



The Role of Universities in Innovation and Regional Development

Transitioning from an economic to a broader social impact: a case study of a Swedish university

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Case study aim

- Contribute to the literature on the roles of universities in regional development
 - Issue of transition from one model to another
- Questions leading this study:
 - (i) How does the literature define the roles of universities?
 - (ii) Which of these definitions is applicable to LiU?
 - (iii) What disparities exist between the case and the theoretical models in the literature?

Method

Data

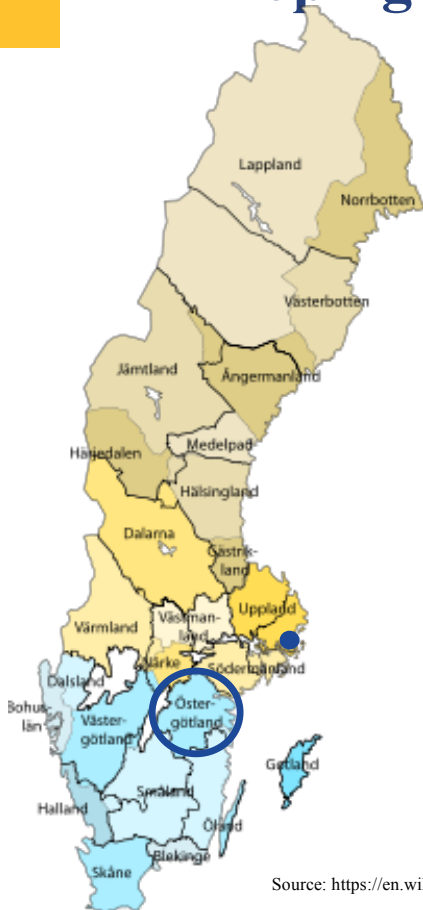
- Literature on the case (1996-2012)
- 3 additional interviews (2017)
- Secondary data from the web (municipalities' websites, etc.)

Analysis

- Using the theoretical framework of Uyarra (2010)
- Finding similarities and disparities

Uyarra, E. (2010). Conceptualizing the Regional Roles of Universities, Implications and Contradictions. *European Planning Studies*, 18(8), 1227–1246.

Linköping University's region



Östergötland County

4,5% of the population

Economic activity
mainly agricultural

Source: https://en.wikipedia.org/wiki/Countries_of_Sweden

Linköping

153,000 inhabitants

5th largest city in Sweden

Biggest employers:

- Municipality
- Region
- Saab
- University
- Ericsson

Science Park Mjärdevi

Norrköping

135,000 inhabitants

9th largest city in Sweden

Paper industry

Campus of LiU since 1990s

Science Park Norrköping

The University

1960s: branch of Stockholm University

1975: 6th public University in Sweden

Today:

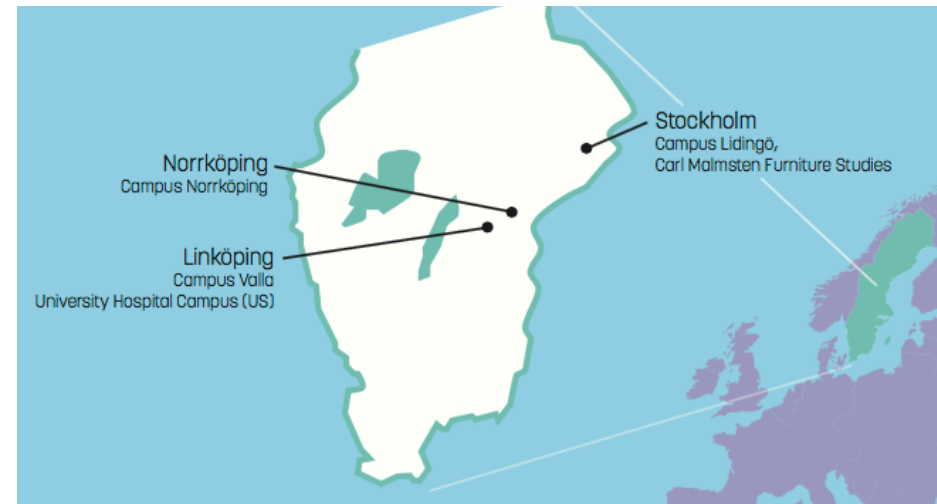
4,000 employees

27,000 students (2,000 from abroad)

4 campuses

4 faculties:

- Faculty of Arts and Sciences
- Faculty of Medicine and Health Sciences
- Faculty of Science and Engineering (Institute of Technology)
- Faculty of Educational Sciences



Source: <https://liu.se>

How does the literature define the roles of universities?

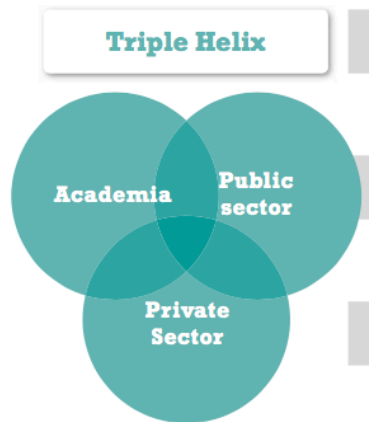
Source: Uyarra, E. (2010). Conceptualizing the Regional Roles of Universities, Implications and Contradictions. *European Planning Studies*, 18(8), 1227–1246.

