

Applying grounded theory concept in analysis of university - firm linkages

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1. Goal of the presentation
2. Theoretical background
3. Methodology
4. Discussion
5. Conclusions
6. Findings

General goal: is to present a conceptual framework for analyzing, university services, interactions between universities and local companies with the aim to fulfil requirements of rational comparison.

Specific goals: to answer the research questions:

- Can role differences be observed with the applied grounded theory concept?
- What kind of institutional and strategical tools are behind sustainable partnerships?
- Is there any interdependence with the rate of diversification in the local industry?

Theory collection: following resource based view, but highlighting broader perspectives of “university embeddedness” and “entrepreneurial university”.

Concept of entrepreneurial university:

Clark 1994-96:

Four criteria:

- having development peripheries
- diversified financial background
- strong and stimulated academic background
- overall entrepreneurial culture

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- ***Financial tension as the key of the successful change in philosophy and move toward the transformation of entrepreneurial university.***

Cunningham - O'Reilly (2018):

- Macro level: mechanisms, legal background, regional comparisons, industrial sectors, historical overview.
- Meso level: supporting institutional system.
- Micro level: operations at universities, stakeholders, communication, cultural differences.

Methodological tools:

- Theoretical synthetization (Cunningham - O'Reilly 2018, Inzelt 2004, Guerrero et al. 2012).
- Case studies (Imreh-Tóth-Lukovics, 2014) (Lengyel et al. 2006)
- Data analysis (Arvanitis et al. 2008) R+D output vs. Labour productivity, (Guerrero et al. 2016) entrepreneurial activity vs. regional competitiveness.
- Multi-case analysis (Clark 1998, Guerrero et al. 2014).

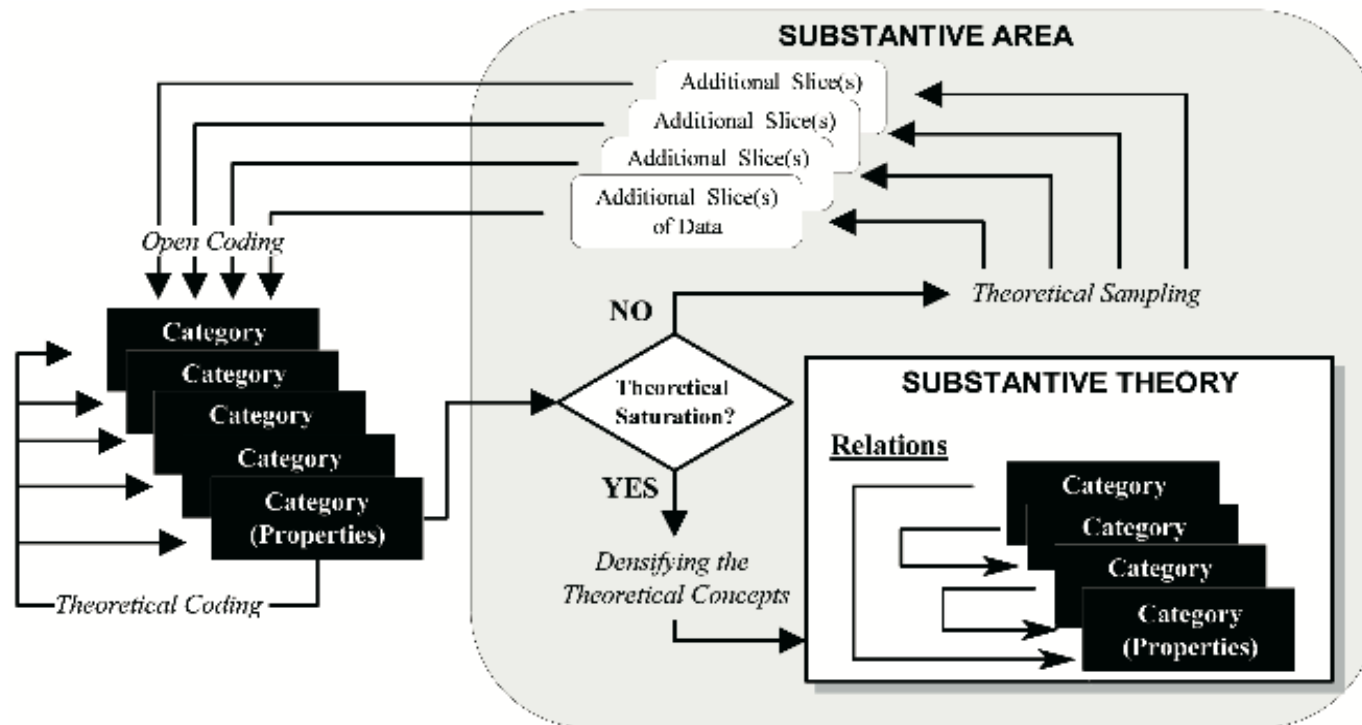
Theories used in the analysis

Clark's +one criteria: financial tension.

