Aalto-yliopisto

Ako-E3020
Knowledge Management in Practice (5 op)

Luento #5

12.2. 2020 – Eerikki Mäki eerikki.maki@aalto.fi

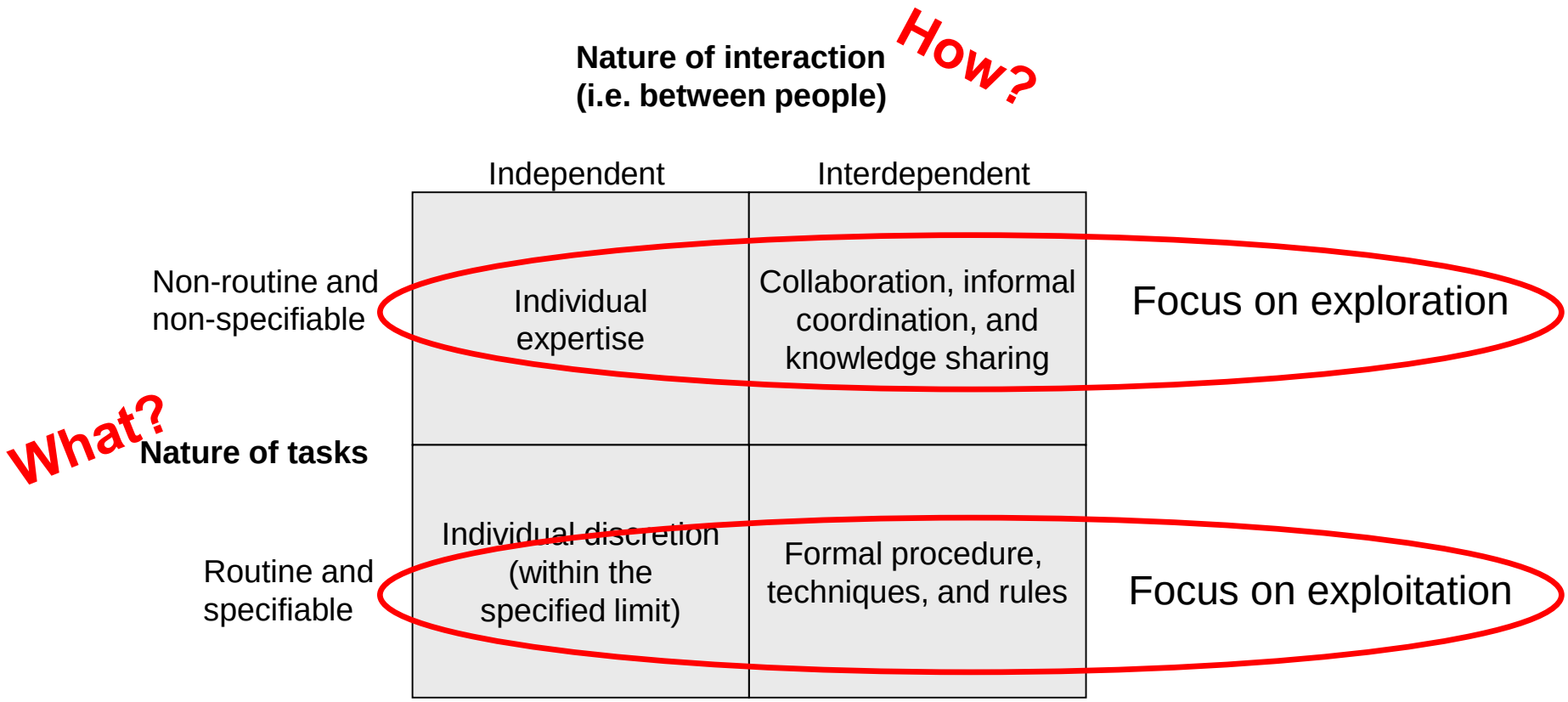
Agenda

- Tilanne ryhmätöiden suhteen
- Tiedon ja osaamisen johtamisen strategiat
- Työskentelyä ryhmässä tehtävän harjoituksen parissa

Oppimispäiväkirja 5

- Pohdi tiedon johtamisen strategian toteutumiseen liittyviä tekijöitä. Hyödynnä omia kokemuksia vastauksen pohjana, mutta käytä luentomateriaalia ja artikkeleita liittääksesi kokemuksesi johonkin teoriaan tai tieteelliseen malliin. Esim:
  - Hansen, M. Nohria, N. & Tierney, T. (1999) What's your strategy for managing knowledge. Harvard Business Review. March-April 1999, 106-116.
  - Swan J., Newell S., Scarbrough H., Hislop D. (1999) Knowledge Management and Innovation: Networks and Networking. Journal of Knowledge Management, vol. 3 (4), 262-275.
  - Zack M. (1999a) Developing a Knowledge Strategy. California Management Review, vol. 41 (3), 125-145.

Exploring and exploiting knowledge (Bhatt 2002)



Source: Bhatt G. (2002) Management strategies for individual and organizational knowledge. Journal of Knowledge Management, Vol. 6 (1), 31-39

Strategy

- A method or plan chosen to bring about a desired future, such as achievement of a goal or solution to a problem
- The art and science of planning and marshalling resources for their most efficient and effective use
- The term is derived from the Greek word for generalship or leading an army.

