

CURRICULUM VITAE

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WORK

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EDUCATION

- 2004-2010 Doctoral student, Department of Industrial Engineering and Management
Helsinki University of Technology, Espoo, Finland
(Defense of doctoral dissertation 8.1.2010)
- 2004-2006 Doctoral student, Department of Management
HEC Université de Lausanne, Lausanne, Switzerland
- 1991-1997 Master of Science in Technology (M.Sc.) (1997)
Faculty of Mechanical engineering
Helsinki University of Technology, Espoo, Finland
- 10/1996-5/1997 Research and development work in frames of master thesis
Topic: Optimised wind park planning
INESC, Porto, Portugal
- 9/1995-12/1995 Exchange student, Scholarship from HUT.
Studying energy and environmental planning and aerodynamics.
Danmarks Tekniske Universitet, Lyngby, Denmark
- 1990-1991 National army service, Under lieutenant
- 1988-1990 Matriculation examination (1990)
Gymnasiet Grankulla Samskola, Grankulla, Finland.

VISTING POSITIONS

- 08/2006-07/2007 Visting Scholar, SCANCOR - Scandinavian Consortia for Organizational
Research, Stanford University

DISSERTATION

Title: AWARENESS, INSTITUTIONAL ENTREPRENEURSHIP, AND CONTRADICTIONS IN EMERGING TECHNOLOGICAL FIELDS

Abstract

Despite extensive research on the emergence of technological fields and industries, a comprehensive theoretical explanation of what enables or inhibits the emergence of these fields has yet to be developed. To this extent, previous research has been unable to offer satisfactory theoretical explanations of the emergence and socio-cognitive dynamics of novel technological fields.

This thesis thus sets out to study the emergence of awareness and institutional entrepreneurship in novel technological fields, and the contradictions that result from emergence. As a more general contribution, the thesis aims at advancing understanding about emergence and socio-cognitive dynamics in novel technological fields. Towards this end, an institutional sociological approach to study the interplay between the micro and macro-level emergent properties in novel technological fields is outlined. This approach provides a theoretical and analytical foundation to study the central socio-cognitive dynamics that pattern the emergence of technological fields. The thesis thus sets out firstly, to identify the distinct stages, dynamics, and paths in technology field emergence, specifically focusing on the socio-cognitive micro and macro-level properties. Secondly, the thesis intends to advance a socio-cognitive analysis of the central elements that influence the emergence of institutional entrepreneurship and awareness in novel technological fields, and how agency and awareness are related. Thirdly, the thesis aims to determine how the institutional properties of the prevailing and emergent technological fields enable and constrain technology field emergence. Specifically, the focus is on understanding how institutional contradictions have an impact on the strategies available to institutional entrepreneurs and their ability to advance field emergence.

To explore these avenues of research, a multiple exploratory case study on the emergence of four technological fields, functional foods, well-being technologies, electronic publishing and printing, and modular constructional steel, was carried out. The study takes a multi-level approach, focusing on field-level, organizational-level, and individual-level emergent phenomena and their relationship. National technology programs in Finland executed during 1995-2005 were chosen as the empirical contexts to study the socio-cognitive dynamics and the emergence of technological fields. Institutional contradictions were traced to their foundations in order to account for the challenges of institutional entrepreneurship and to trace the socio-cognitive base that the emergent field challenged.

The empirical analysis shows how emergence is centrally dependent on the degree of institutional contradictions that arise between institutional carriers of the predominant field and the emergent field, and how strong these contradictions are perceived to be by the relevant actors. Depending on whether institutional contradictions are weak or strong they confront actors with different socio-cognitive dynamics. The distinction between strong and weak institutional contradictions helps to understand the different options and viable strategies for institutional work by institutional entrepreneurs. The thesis provides conceptual and methodological advances for studying the emergence of technological fields. To the practical end, the thesis provides a valuable understanding of the social and cognitive dynamics of emerging technological fields; these are useful for further directing innovation policy towards distinct contextual and institutional conditions.

Supervisors: Professor Erkki Autio, Imperial College
Professor Markku Maula, Helsinki University of Technology

Pre-examiners: Dr. Kamal Munir and Professor Frank Geels

Opponent: Professor Nelson Phillips, Imperial College

To be defended 8.1.2010

PUBLICATIONS

Articles in refereed academic journals

1. Autio, E., Kanninen, S. & Gustafsson, R.. 2008. Correcting Market Failure and System Failure: The Generation of Firm-Level Technological Learning Impact in National Technology Programs, *Research Policy*, Vol. 37(1) pp. 59-76.

