



Public procurement of innovation. A tool for regional innovation?

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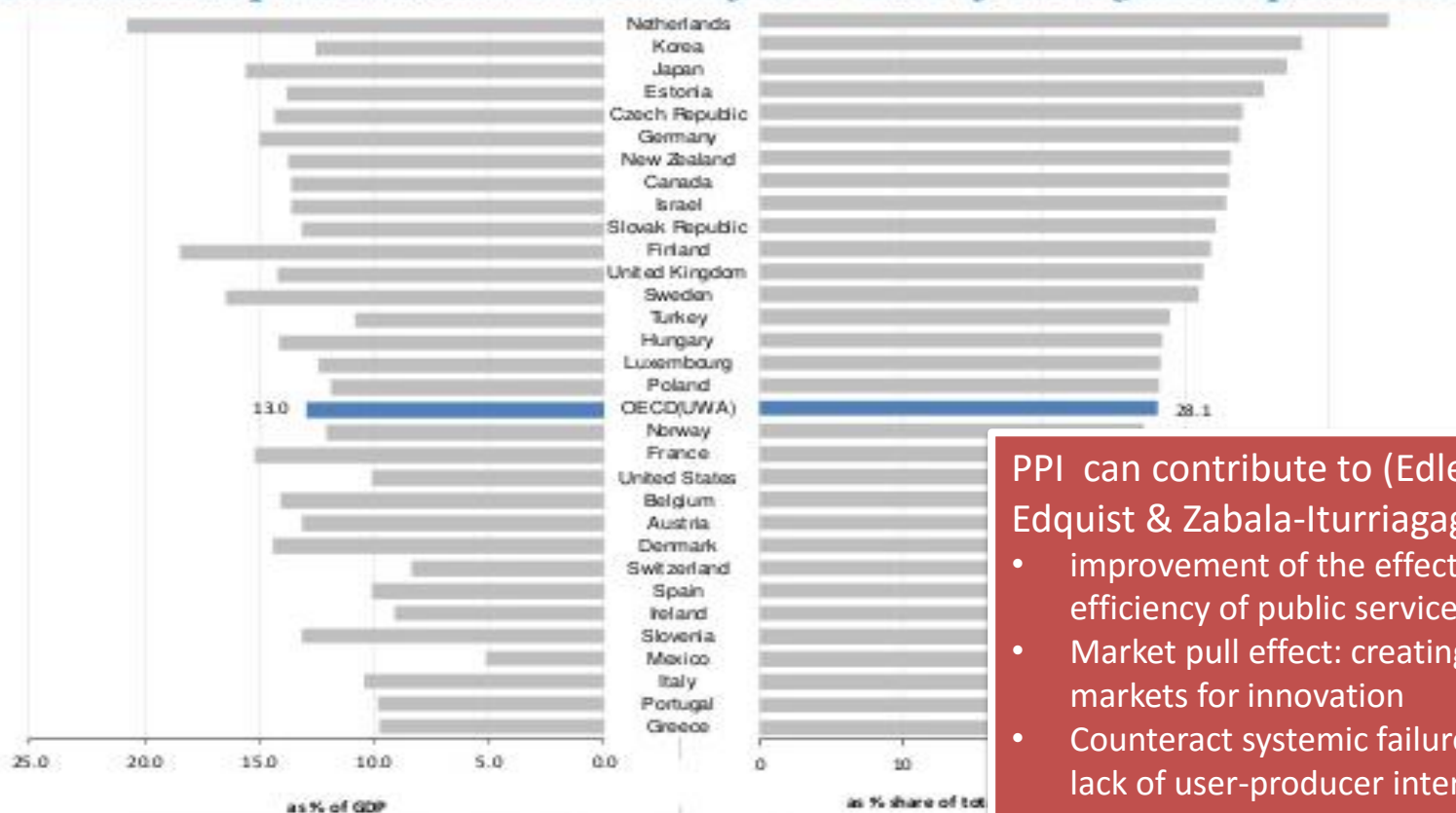
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Introduction

- RIS3 Guide highlights Public Procurement for Innovation (PPI) as one of the instruments for regions to be included in their policy-mix for implementing S3 (European Commission, 2012).
 - However, the underlying mechanisms through which this is supposed to work are seldom articulated.
- In parallel, PPI is recognised both in the literature and in the practice as a useful instrument for governments to promote innovation (Edquist et al., 2000; Edler, 2007).
 - However there is little discussion of its corresponding spatial dimensions
- This paper contributes to this debate by advancing our understanding of the spatial aspects of public procurement of innovation (PPI) and thus of the scope for using public procurement to achieve regional innovation policy goals.
- We explore different forms of spatial anchoring of procurement, which present different challenges and opportunities for regions.

The use of Public Procurement for Innovation (PPI) is high in the policy agenda...

