Ako-E3020
Knowledge Management in Practice (5 op)

Luento #2

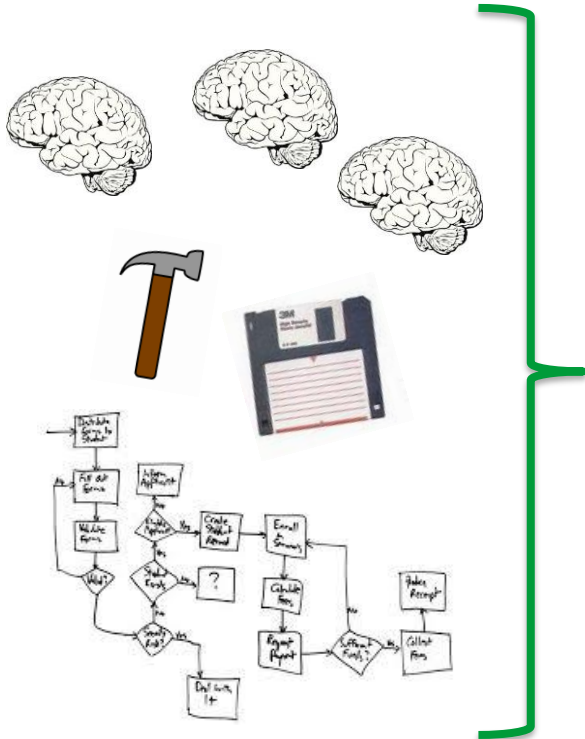30.1. 2020 – Eerikki Mäki eerikki.maki@aalto.fi

Agenda 30.1.2020

- **Luento #2**
  - Tilanne ryhmätöiden suhteen
  - Tietojohtamisen kehittäminen tietointensiivisissä organisaatioissa
  - Erilaisia tietointensiivisiä organisaatioita ja niiden ominaispiirteistä
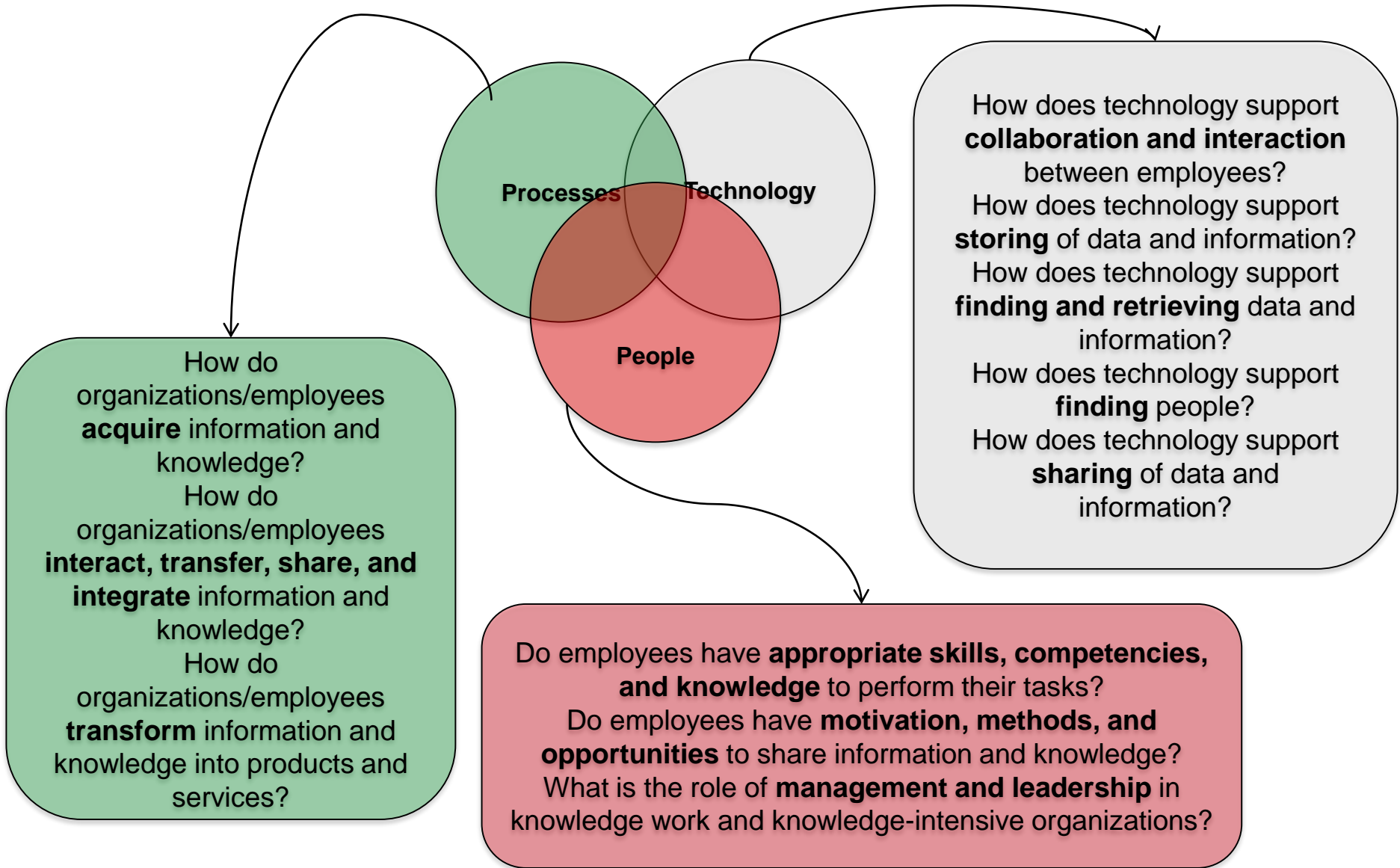 - Työskentelyä ryhmässä tehtävän harjoituksen parissa