Arza – Carattolli (2017)

analyze the social ties, actors and their aspects .
Valuable finding is that **stronger ties** serves the knowledge benefits of the analyzed university and **weaker ties** provides the financial benefits through university services.

Guerrero et al. (2012, 2014, 2016): multi-case analysis, qualitative analysis, conception based on general literature review. Eternal vs. internal research perspectives.



Grounded theory's building process (Fernández, 2005 based on Lehmann, 2001)

Data collection:

- Fekete (2015): 19 automotive centers in 9 European countries: University – Government – Firms, 4 identified cases – Hungary, Germany, France, Poland (structured interviews)
- Additional slices of data: webpages and communication

Inclusion criteria:

- similar industries
- development level – operational level
- not in the capital
- relatively young, public

Category1 - institutional relations

External research perspectives

historical background

coordinative institutions

industry

Category2 - university firm interactions

Internal research perspectives

service placement

types of services

formalized, long term relations

differentiation from educational services

presence of contact details

Additional slices of data

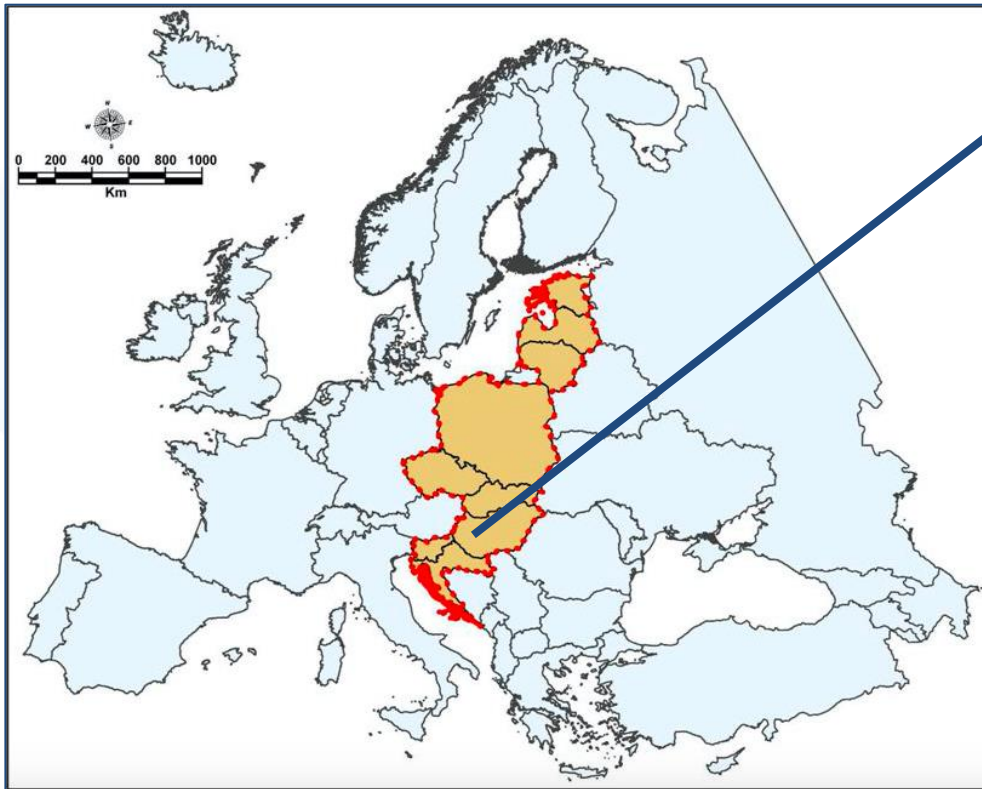
Recoded Categories:

- university roles,
- sustainability of partnerships
- the level of diversification in the industry

Categories	Data hubs	Collection	Methods
1. Institutional relations	1. Historical background	structured interviews and literature	Recoded Categories: Determination of case specifics: <ul style="list-style-type: none"> - Differences in university roles. - Sustainability of partnerships. - Interdependences - diversification among industries.
	2. Coordinative institutions		
	3. Industry		
2. University-firm interactions	1. Service placement	structured interviews and university websites	
	2. Services		
	3. Differentiation from educational services		
	4. Nr. of formalized, long term interaction.		
	5. Contact details		

