Intellectual Capital for Communities in the Knowledge Economy
Nations, Regions, Cities and Emerging Communities
Evaluating IC dynamics in firms

Prof. Aino Kianto
Lappeenranta University of Technology, Finland
Aino.Kianto@lut.fi
Background

- IC has become the main driver of competitiveness
- In turbulent environments, the ability to continuously renew knowledge-based assets is the key to sustained competitive advantage
- However, most IC research focuses on identifying the existing knowledge assets

=> Need for a more ”dynamic” approach to IC = innovation, learning and change!!
Research gaps

• How knowledge-based value is created in changing environments?

• What is organizational renewal capability?

• How should renewal capability be measured?
Static vs. dynamic IC

- Knowledge as a static asset, stock
  - Can be managed
  - What the organization owns
  - Identification and valuation of existing intangible assets

- Knowledge as socially constructed emergent process
  - Can be enabled
  - What the organization does
  - Capabilities for using, developing and modifying assets
Knowledge assets + renewal capability = sustained competitive advantage

Knowledge assets (static IC) → Innovation learning → Value creation

Renewal capability (dynamic IC) → Environmental stability → Environmental turbulence
Organizational renewal capability

• Ability of the organization to develop and change its resources and capabilities through continuous learning and innovation
• Demonstrated as f. ex. new products and processes, operational and strategic flexibility, adaptive service processes
  – Incremental and radical change
  – Top-down and bottom-up change
  – Planned and emergent change
  – Organization-wide process
  – Continuous
  – Cannot be completely controlled => creating an enabling and supportive organizational context
Complexity of organizational renewal

Some related concepts:
- Organizational change
- Innovation, innovativeness
- Organizational learning
- Knowledge creation
- Dynamic capability
- Strategic flexibility
- Organizational agility
- Organizational flexibility
- Continuous improvement
- Business process redesign
- Self-organization
- Autopoiesis
- Mindfulness

Perspectives:
- Cognitive
- Strategic
- Relational
- Cultural
- Economic
- Performative
- Systemic
- Communicative
- Processual
- Political
The 6-factor model of organizational capability for renewal

(Pöyhönen, 2005b; 2006a; 2006b; Kianto, 2008a; 2008b)
1. Strategic competence

- Clear, shared, comprehended and valued strategies and goals
- Comparing to the best
- Strong identity and culture
- Innovativeness, risk taking, future orientation
- Pro-activeness, courage to make quick decisions
- Customer focus
- Market and competitor awareness
- Emergence, semi-coherence
- Strategic innovations
2. Exploiting time

- Seizing the moment
- Co-timing operations
- Resourcing time
- Understanding bifurcation points in creative process
- Balancing different time dimensions
- Internal rhythm of changes
3. Learning orientation

- Employees as the key resource
- Appreciating learning
- Openess to alternative viewpoints
- Feedback
- Constructive critique
- Learning from failures
- Support for development activities
- Experiments, prototypes
- Learning to learn
4. Connectivity

- Knowledge processes are fundamentally social
- Collaboration
- Group relationships
- Intra-organizational interaction
- Inter-organizational relationships
- Know-who
- Team and organizational climate
- Passion, inspiration
5. Managing knowledge

- Awareness of strategically significant knowledge
- Knowledge strategy
- Management and protection of explicit knowledge
- ICT systems
- Tacit knowledge
- Routines and activities
- Acquiring and accommodating knowledge from extra-organizational sources
- Knowledge creation
6. Leadership

- Low hierarchy
- Empowering, democratic leadership style
- Managers committed to listen and learn
- Participation in decision making
- Clear goals, operative autonomy
- Ability for holistic innovation management:
  - Structured innovation processes and project management
  - Inspirational leadership
Why to measure renewal capability?

• Measuring organizational capability to operate in changing environments
• Predicting organization’s future potential
• Identifying the main challenges in continuous innovation and learning
• Enabling effective and focused management and development of renewal processes
• Enabling monitoring and comparison of renewal capability
How has RC been measured?

INPUT

- R&D investments
- Training investments
- IT investments
- Education level
- Age distribution
- Gender distribution

CAPABILITY

OUTPUT

- Patents, publications
- New ideas
- New products
- Customer satisfaction
- Market share
- New product sales of total sales

=> How inputs are utilized?
=> How outcomes have been produced?
Criteria for assessing renewal capability

- Activities vs. inputs
  - From identifying financial resources and technological tools to whether and how they are actually used in practice
- Processes vs. outcomes
  - From mapping existing intangibles to studying the capabilities for changing them
- Knowledge system vs. individual knowledge
  - From measuring individual competencies to looking at the innovating social unit as a whole
• Organizational Renewal Capability Inventory
• Measures organizational capability for continuous development, learning and innovation
• Produces clear and comprehensive diagnosis of organizational renewal capability
• Provides in-depth analysis of the components of renewal capability
• Can be tailored to various analytical levels (e.g. project, department, SBU, firm level)
• Enables comparison between different groups within the firm
• Enables external benchmarking
• Main indices: strategic competence, exploiting time, learning orientation, connectivity, managing knowledge and leadership
ORCI (2)

- Developed in LUT based on the 6-factor model of renewal capability
- 167 items 6 components, 34 subcomponents
- 1-7 Likert scale (1-5)
- Minimizing measurement error through composites
- Minimizing response-set bias through reversed items
- Response time 15 mins
- Web or paper questionnaire
- Finnish and English versions (German, Spanish, Hebrew)
- Data from a representative sample of organizational members
- Background information questionnaire (1 person per organization)
Validating the ORCI

- Pilot data, 4 organizations, \( N = 258 \)
- Content validity: adequate coverage of the theoretical domain
  - Extensive theoretical grounding
  - Items from earlier studies
  - Expert Q-sort
- Construct validity: measuring the right concept
  - Exploratory FA
  - Discriminant validity: ANOVA
- Predictive validity: relation with hypothesized external variables
  - Correlation
  - Regression analysis
- Reliability: consistency
  - Cronbach’s alpha

(Kianto, 2008a)
Typical measurement process

AGREEING THE TERMS OF MEASUREMENT:
- Respondents
- Analysis groups
- Language fin/eng
- Web/paper questionnaire
- Background information questionnaire (1 resp./org.)

PRE-INFORMING RESPONDENTS about the upcoming survey

DATA COLLECTION ROUND 1: response time 1 week

DATA COLLECTION ROUND 2: response time 1 week for non-respondents

DATA ANALYSIS 2 weeks

ORCI REPORT OF RESULTS

4 WEEKS
Future development of the ORCI

- Currently data from >70 organizations
- Case studies in various Finnish organizations
- Survey
  - SEM / LISREL
    - Construct validity of the 6-factor model
    - Predictive validity
      - Further development of report of results
- International data (Switzerland, Israel, Russia, Spain, Netherlands, Italy?)
  - Cross-cultural analyses
Contributions

- Clarifying connections between the static and dynamic dimensions of IC
- Providing a multi-faceted theoretical model of organizational renewal capability
- Introducing a method for measuring renewal capability