Tilanne ryhmätöiden suhteen

Oppimispäiväkirja 2

- Reflektoi omia kokemuksiasi tietointensiivisessä organisaatiossa toimimisessa. Miten "type of knowledge-intensive organization" vaikuttaa siihen, miten informaation, tieto ja osaaminen ovat hyödynnettävissä? Käytä luentomateriaalia ja artikkeleita liittääksesi kokemuksesi johonkin teoriaan tai tieteelliseen malliin. Esim:
  - Blackler F. (1995) Knowledge, Knowledge Work and Organizations: An Overview and Interpretation. Organization Studies, vol. 16(6), 1021-1046.
  - Lam A. (2000) Tacit knowledge, organizational learning, and societal institutions: An integrated framework. Organization Studies, Vol. 21 (3), 487-513

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Tietoa, oppimista, tuotteita ja palveluita sekä asiakkaille että oman organisaation käyttöön

Processes

Technology

People

How do organizations/employees **acquire** information and knowledge?
How do organizations/employees **interact, transfer, share, and integrate** information and knowledge?
How do organizations/employees **transform** information and knowledge into products and services?

How does technology support **collaboration and interaction** between employees?
How does technology support **storing** of data and information?
How does technology support **finding and retrieving** data and information?
How does technology support **finding** people?
How does technology support **sharing** of data and information?

Do employees have **appropriate skills, competencies, and knowledge** to perform their tasks?
Do employees have **motivation, methods, and opportunities** to share information and knowledge?
What is the role of **management and leadership** in knowledge work and knowledge-intensive organizations?

