Management of Knowledge in Project Environments

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Today's Agenda is ...

- Figures to Ponder
  - Characteristics
  - Challenges
- Why managing knowledge in projects?
- What is “Knowledge Management” (KM)?
- KM in Project-based Environments
- Project KM Strategies
- Typology of Knowledge-sharing Mechanisms
- Conclusions
- References + Contact Information

Something about myself
- A chartered surveyor by profession and studied “Organizational Behavior” in doctoral study.
- Research Interests: Managing Knowledge in Projects/Professional Services Firms
- Ongoing Research Projects
  - Dynamics of Knowledge Sharing in Professional Services Organisations in Construction: Implications for Utilisation of Knowledge Management Systems
  - Facilitating Knowledge Sharing in Construction Organizations in Mainland China: The Importance of Guanxi and Personal Networks
- Representative Publications

Figures to Ponder

- 38%* of a person’s time is wasted trying to manage information.
- 20%* of a professional’s time is spent searching and accessing information.
- 75%* of the information people need to effectively work is not in “transaction backbone” data.
- 20%* of a person’s time is spent repeating answers.
- 25%* of information that a company owns is used.
- 65%* of a company’s design work is duplicated.
* DuPont Research Data

Project Outputs

- A product or a service delivered for an internal or external customer
  - Technical knowledge concerning the product and its production and use
  - Procedural knowledge concerning the procedures to produce and to use the product
- Organizational knowledge (project-organizing knowledge) that was conceived in the course of the project
  - Lessons learned
  - How the results were obtained
  - A way to become a learning project organization

Characteristics of Project-based Environments

- One-off or bespoke products
- Multi-firm networks
- High level of turnover in actors from one project to the next – the ‘moveable feast’ of production
- Loosely-coupled – weak ties between actors
- Distributed innovation processes
- Relationship among actors - through ‘swift trust’
- Examples: Creative industries, Knowledge-based business services (KIBS)

Project Outputs
Project Challenge: Knowledge Dispersion

- Knowledge from past projects is accumulated in individuals' minds (knowledge representations and competences) and in artifacts (documents and repositories).
- If an individual leaves a project, so do his or her individual, often tacit experiences and memories.

Project Challenge: Making Connections

- Projects as episodes – opportunities to learn and do
- Learning is spasmodic, unpredictable and hurried - “learning while riding on a galloping horse”
- Project mentality - culture of heroism
- Flat structures and high levels of professionalism
- Re-invention and re-innovation

Why Managing Knowledge in Projects?

- Knowledge
  - Essential resource and source of competitive advantage
  - Build up through execution of projects
- Potential value: If ideas and experience are transferred within / across projects
  - Common problems can be overcome
  - Focus on improving solutions and not reinventing them

Successful KM does NOT mean ...

Then What is “Knowledge Management”?

- The Right Information / Knowledge at the Right Place at the Right Time at the Right Price enables rapid, effective Decision Making and Problem Solving delivering Sustainable Business Results

KM in Project-based Environments

- Project-to-Project (P2P)
  - the passing of experience and ideas from one project to another
- Project-to-Business (P2B)
  - the movement of experience from project teams to the central business functions
- Business-to-Project (B2P)
  - the dissemination and development of new skills and competencies in central departments to project teams
**Two Project KM Strategies**

- **The codification strategy**
  - codifying the knowledge and storing it in databases
  - ‘hard’ project data (database records, documents, standard operating procedures, project definition, activities, history and results).
  - A knowledge base, which contains the content or knowledge that is of value to the organization.

- **The personalization strategy**
  - the knowledge is tied to persons who developed it and is shared by personal interaction (dialogue, workshops, meetings, etc.)
  - ‘soft’ items (stories, recollections of incidents, details about decision processes, capitalisation of lessons and experiences from given projects)
  - A well-defined set of meta-knowledge which is used to determine how and when the knowledge or content should be applied.

- **Both are needed for a comprehensible project work support!**

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**Conclusions**

- **Knowledge retention**
  - Does not mean codifying each employee’s knowledge
  - Can be achieved by ensuring knowledge sharing and diffusion amongst others in the same community or group
  - Can be achieved using personalization mechanisms

- **Knowledge sharing**
  - Need not always be serendipitous and dependent on individual’s personal network
  - Can be brokered through institutionalized mechanisms to help individuals find the right person to talk to
  - Codification and personalization
    - Is complementary to one another

- **Physical workplace environment**
  - Connecting project team members

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**Knowledge-Sharing Mechanisms**

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<tr>
<th>Knowledge Sharing Through Integrating Processes Between Individuals and Groups</th>
<th>Knowledge Sharing Through Processes Institutionalized in Routine / Structure</th>
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<tbody>
<tr>
<td><strong>Personalization</strong></td>
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<tr>
<td>- Meetings amongst communities of individuals interested in a particular topic area</td>
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<td>- Meetings amongst high level staff</td>
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<td>- Word of mouth sharing of information through approaching individuals with deep institutional knowledge</td>
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<td>- Informal one-on-one discussions</td>
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<td>- Building a transaction memory, where individuals specialize in different areas, and are referred to for specific expertise</td>
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<td>- Mentoring</td>
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<td>- Broadcast email</td>
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<td>- One senior person coordinating all staffing needs</td>
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<td>- Friendship network</td>
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<td>- Meetings on performance assessment</td>
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<td>- Project meetings / project presentations</td>
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<tr>
<td><strong>Codification</strong></td>
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<tr>
<td>- Sharing prior project documents (e.g. specifications) formally</td>
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<td>- Manuals written voluntarily</td>
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<td>- Yellow pages of expertise</td>
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<td>- Having a common project director shared across projects</td>
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<td>- Project drafts</td>
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<td>- Cross-staffing across projects</td>
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<td>- Project reviews, after-action reviews, etc.</td>
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<tr>
<td>- Database of project abstracts, proposals and resumes</td>
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<tr>
<td>- Templates</td>
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**References + Contact Information**

- **References:**

If you have any research ideas or would like to become a collaborating firm for future research projects, please feel free to contact me.

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Q&A