Emergence of Common Tacit Knowledge in an International IT Project: A Cross-Cultural Perspective

Nov. 1, 2013

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Prof. Umemoto translated Nonaka’s The Knowledge-Creating Company
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Outline

- **Purpose:**
  - Proposal for a novel concept and a novel theoretical model

- **Methods:**
  - Literature review and a case study

- **Results:**
  - A concept: Project knowledge management from the perspective of cross-cultural settings
  - Theoretical model: Knowledge processes in international projects
Background

Cross-cultural projects are regarded as fields of knowledge creation and emergence

- The commercial use of Internet started in 1990s
- Expansion of globalization
- Increase of offshoring in Japanese companies in 2000’s
- Knowledge management in cross-cultural projects is one of the key factors for competitive advantage
- The difficulties are being reported
- Project knowledge management in cross-cultural settings is required
To clarify unexplored areas, the literature review was done. The literature review included:

**Knowledge Management Theories Focusing on Projects**
- Process related
  - Sharing/Transfer/Reuse
  - Virtual project settings
- Factor related

**Cross-Cultural Knowledge Management**
- Sociology base
  - Culture influence on knowledge management
- Knowledge Management base
  - Influencer of sharing knowledge
- Management on international project
- Boundary spanner

**Knowledge Management**
- Knowledge processes
  - SECI Model
- Nature of Knowledge
- Knowledge Strategies
- Concept of $Ba$
- Virtual settings
Unexplored areas are found:

- Research on knowledge processes in international projects
- Knowledge processes including tacit knowledge in international project settings
- Tacit knowledge processing in virtual settings
Research Questions

Major Research Question:
In international project settings, what kind of knowledge is processed and how it is shared / created / utilized?

Subsidiary Research Questions:

1. How does tacit knowledge interact in each local setting and/or between local settings?
2. How does tacit knowledge interact in virtual settings?
Case Study - Overview

- Case Study for the three companies
  - Japanese chemical company in Tokyo (Company A),
  - A subsidiary of Company A in Singapore (Company S),
  - IT helpdesk function in Company S was outsourced to Company H

- Background

<table>
<thead>
<tr>
<th>Company A:</th>
<th>Company S:</th>
<th>A project begun to create an IT managing scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overseas operations</td>
<td>became subsidiary</td>
<td></td>
</tr>
<tr>
<td>started in Singapore</td>
<td>IT policy was defined</td>
<td></td>
</tr>
<tr>
<td>1980’s</td>
<td>2009</td>
<td>2010</td>
</tr>
</tbody>
</table>
Case Study - Situation

- In 2010, IT policy of Company A - to control all IT of Company S
- Company A wanted to create a managing scheme
- Servers were in Japan
- Singapore users used the servers in Japan from Singapore
- Company H didn’t have IT authorization of the servers

IT Helpdesk was outsourced to Company H
Case Study - Issues

Company A and S had an issue with international interactions

In 2010, a project had started to create an IT managing scheme.

- In 2011, the plan had been gradually delayed
- Uncertain why this happened.
- The discussion had started to re-evaluate the IT policy
- In May 2012, a series of semi-structured interviews was conducted to detect issues and to recommend improvements.
### Case Study - Interviews and the results

- **Interviewees:** Interviews conducted in May 2012

<table>
<thead>
<tr>
<th>Name</th>
<th>Company</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>A (Japan)</td>
<td>Project Manager in IT department in Japan</td>
</tr>
<tr>
<td>H</td>
<td>A (Japan)</td>
<td>Manager who is in charge of the accounting system of Japan</td>
</tr>
<tr>
<td>O</td>
<td>A (Japan)</td>
<td>Systems Engineer in IT department in Japan</td>
</tr>
<tr>
<td>M</td>
<td>S (Singapore)</td>
<td>General Manager in Singapore (Assignee from Japan)</td>
</tr>
<tr>
<td>P</td>
<td>H (Singapore)</td>
<td>Systems Engineer in Helpdesk in Singapore</td>
</tr>
</tbody>
</table>
Case Study – Analysis method

Qualitative analysis by MAXQDA

1. Interview results are transcribed.
2. Scripts are segmented with codes. (coding)

Coding
“Governance” code
“Localization” code

De-contextualization

Segmented parts with codes are categorized
Governance_A1
Governance_A2
Governance_A3
IT Policy_B1
IT Policy_B2
Localization_B2

Re-contextualization

Relation map between codes

Governance
IT Policy
 Localization

(*1) De-contextualization is an analysis method which takes out of context and abstracts the characteristics.
Case Study – Analysis Results