Tiedon ja osaamisen johtamisella tarkoitetaan…

- *…niitä menetelmiä ja käytäntöjä, joilla organisaatiossa mm. tunnistetaan, käsitellään, säilytetään, jaetaan, yhdistetään, jalostetaan, hyödynnetään ja kaupallistetaan tietoa ja osaamista.*
- Tiedon ja osaamisen johtamista voidaan tarkastella yhdessä tai erikseen mm. seuraavista näkökulmista:
    - Tiedon ja osaamisen johtamisen strategia
    - Tiedon jakamisen mahdollistajat ja esteet
    - Tiedon johtamisen prosessit ja käytännöt
    - Informaation ja tiedon dokumentoinnin käytännöt
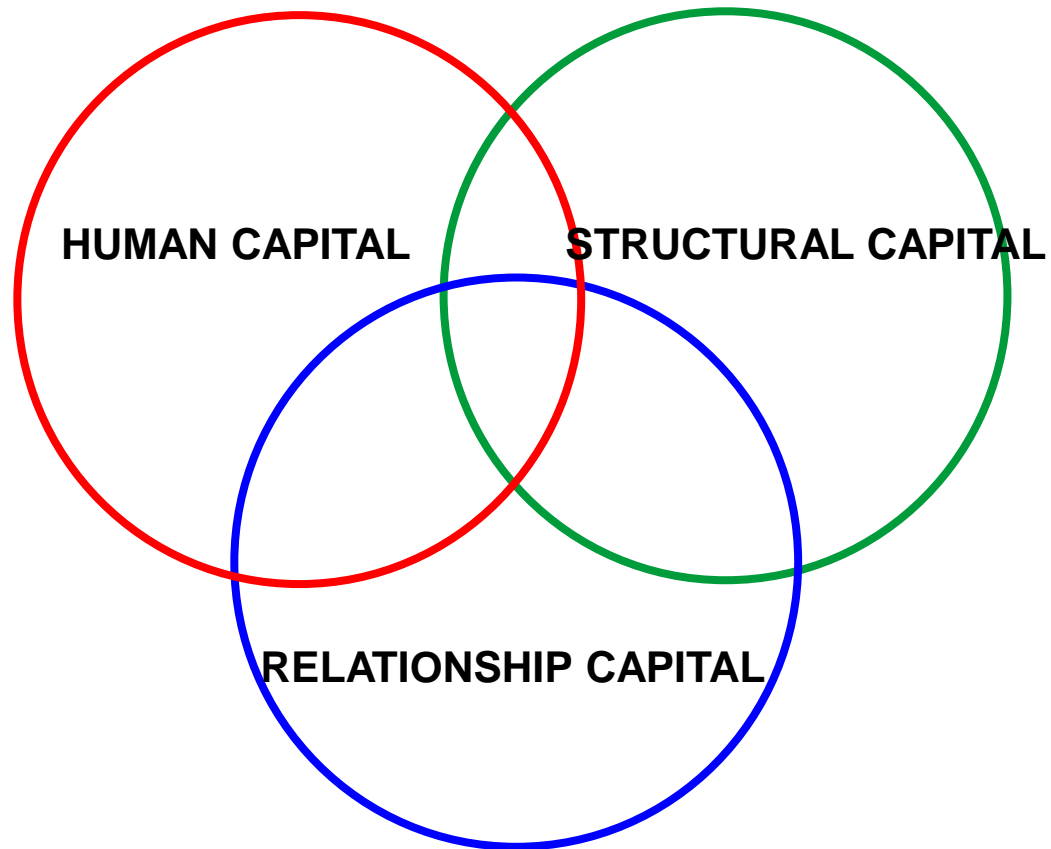   - Tiedon ja osaamisen johtamisen kulttuuri