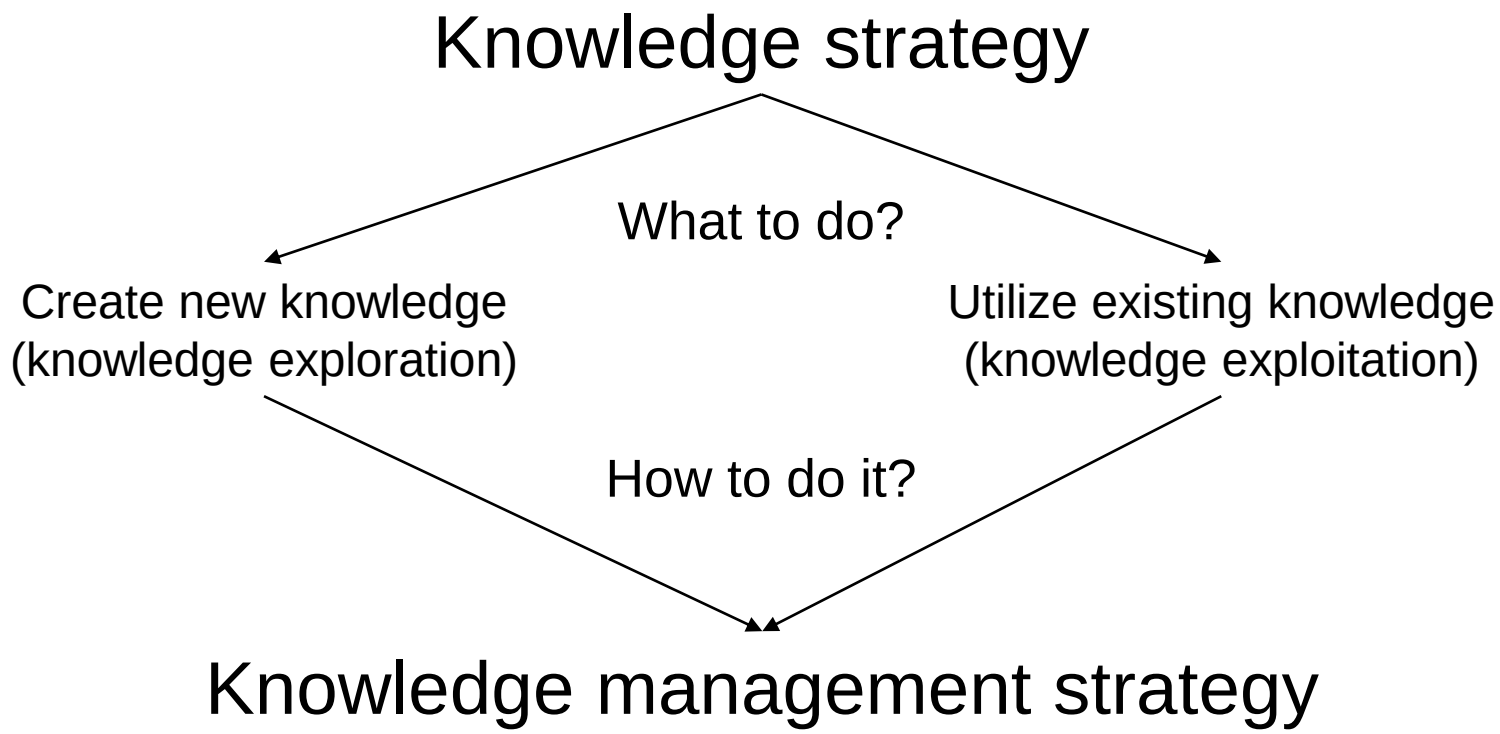
http://www.businessdictionary.com/definition/strategy.html

Definitions

- Knowledge strategy
  - What (kind of) knowledge is important
  - Information vs. knowledge
  - Type of knowledge: tacit/explicit
  - Exploration vs. exploitation

- Knowledge management strategy
  - How to manage knowledge
  - Codification vs. personalization
  - Knowledge processes

Knowledge strategy and knowledge management strategy

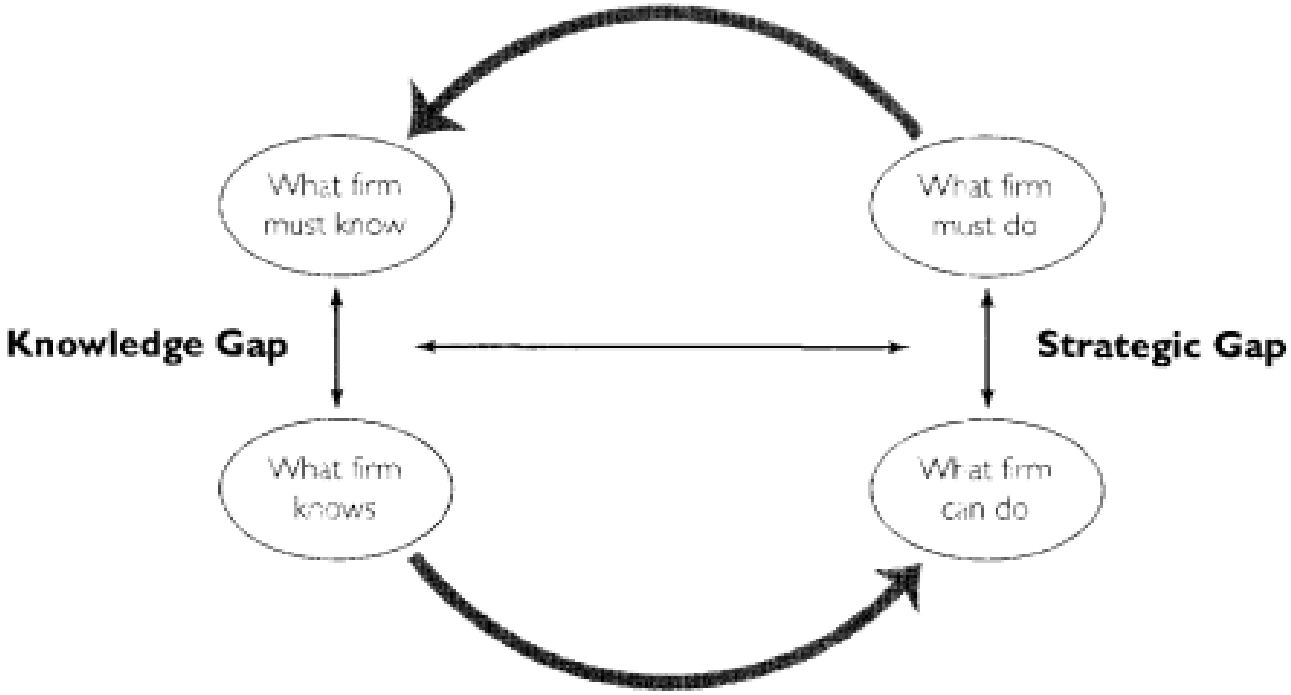


Knowledge strategy and knowledge management strategy

- The difference between **knowledge strategy** and **knowledge management strategy**
  - **Knowledge strategy** refers to exploration and exploitation of knowledge (i.e. what is the choice or a preference of an organization: create new knowledge or reuse existing knowledge)
    - Different functions of an organization may apply different knowledge strategies (e.g. research and administration in Aalto University)
  - **Knowledge management strategy** refers to organization's means to achieve its knowledge strategy (e.g. human interaction based vs. IT based KM strategy, or personalization vs. codification strategy, or Community networking model vs. Cognitive network model)
    - I.e. How an organization aims to create new knowledge or reuse its existing knowledge

Knowledge strategy

”Knowledge strategy describes the overall approach an organization intends to take to align its knowledge resources and capabilities to the intellectual requirements of its strategy” (Zack 1999)



Zack M. (1999) Developing a Knowledge Strategy. California Management Review, vol. 41 (3), 125-145.

