Organizing innovation activities

TU-E2110 Innovation in operations and services

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Innovation management topics

25.1. Introduction & innovation process

1.2.   Knowledge, learning and innovation

8.2.   Organizing innovation activities

15.2. Strategic innovation management

1.3.   Systemic / institutional view to innovation

8.3.   Summary of innovation management
       + instructing the individual assignment

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Last week

1. **Knowledge as concept**
   - Social, combinatorial process
2. **Learning as multi-level organizational process**
   - Intuiting—interpreting—integrating—institutionalizing
3. **Factors supporting learning in organizations**
   - Personal mastery, team learning, fast failure, shared vision…

Learning objectives

After this session, you will be able to:

1. **Understand the relevant parameters of organizing innovation activities**

2. **Analyze organizing questions as the challenge of balancing exploitation and exploration**
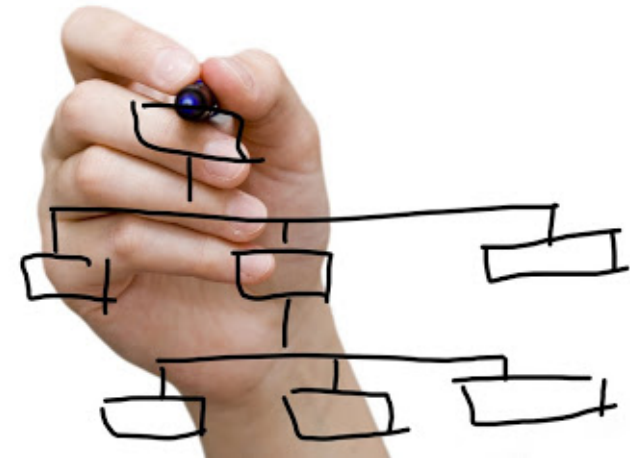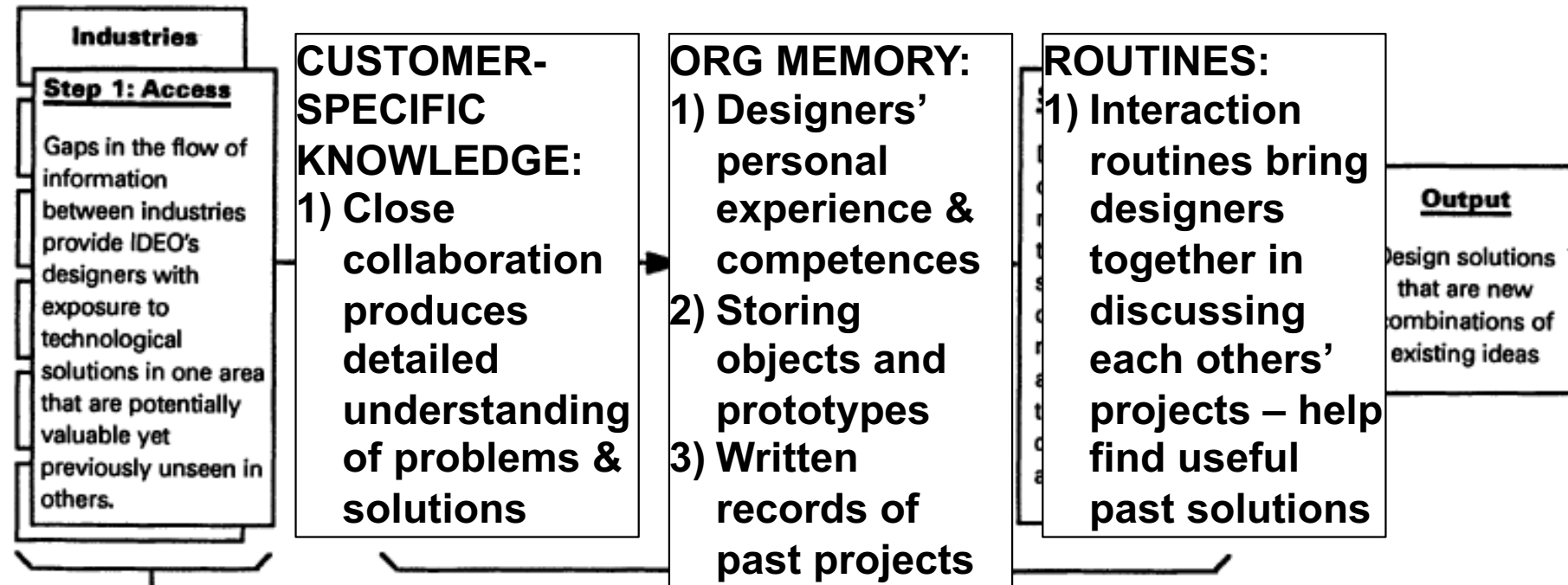
Organizing innovation

