Human and Social Capital for a Sustainable Knowledge Society

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Agenda

• Social networks in the current social transformation
• The social and cognitive basis of knowledge work
• Regional development
• The role of information and communication technologies
Capital, resource and competence

• “Classical economy” = “Land, labor, and capital”
• “Knowledge economy” = “Land, labor, capital” + “Solow residual”

• Or capability and commitment?
  • “Knowledge workers still sell their labor, but now the brain and the heart must follow.”
  • “Knowledge and competence creation are inherently social. Electronic communication networks are going to make a big difference.”
Door-to-Door Network
Place-to-Place Network
Person-to-Person

- Communication networks connect the world in the 1980s
- These networks expand rapidly and provide the infrastructure for the Internet
- In the 1990s, wireless communication makes personal connectivity increasingly independent of space and time
Role-to-Role Networks

- In the intersection of networks of production and personal connectivity, new role-based connectivity is emerging

- People are accessed as individuals, but they function as specialists with given roles

- A single individual may have many roles and several specialties

- Role-to-role connectivity has interesting characteristics:
  - It makes high demands on individual cognitive skills
  - It generates a need to actively manage social networks
  - It may be psychologically unsustainable, as the individual may have problems in constructing a coherent identity
  - It makes inter-organizational and trans-organizational networks critical for business success
Transformation of Work
The Social and Cognitive Coffee Cup
Functions of a Coffee Cup

- It is used in many ways in knowledge work
  - to organize time and work rhythm
  - to control mood
  - to adjust level of altertness
  - to meet people and to exchange information
  - 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)
  - to build trust and social capital
The Mystery of Organizational Investment
Also known as the Famous ”Productivity Paradox”

• 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

“The Finnish Economic Miracle of the 1990s”
A story of human and social capital?

GDP 1985=100 (at market prices per capita)
Finnish Exports by Industry

<table>
<thead>
<tr>
<th>Year</th>
<th>Wood and wood products</th>
<th>Pulp, paper and paper products</th>
<th>Basic metals and metal products</th>
<th>Machines, machinery and vehicles</th>
<th>Electronics and electrotechnical products</th>
<th>Chemicals and chemical products</th>
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Between 1990-1994 household income dropped 18 % in Finland; due to income transfers, however, the usable income dropped only 10 %
The Value of Social Capital

Crime in Finland

- 0.10 crimes per capita in 1980
- 0.15 crimes per capita in 2000

Registered crimes

Solved, %
Challenge: Jobless Growth
Did we already use all our social capital?

![Graph showing population and labor force trends from 1990 to 2001.](image-url)

- **Population, 15-74 years**
- **in labor force**

“Worked one hour or more during the survey week”
Finland, 1989-2001

- 55% GDP per capita growth
- -5% job growth

GDP per capita (euros)
Employed (thousands)
Challenge: Space Matters

Net movement of people with post-secondary degrees 1997-1999
The Focus on Technology Missed an Important Point

• 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
  • ...new managerial competencies...
  • ...new institutions of work, perhaps a "new constitution of work"
  • and new tools and new ways to use old tools
Becoming a Member in the New Networks of Innovation


- Finland
- Czech Republic
- Germany
- USA

core Linux developers per capita

Time:
- 10/1/1991
- 4/1/1992
- 10/1/1992
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Sustainable Knowledge Society

• Four forms of sustainability, all based on knowledge and communication
  • Environmental
  • Economic
  • Social
  • Cognitive and psychological
Summary

- The current transformation penetrates all aspects of life, bringing with it new concepts of community, identity, and work
- New organizational forms are emerging that combine learning, innovation, and production in new ways
- Space and time are becoming reorganized on a global scale
- Digital divide is not about access to technology but about access to resources and capabilities that make life choices possible and manageable