Creating meaning to justify actions high in choice, visibility, and irrevocability</td>
</tr>
<tr>
<td>Manipulating</td>
<td>Creating meaning to explain actions taken to make things happen</td>
</tr>
</tbody>
</table>

Types of organizational knowledge

<table>
<thead>
<tr>
<th>Tacit knowledge</th>
<th>The implicit knowledge used by organizational members to perform their work and to make sense of their worlds. Tacit knowledge is hard to verbalize because it is expressed through action-based skills and cannot be reduced to rules and recipes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explicit knowledge</td>
<td>Knowledge that can be expressed formally using a system of symbols, and can therefore be easily communicated or diffused. Explicit knowledge may be object-based or rule-based.</td>
</tr>
<tr>
<td>Cultural knowledge</td>
<td>The cognitive and affective structures that are habitually used to perceive, explain, evaluate, and construct reality. The assumptions and beliefs that are used to describe and explain reality, as well as the conventions and expectations that are used to assign value and significance to new information.</td>
</tr>
</tbody>
</table>
• The three types of organizational knowledge are interdependent and applied conjointly

• The more integrated the three types of knowledge, the more unique the organizational advantage

• To what extent does organizational knowledge need to be captured / represented in situ, in toto, and in vivo?

Organizational Knowledge Conversion Processes
(Nonaka and Takeuchi 1995)
(The wellsprings of knowledge Dorothy Leonard-Barton 1995)

The organization as Knowledge-Creating Value Star
(Wikström and Normann 1994)
Knowledge Processes
Wilkström, Normann (1994)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Sharing tacit knowledge</td>
<td>“Socialization” (Tacit ⇒ Tacit)</td>
<td>a. Shared problem solving</td>
</tr>
<tr>
<td>2. Creating concepts</td>
<td>“Externalization” (Tacit ⇒ Explicit)</td>
<td>b. Experimenting &amp; prototyping</td>
</tr>
</tbody>
</table>

Productive Processes
• Operationalizing new knowledge

| 3. Justifying concepts | c. Implementing & integrating new processes & tools |
| 4. Building archetypes | “Combination” (Explicit ⇒ Explicit) |

Representative Processes
• Diffusing, transferring new knowledge

| 5. Cross-levelling knowledge | d. Importing knowledge |
| “Internationalization” (Explicit ⇒ Tacit) |

GOAL AMBIGUITY / CONFLICT

<table>
<thead>
<tr>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rational model</td>
<td>Political model</td>
</tr>
<tr>
<td>• Goal-directed</td>
<td>• Conflicting goals, interests</td>
</tr>
<tr>
<td>• Guided by rules, routines and performance programs</td>
<td>• Certainty about preferred approach and outcomes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process model</td>
<td>Anarchy model</td>
</tr>
<tr>
<td>• Goal-directed</td>
<td>• Goals are ambiguous</td>
</tr>
<tr>
<td>• Multiple options and alternative solutions</td>
<td>• Processes to reach goals are unclear</td>
</tr>
</tbody>
</table>
Decision Premises

Bounded Rationality

- Values
- Information
- Skills

Decision Routines

- Performance programs
- Satisficing
- Sequential search

Organizationally rational decision behaviour

---

INTERNAL INTERRUPT

EXTERNAL INTERRUPT

IDENTIFICATION

DEVELOPMENT

SEARCH

SCREEN

DIAGNOSIS

DESIGN

AUTHORIZATION

JUDGEMENT

ANALYSIS

BARGAINING

NEW OPTION INTERRUPT

- 14 -

- 15 -
Building power base
1. Control strategic uncertainties
2. Create dependencies
3. Provide resources

Exercising power in decision making
1. Building coalitions / expand networks
2. Control decision premises
3. Enhance expertise
4. Make preferences explicit

Environmental uncertainty
Resource dependency
Task interdependency
Goal conflict

Organizations as coalitions
Procedural rationality

DEPARTMENT A
DEPARTMENT B

Committee
Participants
Problems
Solutions
COs
PARs
Ps
Ss
COs
PARs
Ps
Ss
COs
PARs
Ps
Ss
COs
PARs
INFORMATION USE (control)

- Low
  - Anarchy mode

- High
  - Rational mode

INFORMATION SEEKING (breadth)

- Low
  - Select satisficing solution
  - Justify preferred outcome
  - Develop custom or readymade solution

- High
  - Attach solution to problem

Legend

- Cultural knowledge
- Tacit knowledge
- Explicit knowledge
- Preferences
- Rules
- Goal-directed adaptive behaviour

SENSEMAKING

- Signals from the environment
- Beliefs
  - Enactments
  - Interpretations

- Shared meanings and purpose perceived problems, opportunities

- New capabilities and innovations

- External knowledge

KNOWLEDGE CREATING

DECISION MAKING
SENSEMAKING

Beliefs
Enactments
Interpretations

Signals from the environment
- Mass vaccination "successes" in several countries
- Nigerian experience due to delay in vaccine supplies

Perceived problems, opportunities
- Strategy = mass vaccination + containment & surveillance

Shared meanings and purpose
- Smallpox can be eliminated; noble mission

Knowledge gap
- New vaccine
- New delivery methods

Rule gap
- Need to design new rules
- Modify existing rules

Goal-directed adaptive behaviour

External knowledge
- International R&D
- Local knowledge

New capabilities and innovations
- New innovations: vaccine, needle
- New methods/options: containment, surveillance

New methods/options: containment, surveillance

External knowledge
- International R&D
- Local knowledge

New capabilities and innovations
- New innovations: vaccine, needle
- New methods/options: containment, surveillance

New methods/options: containment, surveillance

WHO intensified smallpox eradication 1967 - 1977

KNOWLEDGE CREATING

Internationa l R&D
Local knowledge

New innovations: vaccine, needle
New methods/options: containment, surveillance

Output measures
- Standard procedures
- Adaptive measures
- Improvisations
- Short cuts

Knowledge CREATING

DECISION MAKING

Rules
Routines
- Routines
- Rules

Goal-directed adaptive behaviour

Cultural knowledge
- Tacit knowledge
- Explicit knowledge

New capabilities and innovations
- New innovations: vaccine, needle
- New methods/options: containment, surveillance

New methods/options: containment, surveillance

Knowledge CREATING

DECISION MAKING

Rule gap
- Need to design new rules
- Modify existing rules

Preferences

Knowledge gap
- New vaccine
- New delivery methods

Perceived problems, opportunities
- Strategy = mass vaccination + containment & surveillance

Goal-directed adaptive behaviour

External knowledge
- International R&D
- Local knowledge

New capabilities and innovations
- New innovations: vaccine, needle
- New methods/options: containment, surveillance

New methods/options: containment, surveillance

WHO intensified smallpox eradication 1967 - 1977
Diffusion / Acting on environment
Interaction with other actors in real world

Decision making

Choices, courses
Goals, premises
Current knowledge
Enacted meaning
Multiple meanings

New knowledge

Knowledge making

Sense making

Multiple meanings

The Knowing Organization

Sensemaking
Knowledge creation
Decision making
Organizational action
Information processing
Information conversion
Information interpretation