Organizing knowledge creation: IDEO

Hargadon & Sutton (1997): How does IDEO sustain high performance in innovation?

1. DIVERSE KNOWLEDGE BASE:
   Working in multiple (40) industries gives the design firm detailed knowledge of existing technological solutions

2. TECHNOLOGY BROKERING:
   This knowledge enables IDEO to introduce and adapt solutions from one context to another

3. ACCCESS TO "ORGANIZATIONAL MEMORY":
   Innovation enabled by individual designers' access to diverse solutions stored in organizational memory

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Hargadon & Sutton (1997)

Organizing knowledge creation at IDEO

Industries

Step 1: Access

Gaps in the flow of information between industries provide IDEO's designers with exposure to technological solutions in one area that are potentially valuable yet previously unseen in others.

IDEO's Net

CUSTOMER-SPECIFIC KNOWLEDGE:
1) Close collaboration produces detailed understanding of problems & solutions

ORG MEMORY:
1) Designers' personal experience & competences
2) Storing objects and prototypes
3) Written records of past projects

ROUTINES:
1) Interaction routines bring designers together in discussing each others' projects – help find useful past solutions

Output

Design solutions that are new combinations of existing ideas

ORGANIZATIONAL SUPPORT:
1) Variety of new problems for every designer
2) Rewards based on peer evaluation (collaboration)
3) Recruitment by future peers (cultural and competence fit)

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Organize what?

4. Organizational control & support
Rewards, sanctions, resource allocation;
Organizational norms, culture

3. Integration of groups
Coordination of processes and
direction of groups to fulfill
organizational targets
→ Structures of decision-making

2. Grouping tasks
Integrating the actions of
individuals & groups into
fluid processes
→ Specialization of groups

1. Allocation of tasks
The roles of individuals &
teams, responsibilities
→ Definition of tasks

Innovation tensions and organizational solutions (1/2)

1. **Freedom versus responsibility**
   - Motivating employees to engage in and commit to sustained innovation in and across multi-functional teams
   - *Job design* clarifies roles and responsibilities

2. **New versus old**
   - Achieving and supporting creative, emergent processes parallel to the exploitation of existing resources and offerings
   - *Grouping jobs* to differentiate specialized activities

Innovation tensions and organizational solutions (2/2)

3. **Inside versus outside**
    - Linking 'market' and 'technology' by reaching across intra-organizational boundaries to combine specialized knowledge
    - ***Integrating groups*** in "team play" to solve complex problems

4. **Emergence versus determination**
    - Structured approach to resource allocation while embracing the unpredictability of creativity
    - ***Controlling*** the innovation process: right activities at the right time with right resources

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Dougherty (2006)

Bureaucratic versus innovative organization

Org design	Bureaucratic organizing	Innovative organizing
Define jobs	Specified duties, clear accountability	Define work as practice: responsibility for the whole process, including its improvement
Group jobs (differentiation)	Specialized functions, clear division of labor	Specialization by core innovation problems cutting across functional lines
Integrate groups	Hierarchy	Strategic articulation & sensemaking across groups semi-autonomous groups
Control system over time	Predefined standards, supervision	Human process controls, rules and resources embedded in org culture