Intangible capital/assets

Tangible assets = something touchable e.g. buildings owned by the organizations, its machinery, its products in store, etc.
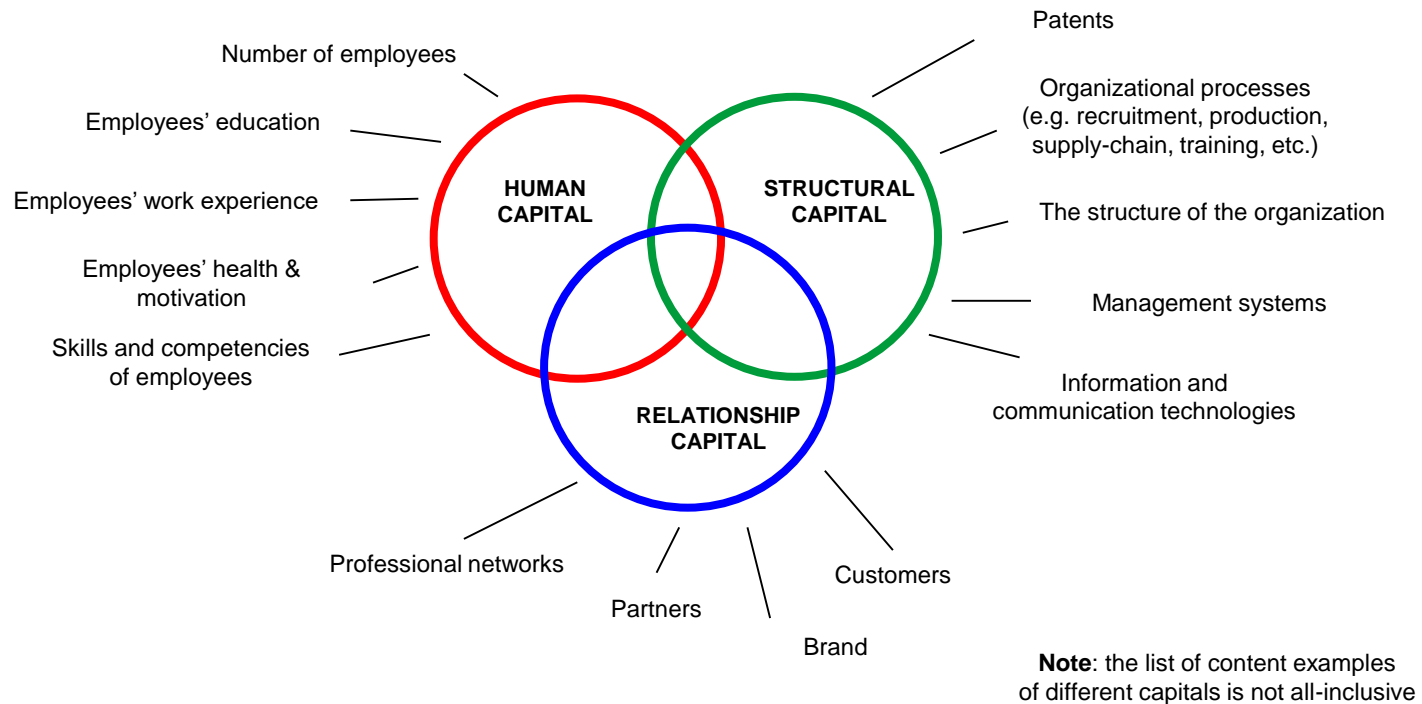
Intangible assets = e.g. brand, patents, know-how of the employee, etc.

Human capital + Structural capital + Relationship capital

= Intellectual capital

Intellectual capital

HUMAN CAPITAL

STRUCTURAL CAPITAL

RELATIONSHIP CAPITAL

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Intellectual capital

Number of employees

Employees' education

Employees' work experience

Employees' health & motivation

Skills and competencies of employees

HUMAN CAPITAL

STRUCTURAL CAPITAL

RELATIONSHIP CAPITAL

Patents

Organizational processes (e.g. recruitment, production, supply-chain, training, etc.)

The structure of the organization

Management systems

Information and communication technologies

Professional networks

Partners

Brand

Customers

Note: the list of content examples of different capitals is not all-inclusive

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Assessing / measuring intellectual capital

- Assessing / measurement system is usually tailored to meet organization specific features
- Often difficult to get accurate numerical data
- Often difficult to compare key figures with key figures from other organizations (they are either not available or too context specific)
- However, measuring different aspects of intellectual capital can give directions for future development efforts