Research monographs

1. Gustafsson, R. & Ahola, E. 2003, Evaluation of the Climtech-program action model and ex ante evaluation of the national climate- and technology strategy, Tekes, Evaluation report 20/2003 (*In Finnish*)
2. Gustafsson, R., Ahola, E., Ilmola, L., Kuusinen, J. & Pesonen, P. 2003. In search for a new generation of technology programs, Tekes, *Technology review* 13/2003 (*In Finnish*)

Dissertations

Gustafsson, R. 2010, Awareness, Institutional Entrepreneurship and Contradictions in Emerging Technological Fields, Doctoral Dissertation (monograph), Helsinki University of Technology

Gustafsson, R. 1997, Optimised Wind Park Planning, Master thesis, Helsinki University of Technology

Conference proceedings

1. Gustafsson, R.. & Autio, E., Grounding for Innovation Policy: The Market, System and Social-Cognitive Failure Rationales, Innovation Pressure – Rethinking Competitiveness, Policy and the Society in a Globalised Economy – International ProACT conference, Tampere, Finland, March 15-17, 2006
2. Gustafsson, R.. & Autio, E. Correcting social cognitive failures in novel technological domains: The role of institutional entrepreneurs and policy intervention for enabling paradigmatic change, R&D Management 2005 Conference, Pisa, July, 6-8, 2005
3. Salo, A., Gustafsson, R., Kaakkolampi, I. & Gustafsson, T. "Participatory Development of Future-Oriented Policy Configurations for Climate Change and Mobile Gaming", New Horizons and Challenges for Future-oriented Technology Analysis, Proceedings of the EU-US Scientific Seminar: New Technology Foresight, Forecasting and Assessment Methods, Seville, May, 13-14, 2004, European Commission, Joint Research Centre, Technical Report Series EUR 21473 EN.
4. Gustafsson, R. & Ahola, E. Exploring a new generation of national technology programmes – Weak and strong signals on roles and goals, Innovation in Europe: Dynamics, Institutions and Values, Roskilde, 2003

Conference papers

1. Gustafsson, R. Towards a Conceptual Framework for Analyzing Institutional Properties of Technology at the Field Level, 25th EGOS Colloquium, Barcelona, July 2-4, 2009
2. Gustafsson, R & Autio, E. Awareness Landscapes, Innovation Networks, and Institutional Entrepreneurship in Emerging Technological Fields, Scancor 20th Anniversary Conference, Stanford University, November 19-20, 2008
3. Gustafsson, R. & Autio, E. 2007. Towards a Failure Trichotomy in Knowledge Exploration and Exploitation, Academy of Management Annual Meeting, Philadelphia, August 3-8, 2007

4. Gustafsson, R. & Autio, E. The Role of Institutional Entrepreneurs and Policy Intervention for Enabling Paradigmatic Change, Academy of Management Annual Meeting, Atlanta, August 14-16, 2006
5. Gustafsson, R. & Autio, E. Grounding in Innovation Policy: The Market, System and Social-Cognitive Failure Rationales, SPRU 40th Anniversary Conference - The Future of Science, Technology and Innovation Policy, Sussex, September 11-13, 2006
6. Gustafsson, R. & Autio, E. Correcting social cognitive failures in novel technological domains: The role of institutional entrepreneurs, trust and policy intervention for enabling paradigmatic change, 3rd Workshop on Trust Within and Between Organizations, Amsterdam, October 27-28, 2005
7. Gustafsson, R. Dynamics of innovation structures – Implications for evaluating policy programs, The TAFTIE Evaluation Network Seminar 2005 on “The Role of Evaluation in Innovation Policies”, Helsinki, October, 11, 2005
8. Gustafsson, R. & Autio, E. Towards a new innovation policy agenda: Enhancing social capital and communities of practice in novel technological domains, Druid Winter Conference, Aalborg, January 27-28, 2005

Scholarship in progress

1. Towards a Failure Trichotomy in Knowledge Exploration and Exploitation, Robin Gustafsson and Erkkö Autio, Revise and resubmit in *Research Policy*
2. Towards a Conceptual Framework for Analyzing Institutional Properties of Technology at the Field Level, Robin Gustafsson, Manuscript in development for *Organization Studies*
3. Awareness Landscapes, Innovation Networks, and Institutional Entrepreneurship in Emerging Technological Fields, Robin Gustafsson and Erkkö Autio, Manuscript in development for *Strategic Organization*
4. The Birth of New Industries, Markku Maula, Robin Gustafsson, Mikko Jääskeläinen, and Juha Outila, Manuscript in development for *Academy of Management Review*
5. From idea mobilization to ‘fait accompli’: Micro-level processes of institutional emergence, Nina Granqvist, Robin Gustafsson, and Karin Niiniharju, Manuscript in development for EGOS Conference 2010 and *Organization Studies*
6. Play, Work, and Organization in Action, Timo Vuori, Robin Gustafsson, and Antti Ainamo, Manuscript in development for *Organization Science*