Country - city	University	Nr. of students	Founded	Rank (Webometrics world ranking)	Entrepreneurial university elements in communication
Hungary - Győr	SIU	16 000	1968/2002	5020/2582	Development projects
Germany - Bremen	UB	20 000	1971	368	“university and business” submenu on the website
France - Rennes	UR1	26 000	1969	587	“entrepreneurship, industrial partnerships and innovation” submenu on the website
Poland - Poznan	PUT	21 000	1919	863	Development projects

Basic Case – Hungary - SIU



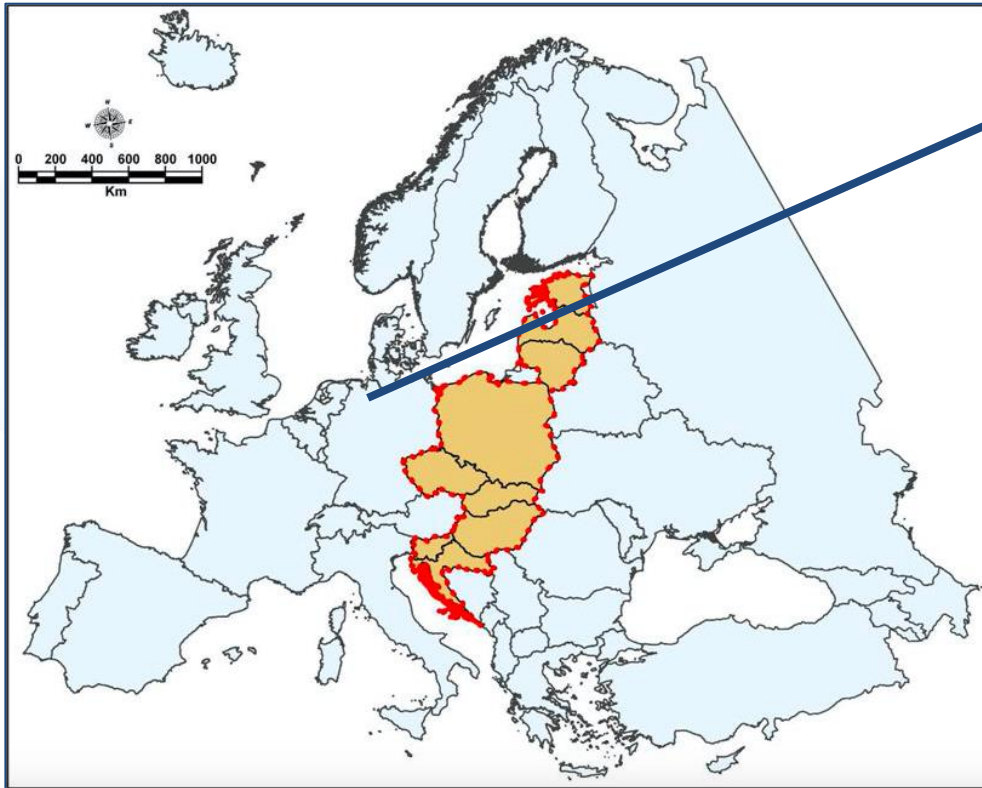
Institutional background

- Audi - 1993
- Growing importance of local entrepreneurs (1989 – 2nd generation)
- Coordination of middle level education and firms has well build system.
- Changing roles and functions of university: university-firm cooperation, internationalization.
- High but slowly decreasing ratio of state supports, EU funds.

University-firm links

- **Formal technology focused university, long term partnership with AHM Ltd.**
- **Services are not illustrated in separated department of the university – not centralized.**
- **Desk research in topic of potential services and their effects - strong academic background.**