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Dougherty (2006)

Incremental vs. radical innovation

'Mechanistic'

1. **Focus on cumulative, incremental learning through combination of existing knowledge**

2. **Reliance on formal collective processes, routines & culture for knowledge creation**

3. **Hierarchical structures, mechanisms for cross-functional integration**

'Organic'

1. **Focus on radical innovation through the integration of new expertise**

2. **Reliance on individual specialists collaborating through flexible projects**

3. **Informal and emergent structures, various types of projects**

Organization structure & innovation

	Centralized	Decentralized
Organic	**Simple structure** • Small & controlled by key individual • Lack formal structure • Responsive, flexible, but: clarity of str. direction?	**Profession. bureaucracy** • Professional skill • Control through common standards • Competent, autonomous individuals
Mechanistic	**Machine bureaucracy** • Efficiency-focused • Stable & rigid • Specialized R&D, clear boundaries toward production	**Divisionalized form** • Semi-autonomous units • Central R&D support, innovation projects conducted in sub-units • Tensions among divisions

Loosely coupled

Adhocracy
• Execution of complex projects
• Team-based, temporary
• Creative & flexible but lack of control and commitment

Mission-oriented
• Emergent orgs around shared values
• Strong common purpose but lack of control

Organic

Mechanistic

Centralized   *Decentralized*   *Loosely coupled*

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Minzberg (1979)
Tidd & Bessant (2013)

Ambidextrous organizations

Balancing exploration and exploitation

Exploitation = use of current knowledge and resources for production

- Short-term performance
- Goal: Increase efficiency, decrease variability
- Linear processes, top-down management

Exploration = development of new knowledge and resources for renewal and innovation

- Long-term renewal
- Goal: knowledge creation through high variation
- Non-linear, emergent processes

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March (1991)
Lavie et al. (2010)

Balancing exploration and exploitation

Exploitation = us
knowledge and r
production

- Short-term pe
- Goal: Increase
  decrease varia
- Linear proces
  management

Tensions & trade-offs:

1) **Strategic decision-making**: Productivity and innovation as opposing targets for purposive resource allocation

2) **Organizational structuring**: Stability and adaptability require different kinds of organizational routines & support