- Suomeksi: https://fi.wikipedia.org/wiki/Aineeton_p%C3%A4%C3%A4oma
  - **Aineeton pääoma** luokitellaan usein kolmeen pääryhmään (monia muitakin luokituksia on olemassa).
    - *Inhimillinen pääoma* viittaa henkilöstön osaamiseen ja muihin yksilön kykyihin liittyviin tekijöihin.
    - *Suhdepääoma* **kuvaa** organisaation ja sen sidosryhmien välisiä suhteita. Muun muassa asiakassuhteet ja brandi kuuluvat tähän ryhmään.
    - *Rakennepääoma* kattaa organisaation toimintaan ja järjestelmiin sitoutuneen osaamisen. Esimerkkeinä voi mainita patentit ja tietojärjestelmistä löytyvän informaation.
-

Social capital

- *"The sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or a social unit"* (Nahapiet & Ghoshal 1989).

- Social network (which describes how social structures are composed through nodes and ties between the members of the social network) and social capital can increase the opportunities and capabilities to find knowledge and expertise.
  - Social capital is one kind of glue that can connects dispersed knowledge and competence resources together.

Benefits of social capital

- Reduces the time to locate an expert within an organization

- Minimizes the costs associated with validating expertise

- Reduces the time and effort associated with developing and monitoring an agreement between individuals

- Enables an organization to better manage its knowledge resources

- Enables employees to combine and exchange knowledge resources

(Lesser and Prusak, 1999)

How is new knowledge created?

- Combination
  - **Incremental change** and development of existing knowledge by combining elements that were previously unconnected or by
  - **Radical change**: developing novel ways of combining elements previously associated: innovation

- Exchange
  - Complementary knowledge recourses that are held and produced by different parties are exchanged and connected together
  - Transfer of explicit knowledge individually and/or collectively

- How to make combination and exchange possible?
  - Opportunity
  - Value expectancy
  - Motivation
  - Combination capability

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Creation of intellectual capital (IC)

Social capital → Combination and exchange of IC → Creation of new IC

Structural dimension:
Network ties
Network configuration
Appropriable organization

Cognitive dimension:
Shared codes and language
Shared narratives

Relational dimension:
Trust
Norms
Obligations & expectations
Identification

Access to parties for combining/exchanging IC

Anticipation of value through combining/exchanging IC

Motivation to combine/exchange IC

Combination capability

New IC created through combination and exchange

Adapted from Nahapiet & Ghoshal, 1998

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Creation of intellectual capital (IC)

Adapted from Nahapiet & Ghoshal, 1998

Types of knowledge work / knowledge-intensive organizations

- Models by Blackler (1995), Lam (2000), Bhatt (2002) differentiate knowledge work applying two dimensional model

- **First dimension** represents knowledge **exploration** / **exploitation**
  - Focus on **novel** vs. **familiar** problems
  - **Less** or **more** standardized knowledge and work
  - **Non-routine** and **non-specific** vs. **routine** and **specific** tasks