Exploration and exploitation strategies

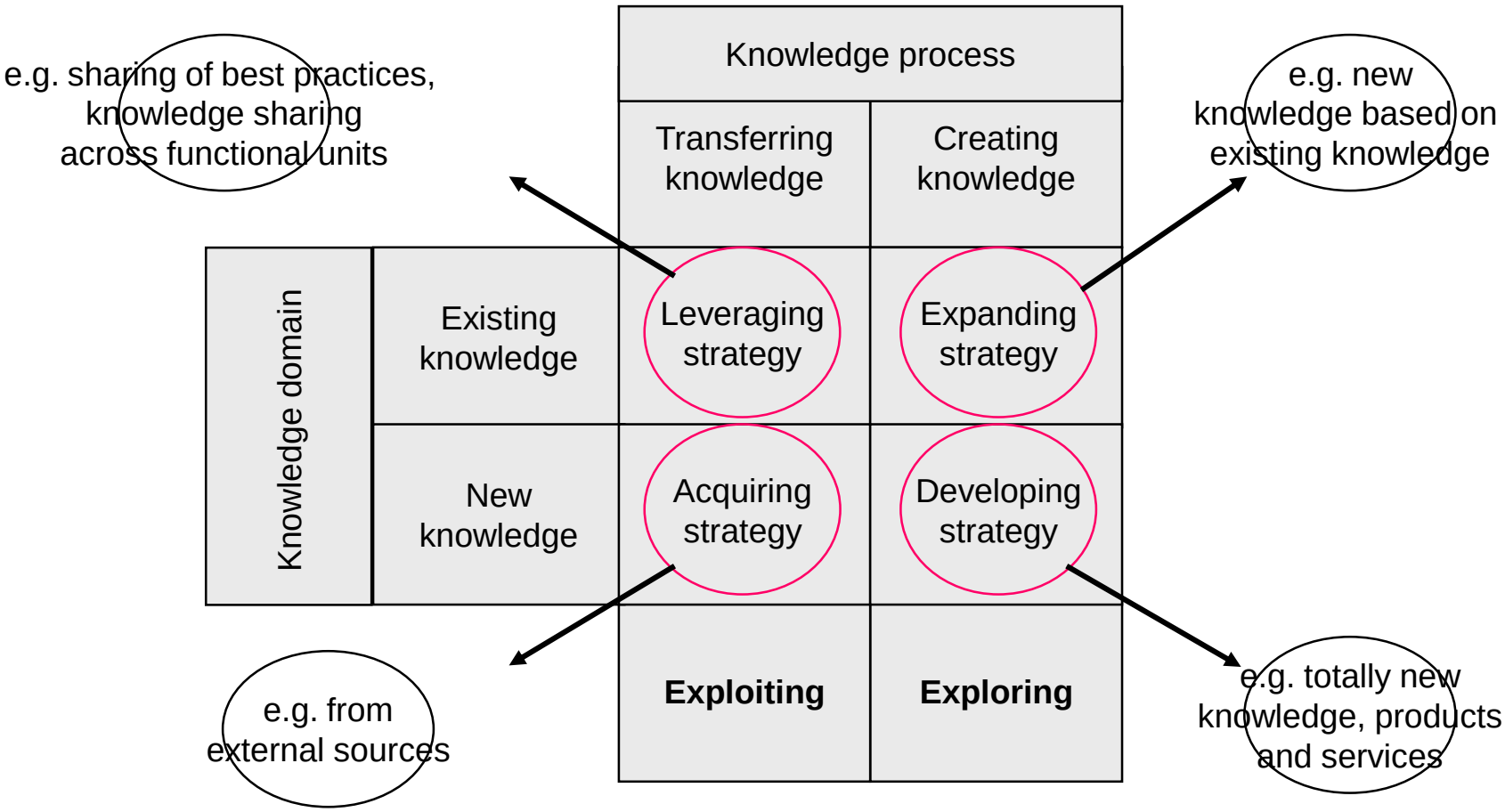
Exploration

- Creating new knowledge
- Emphasis on tacit knowledge
- Tolerate experimentation and failure
- More risks, better revenues
- Competitive advantage from entering first to the markets
- Unique solutions in different situations (e.g. in consulting industry)
- Ensuring internal and external opportunities to exchange and combine knowledge
  - "Knowledge serendipities "
  - Face-to-face communication

Exploitation

- Utilizing and reusing existing knowledge
- Emphasis on explicit knowledge
- Create routines and processes
- Less risks, moderate revenues
- Competitive advantage from economics of scale
- Similar solutions in different situations (e.g. in consulting industry)
- Ensure the availability of codified knowledge within an organization
  - Right knowledge on the right place at the right time
  - Use of technology

Exploring and exploiting knowledge (modified from Krogh von et al. 2001)



Source: Krogh von G., Nonaka I. & Aben M. (2001) Making the most of your company's knowledge: A strategic framework. Long Range Planning, Vol. 34, 421-439.

Knowledge management strategies:

Codification strategy and personalization strategy in knowledge management

Codification and personalization strategy in knowledge management

Codification strategy

- Capturing and storing knowledge in explicit forms
- Codified knowledge can be transferred to and used by others in the organization
- ICT (Information and communication technology) is used to support the storage and retrieval of knowledge by employees
- **”People-documents approach”**

Personalization strategy

- Facilitates and encourages knowledge sharing ”person-to-person”
- IT is used to interpersonal communication, connecting people
- **”People-people approach”**

Codification and personalization as knowledge management strategies

Codification strategy

- focus on explicit knowledge
- knowledge is codified and stored in databases, accessed by anyone
- developing an electronic document system that codifies, stores, disseminates, and allows reuse of knowledge
- heavy investments on IT
- training people in groups and through computer-based distance learning
- ”**People-documents approach**”

Personalization strategy

- focus on individual, tacit knowledge
- knowledge is closely tied to the person who developed it and shared mainly through direct person-to-person contacts
- developing networks for linking people
- facilitating conversations and exchange of tacit knowledge
- IT for communicating not storing of knowledge
- problem solving and tolerance of ambiguity
- one-to-one mentoring
- ”**People-people approach**”

Codification and personalization as knowledge management strategies

- Codification strategy
  - Embrained knowledge i.e. conceptual skills and cognitive abilities (knowing that)
  - Embedded knowledge i.e. knowledge embedded to the systems, routines and processes
  - Encoded knowledge i.e. information conveyed by signs and symbols

- Personalization strategy
  - Embrained knowledge i.e. conceptual skills and cognitive abilities (knowing that)
  - Embodied knowledge i.e. context specific knowledge (knowing how)
  - Encultured knowledge i.e. shared understandings

See Hansen et al. (1999) for more information on Codification and personalization strategies

Codification vs. personalization knowledge management strategy

- An organization should select/emphasize one dominant KM strategy (either codification or personalization) for knowledge sharing
- 80-20 split: 80% of the knowledge sharing should follow one strategy, 20% the other (Hansen & al. 1999)
- Both codification and personalization strategy are needed
- Type of knowledge should be taken into account when selecting KM strategy
  - Tacit/explicit/codified knowledge
  - Complex, not complex knowledge

Community networking model, Cognitive network model (Swan et al. 1999)

- Community networking model
  - Similarities with exploration and personalization strategy
- Cognitive network model
  - Similarities with exploitation and codification strategy

Source: Swan J., Newell S., Scarbrough H., Hislop D. (1999) Knowledge Management and Innovation: Networks and Networking. Journal of Knowledge Management, vol. 3 (4), 262-275.