Case2 – Germany - UB

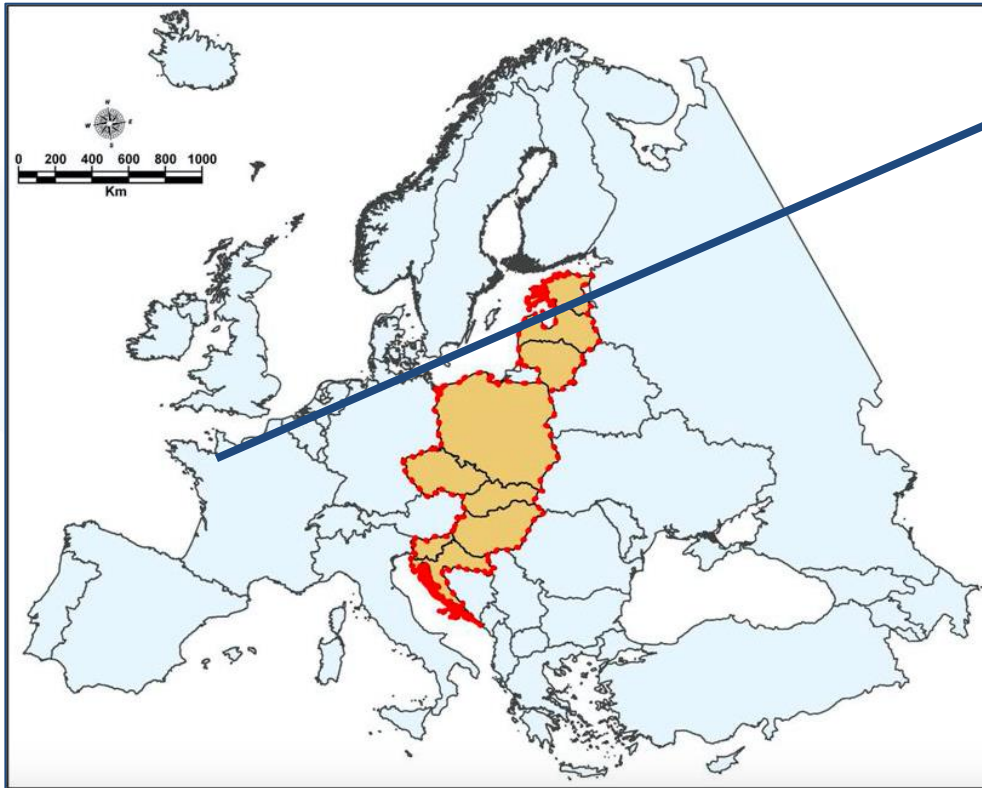


Institutional background

- Ports and science
- 2005: City of Science
- Research departments of global companies.
- Fast performing territory: pillars of increasing economic output
- Growing importance of local entrepreneurs (1990 -)
- Changing role of university: taking part in industrial research.
- Decreasing state supports, EU funds.

University-firm links

- Formal technology focused university, partnership with many firms.
- Links and services re illustrated in separated department of the university – served with direct contacts. (<https://www.uni-bremen.de/en/cooperation/university-business/>)



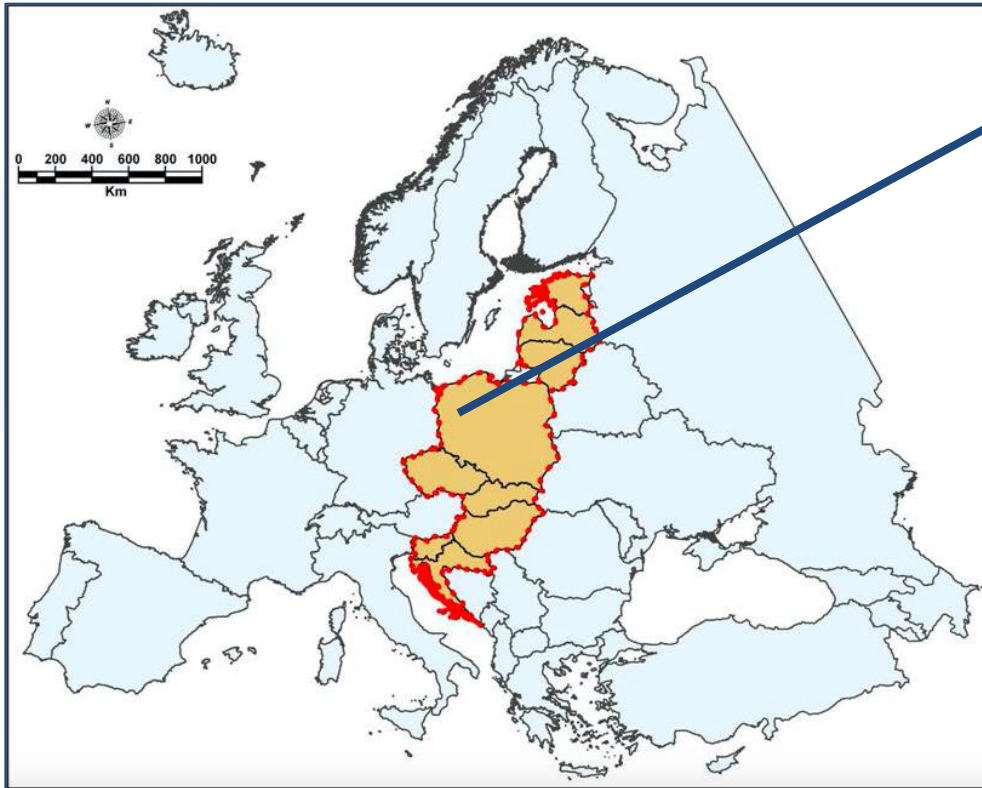
Institutional background

- Citroen: since 1961.
- 'Academia' system: coordination between middle schools and firms. Long running, well established system. Effects on higher education.
- Decreasing state support. Strong role of regional institutions.