- **Second dimension** describes whether the work is based on individual or collective effort
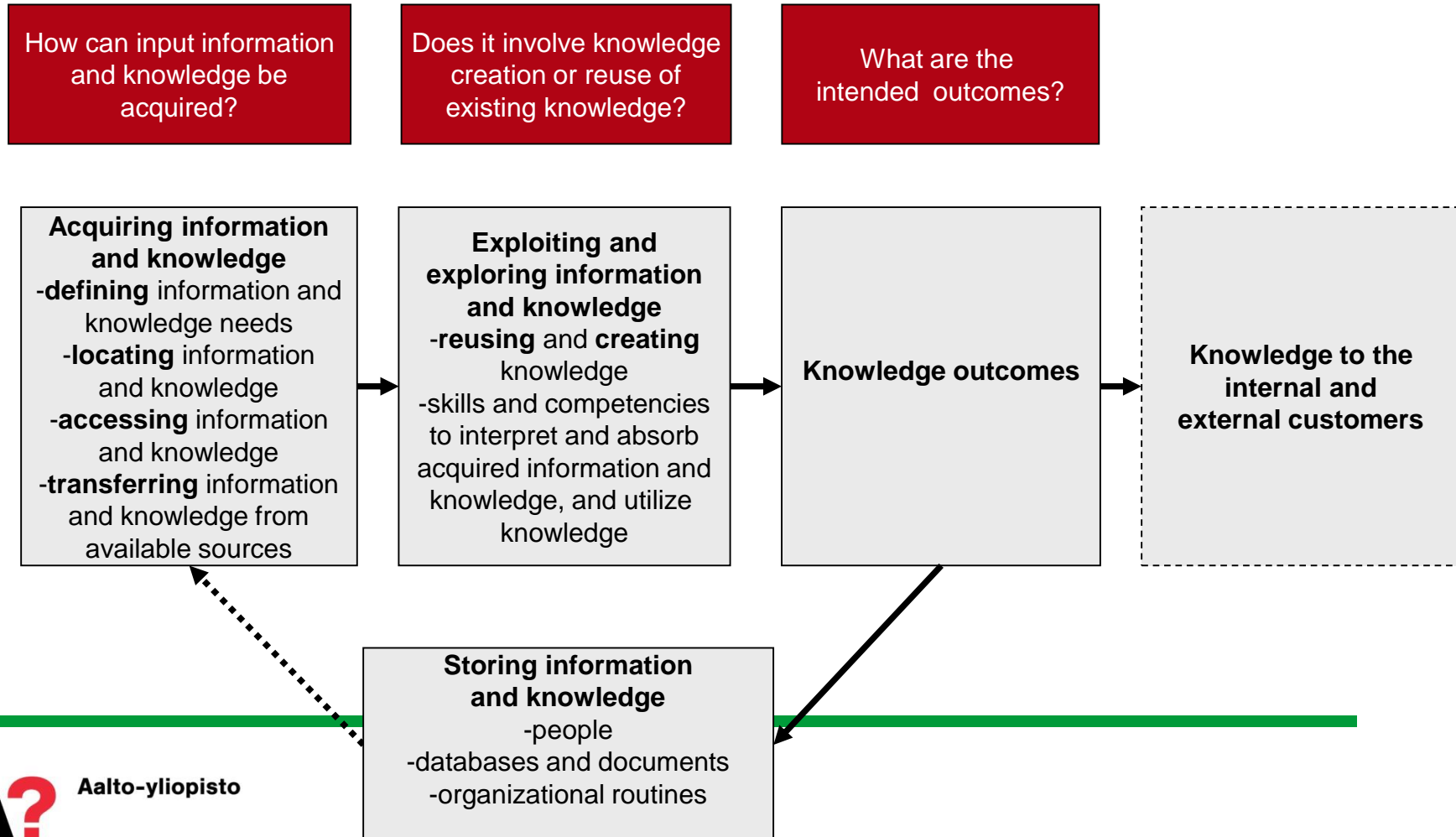
Exploring and exploiting knowledge (Bhatt 2002)

**Nature of interaction
(i.e. between people)** *How?*

	Independent	Interdependent	
Non-routine and non-specifiable	Individual expertise	Collaboration, informal coordination, and knowledge sharing	Focus on exploration
Routine and specifiable	Individual discretion (within the specified limit)	Formal procedure, techniques, and rules	Focus on exploitation

What? **Nature of tasks**

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A framework of (organizational) knowledge processes (Mäki 2008)

How can input information and knowledge be acquired?

Does it involve knowledge creation or reuse of existing knowledge?

What are the intended outcomes?

Acquiring information and knowledge
-**defining** information and knowledge needs
-**locating** information and knowledge
-**accessing** information and knowledge
-**transferring** information and knowledge from available sources

Exploiting and exploring information and knowledge
-**reusing** and **creating** knowledge
-skills and competencies to interpret and absorb acquired information and knowledge, and utilize knowledge

Knowledge outcomes

Knowledge to the internal and external customers

Storing information and knowledge
-people
-databases and documents
-organizational routines

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- Tauko 10-15 min

Lecture discussion – orientation

- Which of the following organizational forms seem more likely for knowledge-intensive organizations* in the future? Why?