3) **Organizational outcomes**: The returns of exploration more uncertain, remote in time, distant from current locus of action
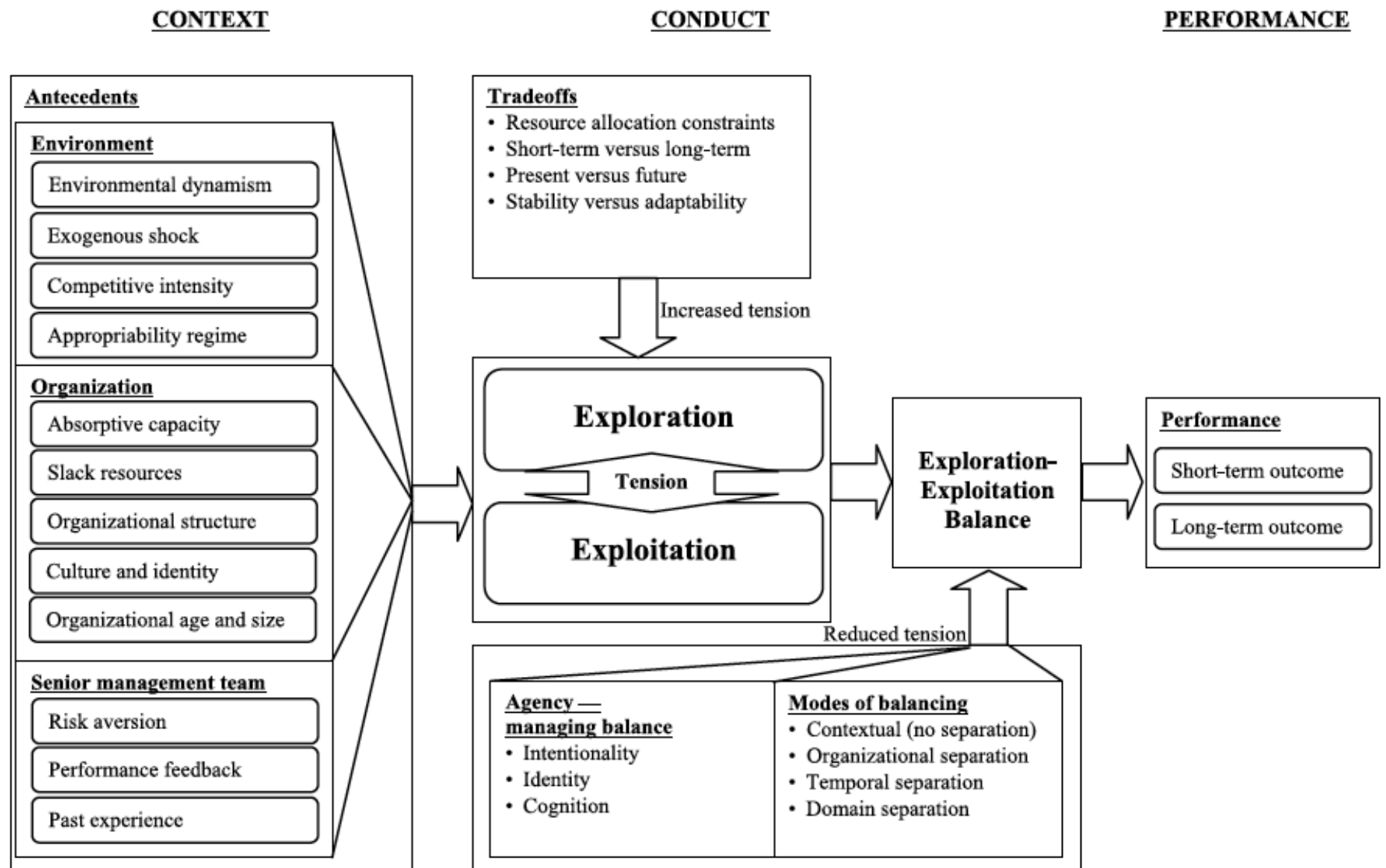
= development of
lge and resources
nd innovation

n renewal
wledge creation
high variation
ar, emergent

Ambidexterity

Long-term success depends on ambidexterity:

Simultaneous *exploitation* of existing capabilities for efficient business performance and *exploration* of new competencies for innovation

CONTEXT

Antecedents

Environment

- Environmental dynamism
- Exogenous shock
- Competitive intensity
- Appropriability regime

Organization

- Absorptive capacity
- Slack resources
- Organizational structure
- Culture and identity
- Organizational age and size

Senior management team

- Risk aversion
- Performance feedback
- Past experience

CONDUCT

Tradeoffs

- Resource allocation constraints
- Short-term versus long-term
- Present versus future
- Stability versus adaptability

Increased tension

Exploration

Tension

Exploitation

Reduced tension

Agency — managing balance

- Intentionality
- Identity
- Cognition

Modes of balancing

- Contextual (no separation)
- Organizational separation
- Temporal separation
- Domain separation

Exploration-Exploitation Balance

PERFORMANCE

Performance

- Short–term outcome
- Long-term outcome

Lavie et al. (2010)

Building ambidexterity into the organization

1. *Differentiation or integration*
   Separate R&D unit or distributed innovation responsibilities?

2. *Individual or organizational attribute*
   Should individuals specialize or both explore and exploit?

3. *Static or dynamic*
   Simultaneous focus or sequential attendance?

4. *Internal versus external*
   How to leverage partners and customers for exploration and exploitation?