Government procurement as share of GDP and of total govt. expenditures



Source: OECD National Accounts Statistics. (2013)

PPI can contribute to (Edler et al., 2015; Edquist & Zabala-Iturriagagoitia, 2014):

- improvement of the effectiveness and efficiency of public services
- Market pull effect: creating and shaping markets for innovation
- Counteract systemic failures associated with lack of user-producer interactions
- Demonstration effects (other users, producers): public administration as lead user
- Tackle societal challenges

And in the academic debate

- Growing literature dealing with definitional issues in relation to rationales, means, processes and outcomes of PPI (Edler &Georghiou 2007; Hommen & Rolfstam 2009; Uyarra&Flanagan, 2010; Edquist&Zabala-Iturriagagoitia, 2014; Georghiou et al., 2014)
- Increased empirical research on PPI based on:
 - Case studies of PPI driven innovations (Yeow et al, 2014; Edler and Yeow, 2015; Edquist et al., 2015)
 - Quantifying the impact of PP on innovation (Dalpé, 1994; Aschhoff&Sofka, 2009; Guerzoni and Raiteri, 2015; OECD, 2016)
 - Documenting and assessing the implementation of PPI policies and practices (& associated barriers) (Rolfstam, 2013; Lember et al., 2014, 2015; Uyarra et al, 2014)
 - Key challenges include the lack of adequate framework conditions, capabilities of procuring organizations, risk aversion, adequate identification and signaling of needs, poor Incentive structures

However... tendency to neglect the spatial dimension of PPI

- No discussion of the spatial (and multi-level) dimensions of PPI & the rationales for its use at the sub-national level (and as a regional innovation policy tool)
- “Public procurement is the **sleeping giant** of regional innovation policy” (Morgan)
- Sub-national levels are seen as lacking the **scale, capabilities** and **resources** for PPI
- Tendency to see procurement at the regional/local level as a one-size-fits-all routine, efficiency driven, footloose activity rather than an strategic activity for regions

Key argument

- Efficiency leaves little room for experimentation and is therefore most of the time incompatible with innovation (Potts, 2009).
- There is untapped potential of local/regional public sector purchasing that could be mobilised to:
 - upgrade and diversify place based assets
 - Develop better/more innovative public services
- Need to ‘anchor’ procurement through early stage dialogue or ‘conversations’ to support place-specific innovative advantage and advance the objectives of smart specialisation.

Anchoring procurement through place-based conversations

- Increased attention to the idea of anchoring as *“an interactive process where regional actors mobilize knowledge, markets, legitimacy, and financial investment”*(Binz et al, 2016)
- However consideration is normally given to the role of anchor-actors such as large-hub firms “[which] have needs and loyalties which keep them anchored in the regions ...[whilst] also embedded in relationships external to the region, with customers, competitors and suppliers|| (Markusen, 1994, p.483).
- However, less consideration has been paid to the role that the public sector, through its purchasing decisions, may have in shaping regional economies.
- Not clear what the nature of these anchoring processes is....