- Candidates are
  - Operating adhocracy
  - J-form organization
  - Professional bureaucracy
  - Machine bureaucracy

*A knowledge-intensive organization refers to an organization where knowledge has more importance than other inputs (Starbuck 1992) (i.e., in contrast to labor-intensive or capital-intensive).

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Lam 2000

Knowledge agent
(autonomy and control)

Individual   Organization

	Individual	Organization
Low	Operating adhocracy	J-form organization
High	Professional bureaucracy	Machine bureaucracy

Standardization of knowledge and work

Professional bureaucracy

– Embrained knowledge
– Formal education and training
– Individuals are key knowledge agents
– Individual and functional specialization
– Autonomy within specialist areas
– Boundaries between jobs
– Tacit knowledge can be applied by an individual, in his own area of expertise
– Interaction and sharing of tacit knowledge between different occupational groups is limited
– E.g. hospital, university (?)

Knowledge agent
(autonomy and control)

	Individual	Organization
Low	Operating adhocracy	J-form organization
High	Professional bureaucracy	Machine bureaucracy

Standardization of knowledge and work

Machine bureaucracy

– Encoded knowledge
– Use of information systems is crucial
– Specialization, standardization, control
– Efficiency, formal operations, explicit rules and procedures
– Managerial hierarchy
– A clear dichotomy between generation and application of knowledge
– Knowledge is fragmented
– Dependency on individuals is minimized
– Role of tacit knowledge minimal
– Knowledge creation is slow and incremental
– Poor at novel situations
– E.g. some consulting companies, public administration (?)

Knowledge agent
(autonomy and control)

	Individual	Organization
Low	Operating adhocracy	J-form organization
High	Professional bureaucracy	Machine bureaucracy

Standardization of knowledge and work

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Operating adhocracy

– Embodied knowledge
– Little standardization
– Diverse know-how and skills of individuals, inter-dependent professionalism
– Speed of learning and unlearning is important
– Autonomy over work
– Generation of tacit knowledge through experimentation and interactive problem solving
– Tacit knowledge embodied to individuals
– Non-standard and creative problem solving, learning by doing
– Operates directly with customers
– Vulnerable of losing knowledge with people
– E.g. some consulting companies, university (?)

Knowledge agent
(autonomy and control)

	Individual	Organization
Low	Operating adhocracy	J-form organization
High	Professional bureaucracy	Machine bureaucracy

