

A Community of Practice at Work: CSST Case Study

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Research questions

- Is CSST's PIS – Prevention and Inspection Service – functioning as a network ?
- How are participants solving complex and varied online problems ?
- What are the perceived benefits ?
- What are the perceived limits and constraints ?

Theoretical framework

- John Seely Brown: *Strategic and tacit information is always carried out informally*
- Lave & Wenger: *Meaningful legitimate peripheral participation in sharing and building relevant knowledge useful for practitioners*
- Scardamalia: *Knowledge building supposes shared and negotiated insights concerning the strategies needed for collective problem solving*
- Davenport & Prusak: *To be successful, and helpful for everyone, knowledge management should be understood as a permanent process in which the notion of collective intelligence is at its core.*

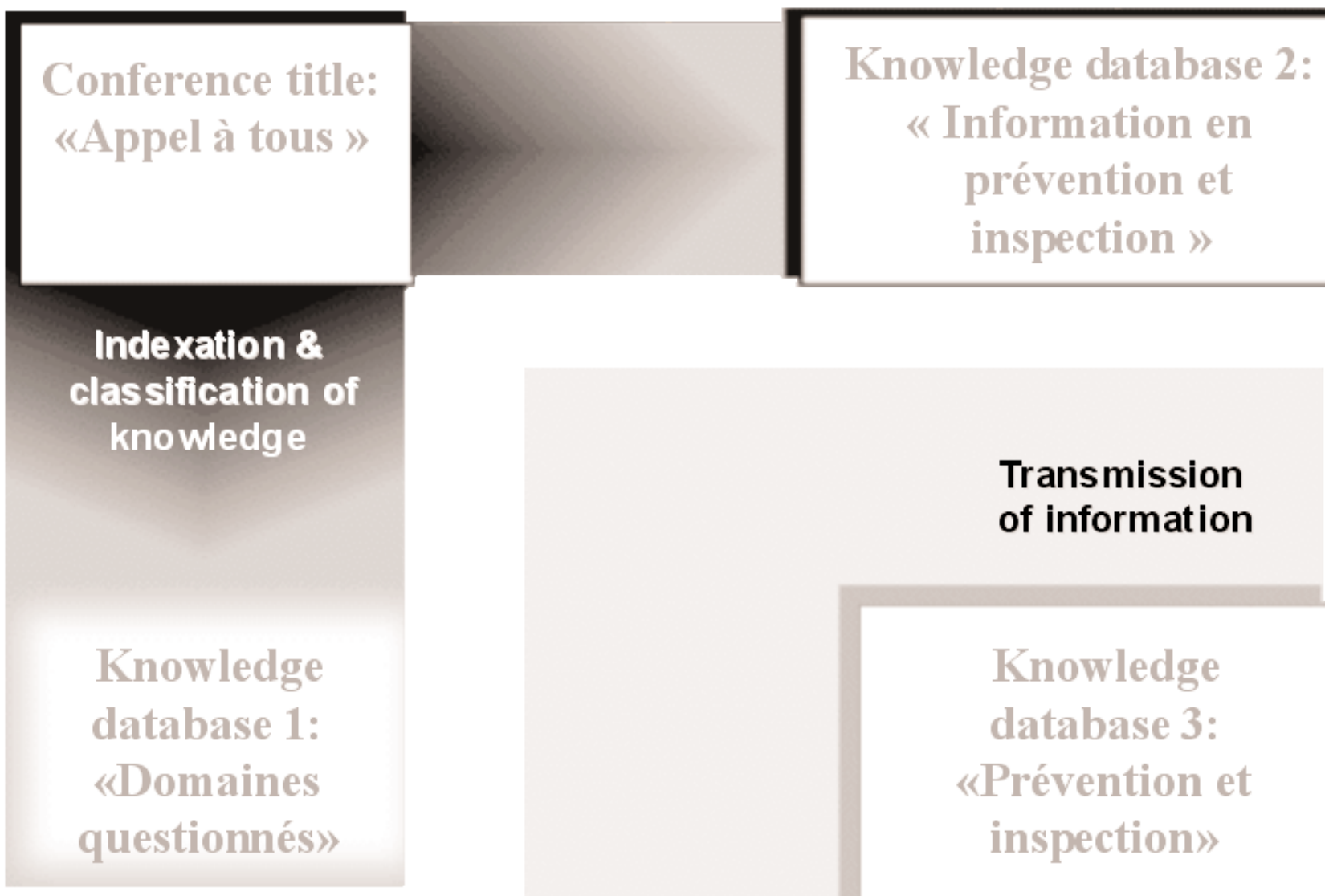
Prevention & Inspection Service Subjects