Community networking model

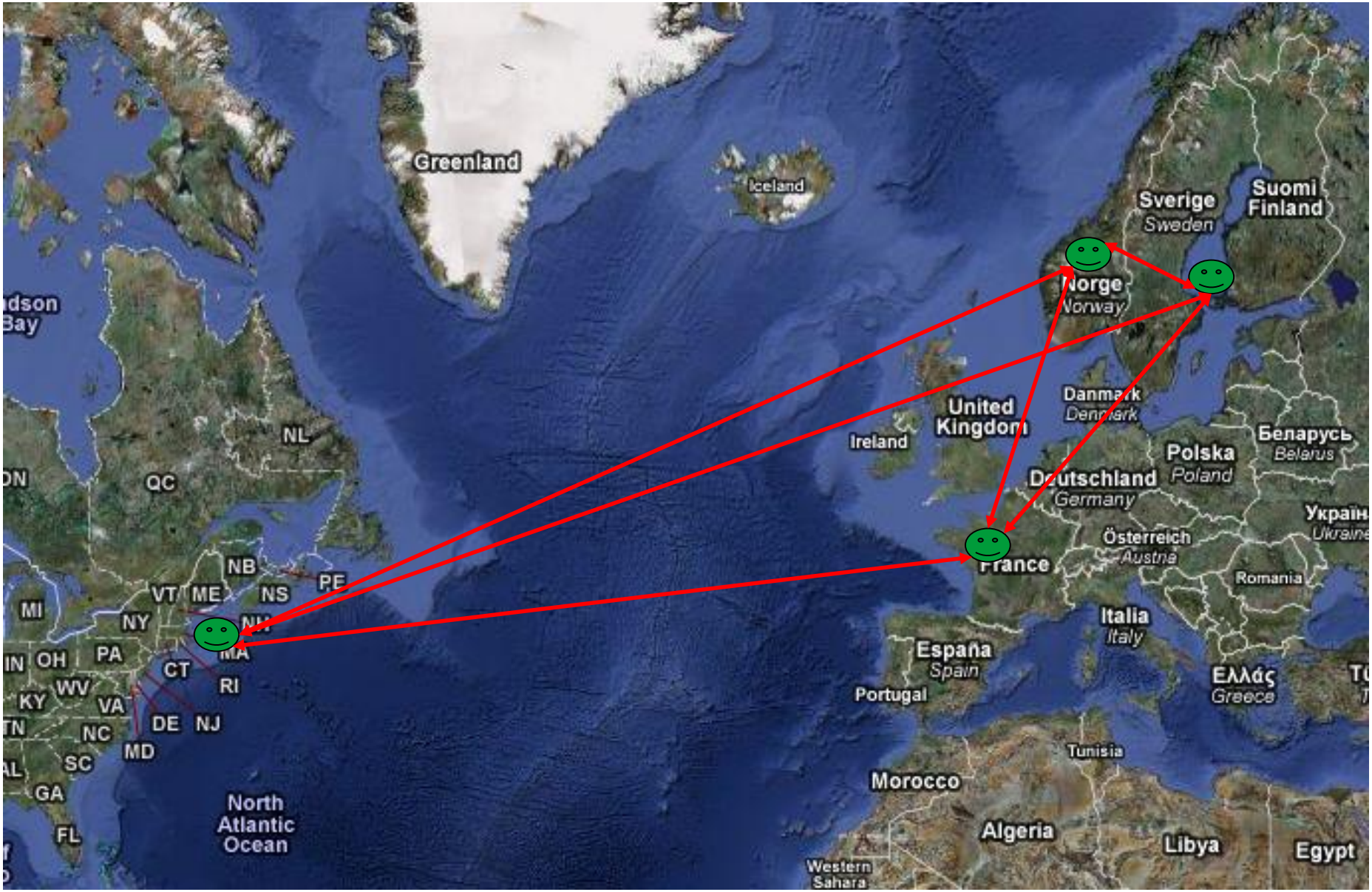
- Knowledge for innovation is socially constructed and based on experience
- A lot of knowledge is in tacit form and it is shared and made sense through active networking within and between occupational groups and teams
- Gains from KM include exploration through the sharing and synthesis of knowledge among different social groups and communities
- The primary function of KM is to encourage knowledge sharing through networking
- The critical success factor is trust and collaboration
- The dominant metaphors are the human community and the kaleidoscope (creative interactions producing new knowledge in sometimes unpredictable ways)

Cognitive network model

- Knowledge for innovation is equal to objectively defined concepts and facts
- Knowledge can be codified and transferred through networks: information systems have a crucial role
- Gains from KM include exploitation through the recycling of existing knowledge
- The primary function of KM is to codify, capture and transfer knowledge through networks
- The critical success factor is technology
- The dominant metaphors are the human memory and the jigsaw (fitting pieces of knowledge together to produce a bigger picture in predictable ways)

- Example by Olson G. & Olson J. (2000) **Distance matters**. Human-Computer Interaction, Vol. 15, 139-178