Standardization of knowledge and work

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25

J-form (Japanese type) organization

- Embedded knowledge
- Knowledge resides within operating routines and culture
- Flexibility
- Organic, non-hierarchical, and cross-functional semi-autonomous team structures
- Vertical and horizontal knowledge flows
- Generated knowledge and learning is disseminated widely to organization
- Job rotation and cross-functional collaboration allows knowledge diffusion throughout the whole organization
- Generated tacit knowledge is captured in organizational level (embedded to organization)
- Adaptive and innovative, learning by doing
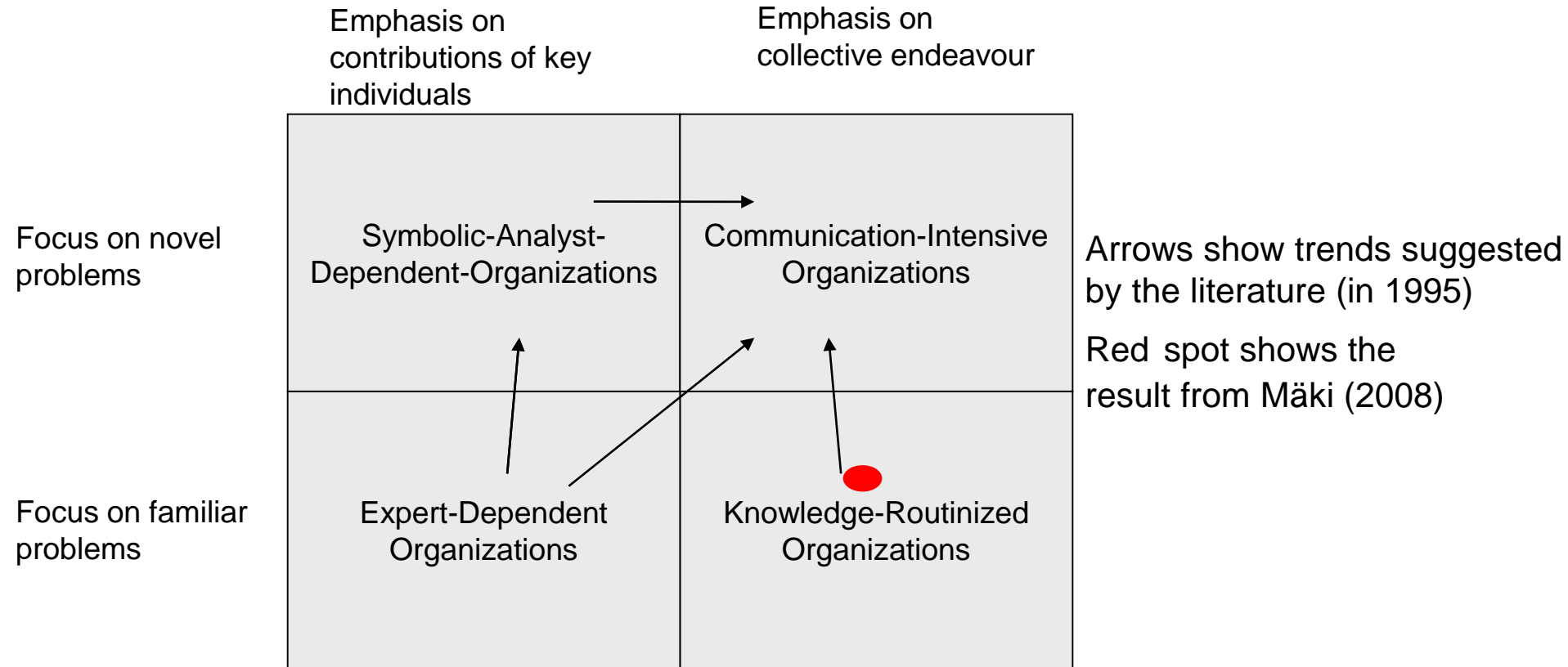- Incremental (but not radical) innovations

Knowledge agent
(autonomy and control)

	Individual	Organization
Low	Operating adhocracy	J-form organization
High	Professional bureaucracy	Machine bureaucracy

Standardization of knowledge and work

Blackler 1995

Emphasis on contributions of key individuals

Emphasis on collective endeavour

Focus on novel problems

Symbolic-Analyst-Dependent-Organizations

Communication-Intensive Organizations

Focus on familiar problems

Expert-Dependent Organizations

Knowledge-Routinized Organizations

Arrows show trends suggested by the literature (in 1995)

Red spot shows the result from Mäki (2008)

Blackler (1995) vs. Mäki (2008)

- Why did not Mäki find Communication-Intensive (or J-form) Organizations?

- Please discuss 10 minutes in small groups (2-4 students).

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Blackler (1995) vs. Mäki (2008)

- Why did not Mäki find Communication-Intensive Organizations?

  - **Rapid development of ICT tools?** (helps at utilizing encoded knowledge)

  - **Constant changes in organizational forms and operational activities?** (impairs development of embedded and encultured knowledge)

  - **Focus on core know-how > utilization of offshoring, outsourcing, sub-contractors?** (impairs development of embedded and encultured knowledge)

  - **Employee turnover increase?** (impairs development of embedded and encultured knowledge)

  - **Demands of efficiency?** (favoring encoded instead of other forms of knowledge)

  - **Difficulty to operationalize / separate** different types of knowledge- intensive organizations (this is related to research methodology)

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