Eight codes were extracted by de-contextualization

<table>
<thead>
<tr>
<th>Governance</th>
<th>Issue</th>
<th>Root cause</th>
<th>Difference in context</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undecided IT Policy</td>
<td>Managing scheme was not fit the actual local</td>
<td>The ways of thinking is different</td>
<td>The central control or the local control?</td>
<td></td>
</tr>
<tr>
<td>Ambiguity of responsibilities</td>
<td>IT Roles / responsibilities are not clearly defined</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Requirements of Company S</td>
<td>Some requirements of local was not acknowledged</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Boundary spanner</strong></td>
<td>Personalized solution for the difference of context. Intermediary person.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Framework</strong></td>
<td>Codified solution for the difference of context by defining tasks clearly.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Localization</strong></td>
<td>An ultimate goal as a result of a solution</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Case Study – Analysis Results

Relation map between codes from the re-contextualization results

**Issue group**

- Governance
- Issues of Company A
- Undecided IT Policy
- Common issues
- Ambiguity of responsibilities
- Issues of Company S
- Requirements of Company S

**Root cause group**

- Difference in context
- Root cause, Influencer,

The ways of background thinking is different between Japan and Singapore

**Solution group**

- Boundary spanner (Personalized)
- Framework (Codified)
- Solutions for ‘Difference in context’

Understanding of each local's own thinking (=difference in context) will emerge international common knowledge
Case Study – Analysis Results

International Common Knowledge was gradually emerged

- Common issues had been recognized by both Company A and S.
- The members suggested solutions **how to mitigate the difference in context**, but failed to notice the root cause.
- Once the **difference in context** was understood in each local, the issues were solved.
- To understand the difference in context means to understand each local’s own thinking including tacit knowledge.
- Understanding the difference in context means the **international common knowledge** was shared and created, and gradually emerged.
- ‘Localization’ was an organizational scheme as a final goal.
The IT policy was changed to delegate a part of IT authorization to Company S in 2013

- The findings from the analysis results are:
  - Each local setting has its own tacit knowledge
  - The other side sometimes does not acknowledge the tacit knowledge of others
  - International common knowledge will emerge from understanding of each local's own thinking

- The findings from the interviews are:
  - A member in the field sometimes knows the actual situation the most.
  - Even in virtual settings, the frequency of interactions, including informal transactions, would help to understand tacit knowledge.
Findings – the knowledge situation

- The knowledge situation of the project:
  - Explicit knowledge is shared between each local setting
  - Tacit knowledge which belongs to each local setting remains.

![Diagram showing explicit and tacit knowledge in local, international, and virtual settings]
Conclusions - Answers to the Research Questions

- **Major research question:** In international project settings, what kind of knowledge is processed and how it is shared / created / utilized?

- Even though explicit knowledge is shared between each local setting,
  - tacit knowledge is processed in each local setting
  - can be transferred from one local setting to the other.
Conclusions - Answers to the Research Questions

- **Subsidiary research question 1:** How does tacit knowledge interact in each local setting and/or between local settings?”

- **A1:**
  - The other local’s tacit knowledge can be internalized and localized.
  - Once tacit knowledge is shared between local settings and international common tacit knowledge is emerged by the interactions, knowledge processes will be in a virtuous cycle.
Conclusions - Answers to the Research Questions

- **Subsidiary research question 2:** How does tacit knowledge interact in virtual settings?

- **A2:**
  - Frequent informal or formal interactions via telephone, email or TV conference help to transfer tacit knowledge even in virtual settings.
  
  Frequency is a key.
Conclusions – Theoretical implication

The theoretical model of knowledge management in international projects from cross-cultural perspectives

- Explicit Knowledge
- Tacit Knowledge

Local settings

International Project

Local settings

Virtual settings

International Common Tacit Knowledge

International Common Explicit Knowledge
A literature review was presented to describe unexplored areas in knowledge management.

Findings from a case study were presented describing the situation and issues that arise in knowledge processes in international project settings.

From the results of the findings, a theoretical model is presented on knowledge management in international settings.
Thank you very much!
References (1)


References (2)


Appendix:
Background - Social background

Trend of IT offshoring development size (Survey result of 250 Japanese IT companies in 2010)

Literature Review - Results

Knowledge Management
- Knowledge processes
  - SECI Model
- Nature of Knowledge
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- Virtual settings

Knowledge management theories focusing on projects
- Factor related research
- Process related research
  - Sharing/Transfer/Reuse
  - Virtual project settings

Cross-Cultural Knowledge Management
- Sociology base
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Unexplored Area
- Knowledge Management in international/global projects
- Knowledge processes in international/global projects
- Knowledge processes including tacit knowledge
- Tacit knowledge processes in virtual settings
Case Study – Analysis method