- Three typical knowledge work scenarios in the next three slides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Germany
Україна
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Romania
Italia
Italy
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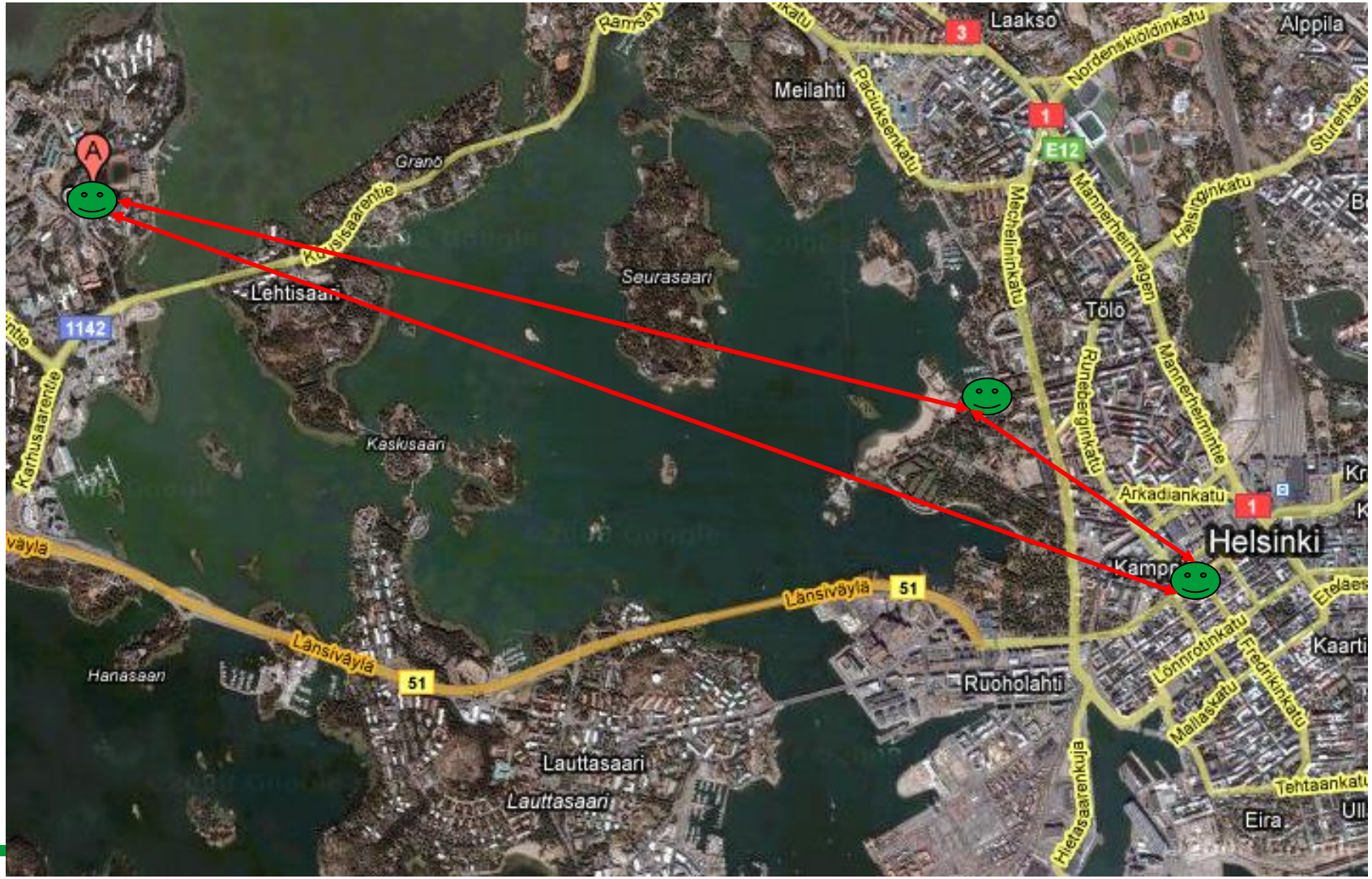

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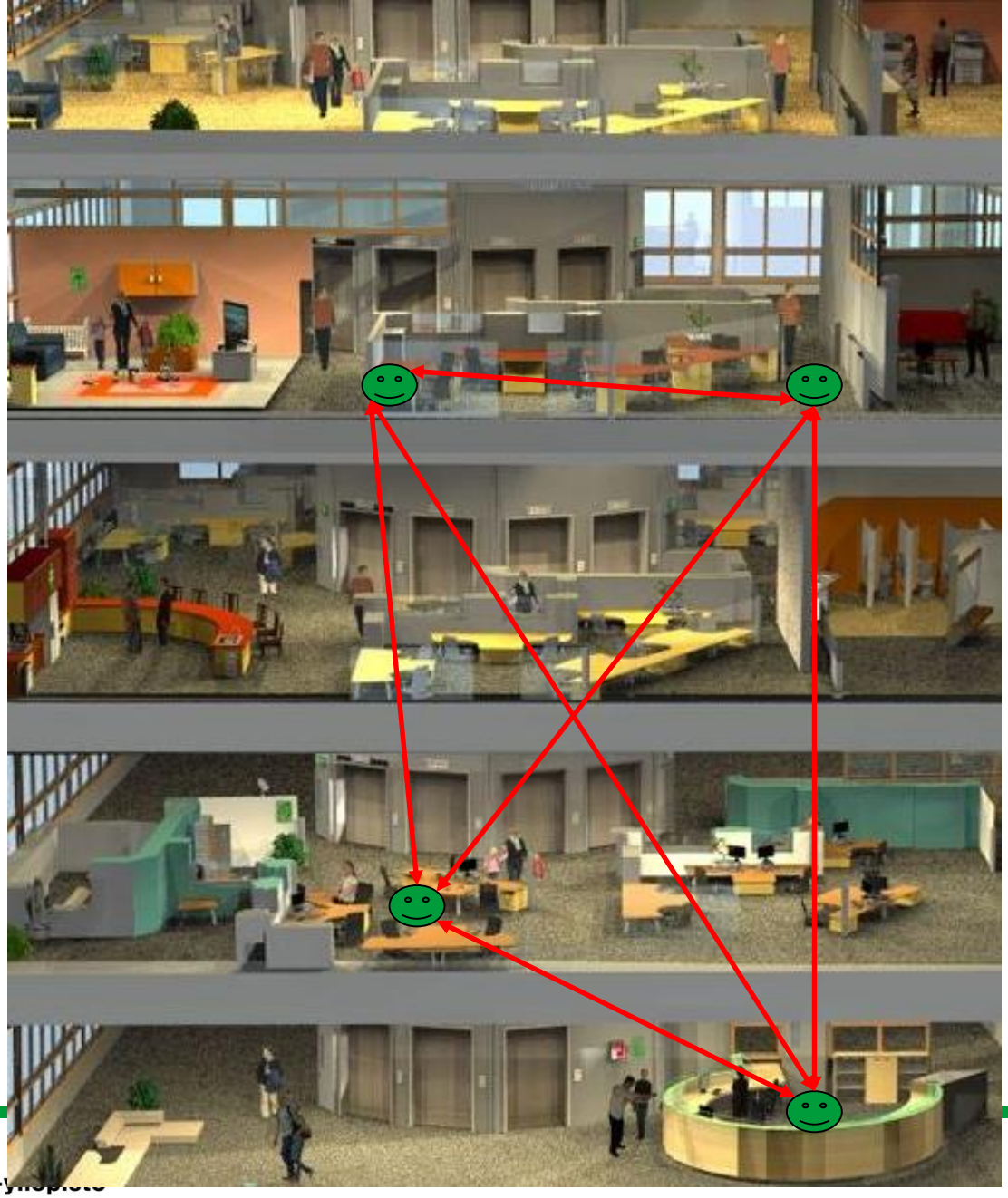