- The administrative and professional support personnel – project leaders, ergonomics experts, researchers, librarians, managers, etc.
- Prevention, inspection, and readaptation experts and counsellors
- Field practitioners: regional directors, team leaders, and inspectors

Description of the online environment

- One online conference, entitled « Appel à tous », and three databases:
- Database 1 – conference transcripts, compiled and indexed (excluded from the case study)
 - Database 2 – complementary information, added on a voluntary basis by conference participants
 - Database 3 – information provided by the CSST administration to standardize the work of the field practitioners (excluded from the case study)

Knowledge sharing



Method

- The database 1 and online conference related transcripts were analyzed first using quantitative procedures (number of messages, demographics, patterns of interaction)
- Transcripts were understood as incomplete and partial representations of the reality under studied.
- Data reduction
- Interpretation

The conference « Appel à tous »

Duration: 24 months (1998 & 1999) :

- 250 questions asked and 450 answers
- Average time for answering a question : 11.37 days
- Average number of answers per question: 1.75
- Average number of participants / year: 91
- Around 70 % worked as practitioners in the field (regional directors, team leaders and inspectors); more than a half were inspectors.

The screenshot shows the 'Appel à tous' conference interface. It displays a list of questions and answers with columns for 'Date', 'Sujets / Réponses', and 'Réponses'. The interface includes search and navigation tools.

The knowledge database 2: « Information en prévention et inspection »

Activities over the four-year period (1996-1999):

- 200 documents added by 41 participants on a voluntary basis: 1996 (24), 1997 (45), 1998 (52), and 1999 (79)
- 63.5 % of the documents were added by practitioners in the field
- Around 50% of those field practitioners were inspectors.

The screenshot shows the 'Information en prévention et inspection' database interface. It displays a list of documents with columns for 'Date', 'Sujets / Réponses', and 'Réponses'. The interface includes search and navigation tools.

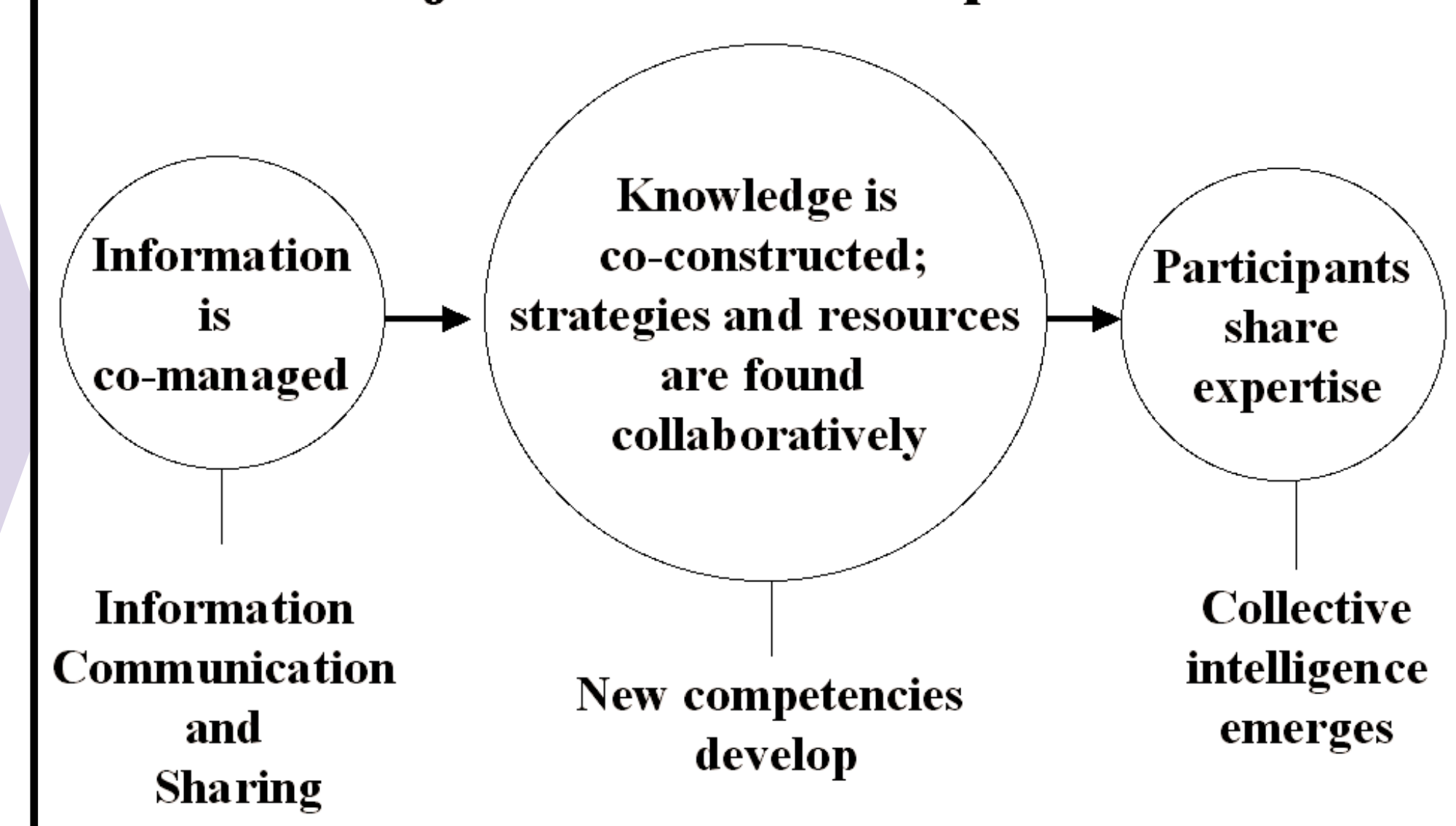
Sustained participation?