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March (1991);
Raisch et al. (2009)

Four organizational modes

Table 1   Alternative Modes of Balancing Exploration and Exploitation

Balancing Mode	Contextual Ambidexterity	Organizational Separation	Temporal Separation	Domain Separation
Locus of balance	Individual and group levels	Organizational level	Organizational level	Organizational level
Mechanism of balance	No buffers between concurrent exploration and exploitation	Separate units dedicated to either exploration or exploitation, simultaneously coordinated at the corporate level	Sequential shifts over time from exploration to exploitation and vice versa	Exploring in one domain while simultaneously exploiting in another
Management role	Management provides a supportive infrastructure	Proactive management is essential	Proactive management is essential	Proactive management is not a necessary condition
Challenges	Managing contradictions within organizational units	Coordinating across units and managing contradictions at the senior management team	Managing transitions between exploration and exploitation and dislodging from inertial pressures	Identifying applicable domains and deciding whether to explore or exploit in any given domain

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Lavie et al. (2010)

1. Contextual ambidexterity

Exploration & exploitation **simultaneous** **within teams**

- Each individual or team responsible for operational efficiency, quality and innovation

Integration at individual or group level

- Situated prioritization (e.g., sequential attendance within the working week)

Balance through **organizational support and culture**

- Reconciling contradictions between incompatible goals
- Sustain attention on creativity, quality and efficiency simultaneously

2. Organizational separation

Exploration & exploitation **organized in separate units**
- *Dedicated personnel* to each process
- Strong distinction between goals, routines, cultures

Structural **integration at organizational level**
- Active role of the top management team

Balance **specialization** **with** **knowledge boundaries**
- Significant demands on TMT competence
- Alleviation of internal conflicts
- Opportunities for mutual learning, leveraging synergies?

3. Temporal separation

Alternation between exploration and exploitation at org. level
- Periods of exploitation *punctuated* by collective exploration efforts

Integration through transitional periods
- E.g., product life-cycles: breakthrough innovation → refinement → productivity gains → commodification & decline → innovation…

Internal coherence versus lack of flexibility
- E.g., lock-in to existing technological trajectory, inability to react to environmental changes
- Requires *agility* to initiate rapid organizational transitions
- Importance of external relations, sensing capabilities

4. Domain separation

Combining structural and temporal separation across 'domains'

- Fluid combination of separation tactics to achieve balance over time
- E.g., using R&D alliances to explore while focusing on exploitation in-house

Integration flexible and transcends organizational boundaries

- Combines specialized units with TMT involvement, and organizational transitions with external linkages

Flexibility, direction and long-term innovation focus?

- How does the organization ensure adequate attention on exploration?

Group work: Organizing innovation in the Home Care case

Task: Build your "organizational model" for the Home Care case

- See next slide for key elements

Each group takes as basis one mode of ambidexterity

1. Contextual
2. Structural
3. Temporal
4. Domain

Time: 15min + 5min summary

Parts:

1. Define innovation tasks
Roles and responsibilities of key actors (care givers, supervisors, top management, consultants) in innovation.
→ What kind of tasks are there? Who should do what?

Role of care givers?
Means for their participation?

2. Group tasks
The integration of development tasks into a) organizational groups and b) innovation processes.
→ How are development activities structured?

3. Coordination and control
Requirements for management and organizational support
→ What does the organizational system depend on to function well?
→ What are its strengths and weaknesses?

Specialization of innovation team or integration to daily work?
Interaction and knowledge creation between groups?

Nature of decision-making?
Formal control mechanisms versus organizational culture?

Reflections 1: Define tasks

Limiting factors:

1. Organizational resource constraints → limited capacity to engage in development activities overall (e.g., create slack)

2. Competence and motivational constraints → skills and willingness of care givers to proactively commit to development tasks

3. Existing routines and cultures → overcoming strong assumptions about the nature of work, roles of care givers (labor regulations etc.)

Reflections 2: Group tasks

No apparent best solution?

- Separation protects care givers' day-to-day processes, efficiency of work

- Distinct knowledge demands justify separation (e.g., management & consultants contribute to development tasks while care givers focus on day-to-day)

- Integration justifiable due to the tacit knowledge component, building ownership among care givers to the quality of work (e.g., weekly development circles, slack hours?)