Lecture discussion

- Based on your experiences:
  - Write on **green** post-it notes **(one item / paper)** things that **influence positively on collaboration and knowledge sharing** when working virtually (in different locations, with people having different expertise and background, even in different time zones)
  - Write on **red** post-it notes **(one item / paper)** things that **influence negatively on collaboration and knowledge sharing** when working virtually (in different locations, with people having different expertise and background, even in different time zones)
  - Avoid writing just words (e.g. “culture”), but instead write how culture affects (positively or negatively)

  - Work on your own 10 minutes, then discuss in small groups 10 minutes (if we have time…)

Lecture discussion

- Success or failure of distant collaboration is based on four key concepts (Olson & Olson 2000):
  - **Common ground** (common / shared knowledge of participants)
  - **Coupling of work** (interdependence of participants' work)
  - **Collaboration readiness** (willingness to receive and share knowledge in the interface)
  - **Collaboration technology readiness** (technological tools and infrastructure that supports distant collaboration)

4 Cs!

Lecture discussion

- Please, organize your post-it notes according to the categorization

Common ground (common / shared knowledge of participants)	**Coupling of work** (interdependence of participants' work)	**Collaboration readiness** (willingness to receive and share knowledge in the interface)	**Collaboration technology readiness** (technological tools and infrastructure that supports distant collaboration)
+	+	+	+
-	-	-	-

Common ground (i.e. shared knowledge or background of people working together)

POSITIVE

- Itsenäinen työskentely
- Different cultures: understand different customer's needs better (i.e. If global product)
- Luo yhteisöllisyyttä kun osallistutaan etäisyyksistä huolimatta
- Yrityksen sisällä eri mieltymykset helpompi huomioida (hiljaiset huoneet, avokonttorit, seisomatyön mahdollisuus)
- Erilaiset näkökulmat avartavat, laajentavat ymmärrystä > innovatiivisia ratkaisuja
- Monikulttuuriset / osaajat helpommin yhdistettävissä (tuo useat näkökulmat yhteen)

NEGATIVE

- In different cultural backgrounds – different ideas on some terms (i.e. schedule)
- Agreeing on style of communication
- Erilainen lähtötietotaso / aihealue
- Pitää aina fyysisesti yhdessä olessa aloittaa alusta jos uusia ihmisiä on tullut
- Tiimihengen syntyminen vaikeaa
- Kieliongelmat, sanojen merkitys
- Yhteisen suunnan löytyminen vaikeaa
- "iteratiivinen" työskentely on vaikeaa/hidasta tai mahdotonta
- Ajatusten ja ideoiden "sparrailu" vaikeutuu
- Mahdollisuus tehdä tiedon puutteessa turhaa työtä
- Täytyy olla hyvät tunnetaidot/ tunneäly, jotta välttää konfliktit ja väärinymmärrykset
- Väärinymmärryksen riski kasvaa, kun ei voi peilata kuinka viesti otetaan vastaan

Coupling of work (i.e. a need to interact in order to produce something together)

POSITIVE

- Asiafokus
- Sisältörikkaat kohtaamiset
- Tarve kohdata
- Toinen / toiset saavat paremmin aikaa pureskella kuulemaansa ja lukemaansa
- Työn tehokkuus – kun ollaan eri aikavyöhykkeillä yksi kun lopettaa, toinen jatkaa
- Aika, paine ja agenda ohjaavat
- Joustavuus: eri ihmiset työskentelevät ja motivoituvat eri ympäristöissä
- Antaa joustoa
- Vaatii selkeää johtajuutta: kaikki toimii jos yksi taho määrittää / seuraa palaverit, raportointi, prosessien toimivuus, jne
- Yhteiset tavoitteet / intressit: mitä halutaan saada aikaan
- Keskittyminen omaan tehtävään
- Kommunikointi tarkempaa, osuvampaa, suorempaa
- Kysymysten yms formulointi pitemmälle: työn mahdollinen tehostuminen

NEGATIVE

- Aikaero tai muut esteet (toinen ei lue meilejä yhtä tiiviisti tms) hidastaa toimintaa
- Aikataulujen sovittaminen (esim aikaero)
- Sitoutuminen ei niin vahvaa
- Vaikea ymmärtää / tulkita muita
- Epäselvät tavoitteet
- Kaikki ei välttämättä aktiivisesti mukana (=multitaskaus)
- Kontrolli pienenee, jolloin asiat voivat edetä eri suuntiin
- Välimatka tuo haasteita neuvotteluihin
- Kasvottomuus (keskustelussa ei näe toisen reaktioita)
- Väärinymmärryksiä
- Kansainvälisesti ajateltuna aikaero voi haitata projektin edistymistä
- Homma voi ”levitä” jos kukaan ei johda / pidä lankoja käsissään. Oikea käsi ei tiedä mitä vasen tekee
- Tavoitettavuus / löydettävyys: asioiden selvittämiseen saattaa kulua aikaa sen sijaan että oikea henkilö olisi lähellä. Ongelma lienee enemmän face-to-face – kontaktia vaativissa asioissa
- Yhteisöllisyys: luontevat keskustelut töiden lomassa jäävät puuttumaan, ei työ-asioista puhumisen mahdollisuus
- Aikavyöhykkeen haitat tiimityöskentelyyn (ihmiset online eri vuorokauden aikoina)
- Ryhmätyöskentely helposti vain sarja monologeja
- Hiljaisen tiedon jakaminen

Collaboration readiness (i.e. willingness to share and receive information and knowledge)