University-firm links

- Entrepreneurship as sub-menu – general presence, no contact
- Several news about formalized, long term cooperation: Citroen, suppliers.

Case4 – Poland - PUT



Institutional background

- 1990: market based economy
- Volkswagen
- Science centers: state owned, separated institutions dealing with higher education and industry cooperation (automotive, IT, medicine). Goal of their operation is to provide community services tailored to local, industrial needs.
- Financial role in university projects.
- EU and state funds.

University-firm links

- No university-firm service placement on the website – delegated to Science Centres
- Research and development projects – contacts.

Data Hubs	Basic Case	Case2	Case3	Case4
1/1 (historical b.)	regime change, industrial	industrial, science	industrial	regime change
1/2 (institutional b.)	state	state	state, academies	state, science centers
1/3 (industry)	automotive	automotive, port	automotive	automotive
2/1 (service placement)	in ongoing development project description	webpage-sub menu	webpage-sub menu	webpage-science center
2/2 (services)	not collected	collected	collected	not collected
2/3 (service diff. from education)	student groups: new way of formation of university-firm links	high	high	n. a.
2/4 (nr. Of formalized, long term partnerships)	high visibility: faculty, labor, student groups, research projects with one partner	news	news (one partner appears)	high visibility: faculty, labor, research projects with one partner
2/5 contact details	n.a.	webpage	webpage	n.a.
Rec. Cat. (data hubs) – university role differences (1/1-2,2/1)	government - universities	government - universities	government – coordinative institutions-universities	government – coordinative institutions-universities
sustainability – stronger ties: time frame vs. weaker ties: financial (Arza and Caratolli 2017)				
Rec. Cat. (data hubs) - sustainability (1/1,2/1-5)	long term partners	wide range of partners	wide range of partners	long term partners
Rec. Cat. (data hubs) –diversification in industry (1/1, 1/3,	low	high	high	low

Role differences:

Centralized services as department – services through mediators
- interactions.

Notions of sustainability:

Notion of sustainable partnerships are considered differently in the analyzed cases. There are two opposite sites visible from the cases, which is parallel to the findings of Arza and Carattoli (2017).

Interdependences with the diversification in local industry

Similarity research:

Centralized university services:
Case2, Case3

Cooperation (news) with one exact firm:
Basic Case, Case3, Case4

historical background:
Basic Case and Case 4

institutional background:
Basic Case and Case3

local firms:
Basic Case, Case3 and Case4

supportive institutional background:
Basic Case and Case4

Classification of cases:

Countries/Specifics	Basic case and Case4	Case2 and Case3
Role of university	High level of representing and highlighting one or few cooperative partner, low level of separately managed cooperation systems	High level of managed general industrial partnerships, services but low level of representing formalized, highlighted partners.
Sustainability	High	Low
Diversification	Low	High

Following the logic of grounded theory gives the opportunity to discover parallel logic of the existing research concepts (Guerrero et al. 2014, 2016), but also gives the opportunity of flexibility in multi-case analyses:

- It allows researchers to present a complete multi-case analysis, illustrating data-to-data comparison with qualitative and quantitative data inputs.
- It allows to apply general comparison between institutions.
- It allows to cut “topic fields – categories”. Following existing research perspectives, researchers can focus on different aspects of analyzing universities and recoding conclusion in well determined research topics.
- It offers for younger universities to discover path dependences and practices through larger and older universities seeking to be entrepreneurial.

Financial tension is not presented behind all the intentions to become entrepreneurial university – strategic decisions (Clark, 1998)

Similarities among European models are based on the following dimensions: historical background, institutional background, local firms, supporting institutions.

Two edges of the strategy: long term partnerships with one/few big industrial player – supports scientific output or centralized, separately established service communication targeting firms in general – supporting the service providing activity of universities (Arza and Carattolli, 2017)

England

Inclusion criteria:

- similar industries
- development level – operational level
- not in the capital
- relatively young, public university

Can we unify the coordinative institution level?

Communication of services/partners?

Thank You for your attention!

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