Reflections 3: Coordination and control

Coordination & control contingent upon organizational choices

- Separation demands transparency, dialogue, involvement on behalf of top management
- Integration necessitates resources and top management support, cultivation of new social norms, ways of working

Balance between formal and cultural support

- Overcoming internal conflicts in building development-oriented culture
- Rewarding successes on development tasks, focusing on quality of outcomes?
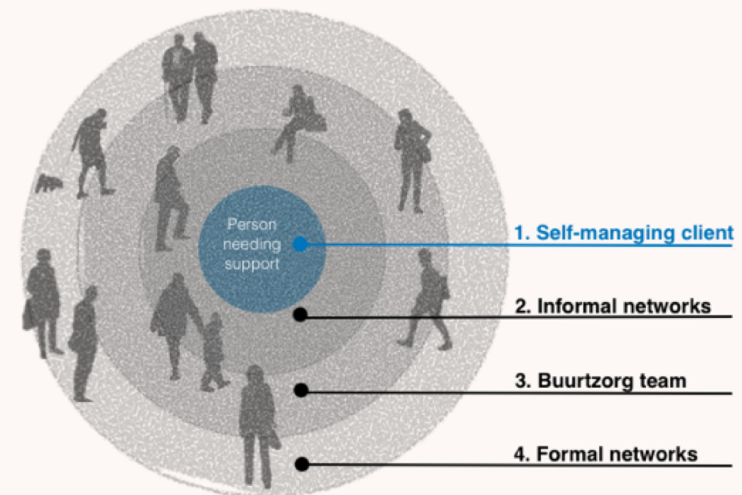
Developing management's competences in development and change

- Public orgs often very bureaucratic...

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Alternative: Case Buurtzorg

Case Buurtzorg and self-organizing teams

- Professional freedom & responsibility for developing quality of care
- Based on 12-person teams with small area
- Autonomy in organizing work, sharing responsibilities, developing quality
- Sharing of ideas and best practices across the vast network (over 10 000 care givers at the moment)

Person needing support

1. Self-managing client

2. Informal networks

3. Buurtzorg team

4. Formal networks

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Organization through networks

What is a network?

Three or more organizations connected to each other through some type of *exchange relationships*, which collaborate in the pursuit of *individual and common objectives* while remaining *autonomous* and independent.

1. **More than the sum of the individual ties**
   - Emergent properties associated with the configuration of relationships, actors' position and power, and knowledge creation
2. **Not quite as encompassing as (eco)system**
   - An arrangement of organizations joined by common goals and activities

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Huuskonen (2014)

Benefits of innovation networks

1. **Accessing knowledge-creating resources across organizational (and industry) boundaries**
    *   Complementary knowledge

2. **Leveraging knowledge-creating resources of greater value when remain independent**
    *   Combining and deploying them in various ways in multiple relationships increases the likelihood of success

3. **Reducing risks of innovation through resource pooling and knowledge sharing**
    *   Also boosting shared learning

Particularly applicable when (Powell et al. 1996)
*   Dynamic industries in which knowledge base complex and expanding
*   Knowledge dispersed across actors

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Types of innovation networks 1/2

	General innovativeness	Discrete innovations
Socio-centric	**Regional and business groups; professional communities**	**Diffusion of innovations through transaction networks**
Firm-centric	**Portfolios of strategic partnerships**	**Networks mobilized for specific solution**

Socio-centric

Firm-centric

General innovativeness   *Discrete innovations*

Types of innovation networks 2/2

	Similar actors	Different actors
Radical innovation	**Horizontal alliances** • Sectoral consortiums • R&D alliances • Joint ventures	**Vertical innovation networks** • Complex product-service systems • Innovations in projects
Incremental innovation	**Tactical innovation networks** • Industry forums • Learning programs	**Idea exchange 'clubs'** • Regional clusters • Loose thematic communities

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