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Academic institutions

Helsinki Institute for Science and Technology, board member 2008-
Scancor (Scandinavian Consortium for Organizational Research) Finnish Alumni Association,
member of task force 2008-

Memberships

Academy of Management 2005-
European Group for Organizational Studies (EGOS) 2009-

Reviewer (Journals, Books, and Conferences)

Academy of Management Review 2008-
Academy of Management Annual Meetings (TIM division) 2006-
Strategic Management Society Conference 2009-
SAGE book reviewer 2008-

Task force and project memberships

EU Evaluation Network member 2002-2004
EU Impact Assessment Group for the Energy, Environment and Sustainable Development programme
2001-2002, working group member
Nordisk Industrifond, Sustainable industry production (BIP), board member, 1999-2001
Technology industries of Finland, Environment group, member, 2000-2001
Tekes, Water Services 2001 – research projects (10) board member 1999-2001

Government program and institute board membership

Nordic Energy research Program & Institute, Chairman of board 2001
Nordic Energy research Program & Institute, board member 1999-2000, 2002
Tekes, Water Services 2001- technology program, board member 1999-2001

GRANTS AND FUNDING

1. Tekes, 2004-2006, funding for research on ‘Communities of Practice, Learning Externalities and the Impact of Technology Programs’
2. Svenska Tekniska Vetenskapsakademin i Finland, PhD grant 2006-2008
3. Academy of Finland, FICIBR grant 2006-2007
4. Marcus Wallenberg Fund, research grant 2006-2007
5. Tekniikan edistämissäätiö, research grant 2006-2007
6. Liikesivistysrahasto, research grant 2006-2007
7. Ministry of Education, 2008-2009, funding for research on ‘Case Study of the Merger Process of Three Universities in the Helsinki Area’
8. Helsinki Institute for Science and Technology Studies, 2009, funding for research on ‘Development of Emerging Industries’
9. Tekes, 2009-2010, funding for research on ‘Development of Emerging Industries’

LANGUAGES

Native Swedish, Fluent Finnish and English, Conversational Danish and German, Basics of Portuguese and French.

WORK EXPERIENCE

- 8/2007- **Senior lecturer/researcher**, Department of Industrial Engineering and Management, Helsinki University of Technology, Finland
1. Strategic Management of Technology and Innovation (M.Sc.), 2007-
Fall 07, student course evaluation (N=89) overall grade 3,6/5
Fall 08, student course evaluation (N=95) overall grade 3,4/5
Fall 09, student course evaluation (N=XX) overall grade X/5
 2. Seminar in Strategy and International Business (M.Sc.), 2007-2008
 3. Special study in Strategy and International Business (M.Sc.), 2007-2008
- 3/2004-8/2006 **Teaching Assistant**, HEC, Université de Lausanne, Switzerland
1. Strategic Technology Management (MSc), Fall 04, Spring 06*
 2. Strategic Management Seminar (MSc), Spring 05, Fall 05*
 3. Technology-Based Venturing and Internationalization (MBA), Winter 06
 4. Markets, Sciences, and the Dynamics of Innovation (MSc&PhD), Spring 05*
 5. PhD Seminar in Strategy – Institutional perspectives, Spring 06*
- * part of course lecturing
- 3/2004 – 8/2006 **Researcher**, Helsinki University of Technology, Institute of Strategy and International Business, Finland
Principle researcher in research project: Communities of Practice, Learning Externalities and the Impact of National Technology Programs
- 6/2001-3/2004 **Technology advisor**, Tekes, Impact assessment unit, Finland
Responsibility of planning and organising technology program evaluations, impact assessment and analyses of program instrument, developing and managing feedback and communication process of results in evaluations, participating in technology program concept and strategy development process, developing tools for impact assessment and participating innovation- and technology policy strategy assessments.
- 3/1999- 5/2001 **Technology advisor**, Tekes, Energy and environment technology unit
Evaluation of company, university and research institute R&D projects, participation in national technology strategy work in the area of energy and environment technology, overall coordination responsibility of Water services 2001- technology programme in Tekes , EU fifth framework program national contact person for the energy programme, responsibility of Nordic cooperation in the energy research field and innovation cooperation activities in sustainable development.
- 10/1997-2/1999 **Environment inspector**, Rural district of Sibbo, Finland
- 3/1996-10/1996 **Project engineer**, Ekono Energy Ltd. / Jaakko Pöyry Group, Finland