POSITIVE

- Verkostojen laajentuminen
- Ihmiset ovat epämukavuusalueella, jolloin usein syntyy parasta oppimista
- Selkeät roolit ja vastuut: kuka johtovastuussa, kuka vastuussa mistäkin
- Uudet, aina vaihtuvat työkaverit tuovat uusia, freshejä ajatuksia ja oppeja
- Eri kulttuureista ja eri toimintaympäristöistä tulevat luovat yhdessä uutta tietoa ja ymmärrystä
- Yhteistyöstä tulee suunnitelmallista ja rakenteista
- Asiat tulee jäsenneltyä paremmin ennen yhteydenottoa
- Henkilöt tuttuja ennestään (tavanneet joskus f2f)
- Different backgrounds : various viewpoints
- Kommunikaatiossa vain ääni: voi oppia kuulemaan oikeasti
- Varauksettomuus / helpompi ehdottaa asioita
- Different backgrounds : learning from each other's previous experiences
- Alueellisesti erilaiset menetelmät ja niiden rikkaus
- Different expertise: various strenghts
- Etäisyyden yli voi toimia neutraalisti, vaikeampi loukata toista
- Näkökulmat: toiminnan kehittäminen esim niin että prosessi toimii ulkomailla / pääkaupunkiseudun ulkopuolella
- Tehokkuus, ei niin paljon rönsyilyä
- Kun yhteistyökumppanit tapaavat, heillä on yleensä tapaamiselle suunnitelma ja tavoite
- Työrauha (esim työskentely)
- Työrauha säilyy
- Erilaiset tausta / lähtökohdat luovat erilaisia näkökulmia
- Different expertise: learning from each other professionally
- Oman toimintaympäristön ajatukset ja tieto myös tiimille jakoon: esim eri kulttuurien kesken

NEGATIVE

- Viestikatkokset saattavat vaikeuttaa työskentelyä (joku tippuu pois viestiketjusta jne)
- Aikaeron kielteiset vaikutukset
- Palautteen antaminen haasteellista
- Ei muodostu yhtä vahvaa vuorovaikutussuhdetta / luottamusta (välttämättä), joka vapauttaa tiedon jakamista: helpompi / matalampi kynnys kysyä apua
- Nyanssit jää pois
- Yhteydenotto voi olla kynnys esim aikaeron vuoksi
- Hiljainen tieto jää jakamatta
- Kasvottomuus ei välttämättä johda syvään yhteistyöhön
- Toimipisteklikkien muodostuminen
- Erilaiset toimintatavat / tyylit voi vaikeuttaa yhteistyötä: väärinymmärrykset, tehokkuus
- Kulttuuriset erot vaikeuttavat ymmärrystä ja etenemistä
- Toisen tunteiden hankala tulkittavuus
- Tiimihengen rakentaminen
- Rakenne voi jäykistää ja yksipuolistaa, tehdään kuten ennenkin
- Kulttuurierot: erilaiset tavat viestiä, erilaiset aikakäsitykset
- Ei-verbaalinen kommunikointi puuttuu: 80 % viestinnästä jää saamatta
- Kieli- ja kulttuurimuuri voi aiheuttaa väärinymmärryksiä
- Kulttuurieroista johtuva varauksellisuus
- Verkostojen rajallisuus
- Mahdolliset aikaerot vaikeuttavat yhteydenottoa
- Kynnys jakaa ideoita/ajatuksia/aivopieruja suurempi
- Tunteiden jakaminen jää vähemmälle tai väärinymmärryksiä kun ei näe toisen tunteita
- Vapaamuotoisen keskustelun vähyys: taustatietojen, oman kokemuksen yms jakaminen jää vähemmälle, ei voi "nähdä" toisen ajatuksista yhtä helposti ideoista

Collaboration technology readiness (i.e. how technology supports collaboration)

POSITIVE

- Spontaani yhteydenotto usein hankalaa (ei joka asiasta tulla puhumaan, oma työrauha)
- Helppo osallistua
- ”pakko” dokumentoida ja jakaa, määrämuotoista
- Nopea reagointi
- Tehostaa toimintaa kun aika ei kulu matkustamiseen tms
- Toimivat teknologiat / kommunikointivälineet: mahdollisuus sujuvaan tiedon & osaamisen jakamiseen teknologia mahdollistaa hyvän keinon jakaa tietoa, keskustella, nähdä toisten kasvot jne
- Suunnittelu ja koordinointi tärkeää
- Tekniset perusvalmiudet: työvälineiden hyödyntäminen
- Monesti ei ole sidottu samoihin työaikoihin tai muiden työtahtiin muiden kanssa
- Keskustelut dokumentoituvat joskus itsestään (email, chat-logit)
-

NEGATIVE

- Aikaa kuluu teknologian tm ongelmiin: tehotonta
- Spontaani yhteydenotto usein hankalaa (asiat hidastuvat, yhteistyö hidastuu)
- Ilmeet ja eleet puuttuvat
- Kommunikaatiossa ”vain” ääni
- Vähemmän kohtaamisia
- Voi jäädä ns ulkopuolelle
- Yhteydenpito kollegoiden kesken voi olla hankalampaa
- Sosiaalisten tekijöiden rajallisuus (esim lounaat)
- Jokainen tarvii omat ”laput”: fasiliteettien jakaminen hankaloituu
- Toimintatavat ja järjestelmien käyttökyvyt voivat ajaa asian edelle

Implications of the 4C model (Olson & Olson 2000)

- **Collaboration readiness** is often based on **Common ground** (e.g. goals, language, expertise, agreed working methods, etc.) => it is vital to find, establish or develop Common ground first
- Diversity of participants' e.g. motivation, expertise and knowledge makes the beginning of the **Coupled** work challenging => if solved, participants' complementary knowledge may become an asset
- A great number of ICT tools available, and divergent ways to use them; that can make collaboration challenging => rules and tools should be discussed and agreed in the beginning to utilize **Collaboration technology readiness**

- Many of the findings are applicable in co-located team work, as well

What kinds of problems KCM projects aim to solve?

- Problems are often ***ill-defined***
  - Intended objectives are hard to define (=> how to measure or evaluate what have been achieved?)
  - Path to solution is not clear (=> how to find it?)
  - Outcomes are hard to foresee or predict (=> how to convince the decision maker?)

- These are all typical features of many OD (organizational development) efforts
- Scientist/practitioner working with these kinds of problems must be skilled and knowledgeable about the subject/phenomenon

If you are interested, you may look at the article Holmström, J., Ketokivi, M., & Hameri, A. (2009). Bridging practice and theory: A design science approach. Decision Sciences, 40(1), 65-87.

What is practical?

- Theoretical models and approaches are practical because they help at focusing attention
  - They help at finding and elaborating problems
  - They help at generating solutions

- Please notice, people often find what they are looking for and ignore other evidence
  - If you are looking through a certain theoretical model / lenses, you may overlook other relevant aspects

Exploring
(creating new knowledge)

Exploiting
(utilizing existing knowledge)

Finding
Storing
Integrating
Sharing
Adopting
Etc.

What kind of knowledge is processed?

Technology

Leadership & management

Practical aspects to be considered (e.g. in your case assignment)

- Does it emphasize exploration or exploitation of knowledge?
- What kind of knowledge is involved?
- What are the knowledge processes you aim to develop?
- What is the role of technology? How about leadership/management aspects?