- Activity and participation:
- 1998 - 146 questions, 294 answers, 92 participants
 - 1999 - 104 questions, 156 answers, 90 participants
- Interpretation:
- Interactions became more reflective and selective over time because the conference information was compiled, classified and indexed in the knowledge database 1
 - Only new problematic cases, contentious issues, or extraordinary problems were generated in the conference

Key benefit: Problem solving

- Practitioners have access to more information
- Problems get solved more quickly
- Clients have their needs more promptly satisfied
- Technical solutions are adjusted to the clients
- Tacit knowledge becomes visible through the questioning process
- Knowledge sharing and distributed knowledge
- Deeper understanding of the practice

A just-in-time response to a job-anchored request



Databases: Functional collective memory

- Very frequent at first, Database 3 queries decline over time to the benefit of both databases 1 and 2, resulting in a more consistent and integrated database system to serve practitioners in the field:
- problem solving strategies are compiled, classified, and indexed under various subject headings
 - reports, reviews, opinions, guidelines, and files are transmitted on a volunteer basis to colleagues...

The screenshot shows the databases interface. It displays a list of documents with columns for 'Date', 'Sujets / Réponses', and 'Réponses'. The interface includes search and navigation tools.

The CSST's PIS online community of practice results from:

- the inter-connection of all prevention and inspection workers;
- the integration of telecollaboration tools in the working experiences of the practitioners in the field;
- the successful development of a networked activity;
- the creation of a set of decentralized databases able to support collaborative problem solving reified by and through a daily reflective practice

Perceived limits and constraints

- A common trend: Participants seem more aware of one-to-one or one-to-many communications than many-to-many communications:
 - exchanges between co-workers are mostly perceived as occurring on a one-to-one basis.
 - information-technology tools are perceived as « one among many »
 - there is a weak awareness of belonging to a collaborative knowledge-building community

References

- Benoit, J. (1999). *La communauté de pratique en réseau. A referential website created in 1999 and revised in 2000* <http://www.tact.fse.ulaval.ca/ang/html/cp/intro.htm> (FRENCH)
- Benoit, J. (2000). *Une communauté de pratique en réseau : le forum de discussion et la base de connaissances des inspecteurs de la Commission de la santé et de la sécurité du travail (CSST), 1996-1999* (Collection Infomètre). Québec : CEFRIO. <http://www.tact.fse.ulaval.ca/fr/html/telecat/cpsst.html> (FRENCH)

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