Table 1. Summary: roles, determinants and engagement modes of universities

Model	Knowledge “factory”	Relational university	Entrepreneurial university	Systemic university	Engaged university
Main role of universities	Production of scientific knowledge	Exchange of knowledge	Active commercialization role	Boundary-spanning role	Developmental role
Main unit of analysis	Innovation outputs	Linkages	Intermediaries (e.g. TTOs)	Systems/networks	Spaces of governance
Main partners/beneficiaries	High-tech firms located in proximity to universities	Large manufacturing firms	Large manufacturing firms Spin-off firms	Regional clusters Regional SMEs	Regional stakeholders
Directionality of engagement	Unidirectional (implicit)	Bi-directional (implicit)	Bi-directional (explicit)	Triple-helix (universities, industry and government)	Responsive
Dominant methodology	Industrial surveys	Industrial surveys	Surveys of university TT managers	National and regional innovation surveys Case studies	Case studies
	Citation count Production function analysis	Case studies			
Key factors influencing impact	Research intensity/inputs	Structural factors (size of firm, age, sector, R&D intensity)	Organizational structures/forms	Regional system configuration	Number and synergies between universities
	Geographical proximity	Innovation strategy	Managerial practices Faculty behaviour/incentives		
Policy implications	Co-location of firms and universities. Increased funding for research	Some links should be promoted vis-à-vis others	Intermediaries and organizational arrangements/incentives are needed to ensure links	Institutional arrangements are important to ensure linkages	University leadership Joined up policies/incentives Joining up of universities missions and other policies at different levels

Which of the definitions is applicable to LiU?

The Systemic University



Examples of Triple Helix Collaboration

- Science Park Mjärdevi
- Creation of Campus Norrköping and Norrköping Science Park

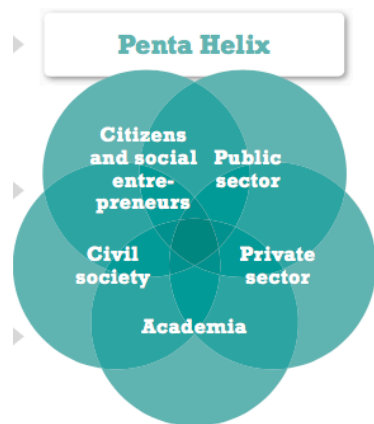
Source: Björk, F., Hansson, J., Lundborg, D., & Olofsson, L. E. (2014). An Ecosystem for Social Innovation in Sweden: A strategic research and innovation agenda.

Model	Systemic university
Main role of universities	Boundary-spanning role
Main unit of analysis	Systems/networks
Main partners/beneficiaries	Regional clusters Regional SMEs
Directionality of engagement	Triple-helix (universities, industry and government)
Dominant methodology	National and regional innovation surveys Case studies
Key factors influencing impact	Regional system configuration Regional policy Institutional capacity of universities
Policy implications	Institutional arrangements are important to ensure linkages

Source: Uyarra, E. (2010). Conceptualizing the Regional Roles of Universities, Implications and Contradictions. *European Planning Studies*, 18(8), 1227–1246.

Which of the definitions is applicable to LiU?

The Engaged University



Examples of Penta Helix Collaboration

- HELIX Competence Centre
- East Sweden Business Region

Source: Björk, F., Hansson, J., Lundborg, D., & Olofsson, L. E. (2014). An Ecosystem for Social Innovation in Sweden: A strategic research and innovation agenda.

Model	Engaged university
Main role of universities	Developmental role
Main unit of analysis	Spaces of governance
Main partners/beneficiaries	Regional stakeholders
Directionality of engagement	Responsive
Dominant methodology	Case studies
Key factors influencing impact	Number and synergies between universities University leadership Joined up policies/incentives
Policy implications	Joining up of universities missions and other policies at different levels

Source: Uyarra, E. (2010). Conceptualizing the Regional Roles of Universities, Implications and Contradictions. *European Planning Studies*, 18(8), 1227–1246.

What disparities exist between the case and the theoretical models in the literature?

Some elements seem uncovered by the models:

- An innovative mind-set (e.g. interdisciplinary approach)
- A historic strategic alignment with regional stakeholders

But seem to tend toward the Engaged model

Some elements of the Engaged model seem difficult to verify:

- LiU's strategic partners remain the public and private sectors (Triple Helix)
- “workforce development” (Breznitz & Feldman, 2012)

> **LiU seems in transition from the Systemic to the Engaged model**

Discussion

Transition seems to be undertaken in response to external expectations:

- What is the real added value for the university when they implement such a change?
 - Is it relevant for the university to meet the expectations of so many stakeholders?
 - Does this detract from its core missions of education and research?
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- Suggestions for future research:
 - **Additional interviews** from regional stakeholders, in particular the civil society, to complement the picture
 - **Comparative studies** with other European universities



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Thanks for your attention

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