Working in Knowledge Society

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Topics

- Transformation of work
- Tools and practices of knowledge work
The Mystery of Organizational Investment

• Since the 1960s, organizations have invested huge and continuously increasing sums in information technology

• Despite the massive investment in ICT, economists were unable to detect any positive impact

• Solow, 1987: "You can see the computer age everywhere except in the productivity statistics"
Labor productivity in non-farm business

So, where is the computer revolution?

Labor productivity in manufacturing

Total working hours in manufacturing


1992=100
Total Non-Farm Labor Force,
U.S. 1919-2001

Thousands


Finland, 1989-2001

GDP per capita (euros) growth: 55%

Job growth: -5%
The Unknown Impact of ICT

- Today we do not know what is the economic impact of computer and communication technology
  - National statistics do not measure technological innovation well
  - Researchers disagree on whether
    - ICT has had positive impact on productivity
    - the impact has been positive only on the manufacturing sector
    - the real impact started to be seen only in the last years of the last decade
    - positive impacts are there and we simply have mismeasured economic growth and productivity

- The focus on technology missed an important point:

- Information systems were often developed with limited understanding of the characteristics of knowledge work
  - most information system development projects failed in the 1990s (e.g. "business process re-engineering")

- Effective use of new technologies requires complementary investments in human competencies and new work practices
  - these require new ways to organize space, time, and social relations
    - this, in turn, requires new tools and new ways to use old tools
Intelligent Organization is About Systemic Change

Knowledge Management Framework

- development and change
- measurement and incentives
- knowledge content
- tools and methods
- organization and management
- concepts

Boundaries, Transformations, and Boundary objects

• Syntactic knowledge boundary
  • Coordinate pre-specified dependencies
  • Transformation infrastructure: Transfer
  • Solution: *information systems*

• Semantic knowledge boundary
  • Create shared meanings
  • Transformation infrastructure: Transfer and translation
  • Solution: *communities of practice, networks of communities*

• Pragmatic knowledge boundary
  • Negotiate interdependencies
  • Transformation infrastructure: Transfer, translation, and transformation
  • Solution: *conflict management, developmental work practices*

Adapted from: Paul Carlile: Boundary infrastructures for knowledge leadership and collaboration, Berkeley Knowledge Forum, 20.9.2001
Functions of a Coffee Cup

• It is used in many ways in knowledge work
  • to organize time and work rythm
  • to control mood
  • to adjust level of altertness
  • to meet people and exchange information
  • to build trust and social capital
  • to signal availability for social contact
  • to organize boundaries between public and private space
  • to organize boundaries between informal and formal social encounters
  • to signal celebration
  • to signal membership in a community
  • to keep your hands warm (in the Finnish winter)
Redesigning Coffee Cups for Knowledge Work

• How could the functions of a coffee cup be enhanced when we have wireless, networked, embedded, multimodal and context sensitive information technologies available?

• Networked coffee cups to signal availability for communication
• Wireless coffee cups to signal presence
• Intelligent coffee cups linked to adaptive user interfaces
• Virtual cafeterias
• Simulated coffee cups for time management, cognitive pacing, and social coordination
• Information sharing coffee cups
• Cups that keep coffee at the right temperature
• Cups that tell you when you consume too much coffee and that you should listen Mozart instead
• Cups that you can talk to
All objects are social and cognitive tools.

This will become apparent when they are informationalized and when work becomes knowledge work.