Readings (1)

- Alavi, M. & Tiwana, A. (2003) Knowledge management: the information technology dimension. In Esterby, M. & Lyles, M.A. (2003) The Blackwell Handbook of Organizational learning and knowledge management. Oxford: Blackwell Publishing Ltd.
- Andriessen, J.H.E. (2003) Working with groupware. Understanding and evaluating collaboration technology. London: Springer.
- Bhatt G. (2001) Knowledge Management in Organizations: Examining the Interaction Between Technologies, Techniques, and People. Journal of Knowledge Management, vol. 5 (1), 68-75.
- Bhatt G. (2002) Management Strategies for Individual and Organizational Knowledge. Journal of Knowledge Management, vol. 6 (1), 31-39.
- Blumentritt R. & Johnston R (1999) Towards a Strategy for Knowledge Management. Technology Analysis & Strategic Management, vol. 11 (3), 287-300.
- Daft, R.L.; Lengel, R.H. (1986). Organizational information requirements, media richness and structural design. Management Science. 32 (5): 554–571
- Dalkir, K.(2005) Knowledge management in theory and practice. Amsterdam, Elsevier.
- Earl M. (2001) Knowledge Management Strategies :Toward a Taxonomy. Journal of Management Information Systems, vol. 18 (1), 215-233.
- Gammelgaard J. & Ritter T. (2005) The knowledge retrieval matrix: codification and personification as separate strategies. Journal: Journal of Knowledge Management Volume: 9 Issue: 4 Page: 133 – 143
- Haas, M. & Hansen, M. (2007) Different knowledge, different benefits: towards a productivity perspective on knowledge sharing in organizations. Strategic Management Journal 28, 1133-1153.
- Hansen, M. (2002) Knowledge Networks : Explaining Effective Knowledge Sharing in Multiunit Companies. Organizational Science, vol. 13 (3), 232-248.
- Hansen, M. Nohria, N. & Tierney, T. (1999) What's your strategy for managing knowledge. Harvard Business Review. March-April 1999, 106-116.
- Hendriks P. (1999) Why Share Knowledge? The Influence of ICT on the Motivation for Knowledge Sharing. Knowledge and Process Management, vol. 6 (2), 91-100.
- Järvenpää, E. & Mäki, E. (2001) Knowledge sharing in networked organizations. In Bontis N. (Ed.) World Congress on Intellectual Capital Readings. Boston: Butterworth Heinemann, pp. 374-383.
- Kamara J., Anumba C. and Carrillo P. (2002) A CLEVER approach to selecting a knowledge management strategy, International Journal of Project Management, Volume 20, Issue 3, April 2002, Pages 205-211.

Readings (2)

- Kock, N. (2004) The psychobiological model: towards a new theory of computer-mediated communication based on Darwinian evolution. Organization Science, Vol 15, No 3, May-June, 327-348.
- Kock, N., Lynn, G.S., Dow, K.E. & Akgun, A.E. (2006) Team adaptation to electronic communication media: evidence of compensatory adaptation in new product development teams. European Journal of Information Systems15.3 (Jun 2006): 331-341.
- Krogh von G., Nonaka I. & Aben M. (2001) Making the most of your company's knowledge: A strategic framework. Long Range Planning, Vol. 34, 421-439.
- March J. (1991) Exploration and exploitation in organizational learning. Organization Science, Vol. 2 (1), 71-87.
- Markus M. (2001) Toward a Theory of Knowledge Reuse: Types of Knowledge Reuse Situations and Factors in Reuse Success, Journal of Management Information Systems, vol. 18 (1), 57-91.
- Pfeffer J. & Sutton R. (1999) Knowing "What" to Do Is Not Enough: Turning Knowledge into Action. California Management Review, vol. 42 (1), 83-108.
- Schulz M. & Jobe L. (2001) Codification and Tacitness as Knowledge Management Strategies: an Empirical Exploration. The Journal of High Technology Management Research, Vol. 12 (1), 139-165. .
- Seufert, A., von Krogh, G. & Bach, A. (1999) Towards knowledge networking. J. of Knowledge management, 3 (3), 180-190.
- Short, J.A., Williams, E., & Christie, B. (1976). The social psychology of telecommunications. New York: John Wiley & Sons.
- Sveiby K-E. (2001) "A knowledge-based theory of the firm to guide in strategy formulation", Journal of Intellectual Capital, Vol. 2 Iss: 4, pp.344 – 358
- Swan J., Newell S., Scarbrough H., Hislop D. (1999) Knowledge Management and Innovation: Networks and Networking. Journal of Knowledge Management, vol. 3 (4), 262-275.
- Thomas J., Kellogg W. & Erickson T. (2001) The knowledge management puzzle: Human and social factors in knowledge management. IBM Systems Journal, Vol. 40 (4), 863-884
- Venkitachalam, K., Scheepers, R. & Gibbs, M. (2003) Supporting knowledge strategy in consulting organizations: Codification, personalization or both. 7th Pacific Asia Conference on Information Systems, 10-13 July 2003, Adelaide, South Australia
- Wenger E. & Snyder W. (2000) Communities of practice: the organizational frontier. Harvard Business Review. January-February, 139-145
- Zack M. (1999a) Developing a Knowledge Strategy. California Management Review, vol. 41 (3), 125-145.

Readings (3)

- Argote L. & Ingram P. (2000) Knowledge Transfer: A Basis for Competitive Advantage in Firms. Organizational Behavior and Human Decision Processes, Vol. 82 (1), 150-169
- Gupta A. & Govindarajan V. (2000) Knowledge flows within multinational corporations. Strategic Management Journal, Vol. 21 (4), 473-496
- Cohen W. & Levinthal D. (1990) Absorptive Capacity: A New Perspective On Learning And Innovation. Administrative Science Quarterly; Vol. 35 (1), 128-152
- Szulanski G (1996) Exploring Internal Stickiness: Impediments to the Transfer of Best Practice within the Firm. Strategic Management Journal Vol. 17 27-244
- Carlile P. (2004) Transferring, Translating, and Transforming: An Integrative Framework for Managing Knowledge Across Boundaries. Organization Science, Vol. 15 (5), p555-568.
- Inkpen A. (1996) Creating Knowledge through Collaboration. California Management Review, vol. 39 (1), 123-140.
- Becker, M. C., 2001. Managing dispersed knowledge: organizational problems, managerial strategies, and their effectiveness. Journal of Management Studies, 38(7), pp. 1037-1051.
- Carlile P. (2004) Transferring, Translating, and Transforming: An Integrative Framework for Managing Knowledge Across Boundaries. Organization Science, Vol. 15 (5), pp. 555-568.
- De Long D., Fahey L. (2000) Diagnosing Cultural Barriers to Knowledge Management. Academy of Management Executive, vol. 14 (4), 113-127.

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