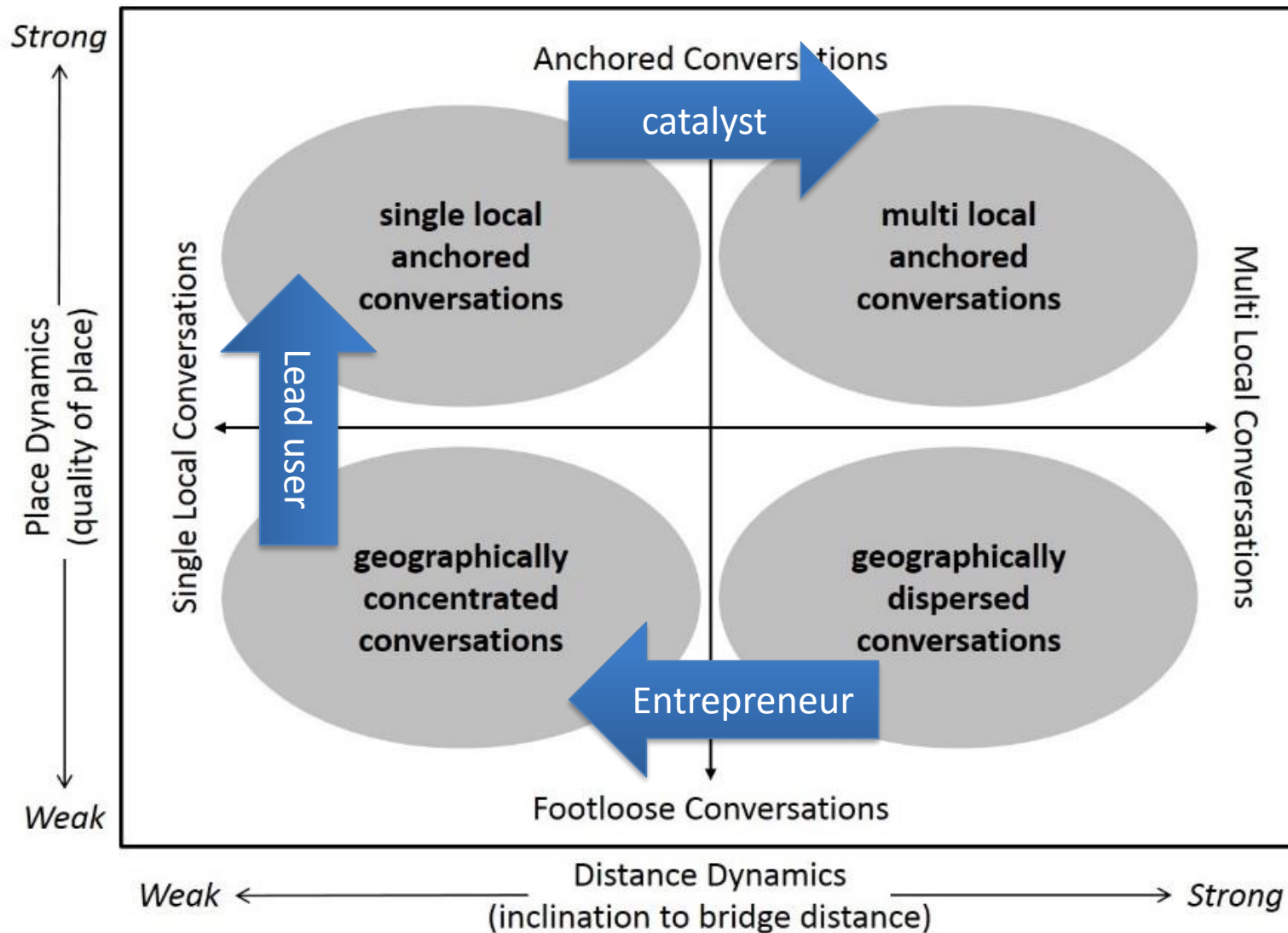
Anchoring procurement through place-based conversations

- Innovations are socially defined and constructed in ‘conversations’ around the articulation of needs (Lester&Piore, 2004)
- Understood as fluid, open-ended and interpretative forms of interaction, characterized by uncertainty and ambiguity
 - in contrast with more ‘analytical’ approaches, better suited for products that “are already well defined” (Lester&Piore, 2004; p.54)
 - Where ambiguity and conflicts around aims and goals may be negotiated and ‘productive friction’ may be harnessed (Stark, 2009).
- Early stages (needs definition) in procurement are characterised by uncertainty and ambiguity

“markets for innovation are – by definition – not established, needs are often novel and ill-defined, a multitude of different functions within public organisations produce different expectations and incentives to demand innovation, the business case of new solutions offered to organisations is ill-defined at best” (Edler and Yeow, 2016: 415)

Role of the procurer

- The role of the ‘manager’ (or the procurer) is not to define clear specifications but to remove the barriers preventing conversations from taking place (so as to maximise the potential for innovation and creativity)
 -”*Can influence whom is initially invited, what they are led to talk about, and how the conversation is enriched by bringing in new members to the conversation group*” (Lester&Piore, 2004)
 - Procuring organizations can act as catalyst, niche or lead users and entrepreneurs by influencing this process
- Strategy on a case by case basis depending on the demand specificity and the requirements for specialist knowledge on the supply side (Uyarra& Flanagan, 2010)
- Geographical dynamics of ‘conversations’ differ according to the content of conversations and how they are affected by place and distance dynamics (Rutten, 2016)



Source: Rutten (2016)

Anchoring procurement to place-based knowledge assets

- Consider strategic procurement processes in those areas closer to prioritized domains.
- Act as intelligent/ lead user:
 - Promote market testing and early dialogue with suppliers and the knowledge base (OGC, 2004; Edler et al, 2014).
 - Communities and Intermediation mechanisms between the public buyer and the supply base (Edler&Yeow, 2015)
 - Welcoming unsolicited ideas and proposals (Zelenbabic, 2015)
- Locally anchored conversations does not mean privileging local/incumbent suppliers
 - Catalyst: Use knowledge asses/anchor organizations as entry points for global knowledge
 - Encourage learning/spillover effects from global suppliers through subcontracting and other means (Uyarra&Flanagan, 2010)
 - Continuous feedback from tenders to promote learning

Example: Galicia (Spain)

- Experience in PPI previous to S3 definition → PPI as a facilitator for the definition of S3
- Existing regional competences and skills and the policy learning associated to it helped the region define their own S3.
- Regional challenges and priorities:

CHALLENGE 1 PRIORITIES	
1.1	Valorization of by-products and waste generated by production chains linked to the sea, through the use of their components for cosmetic products; food additives; pharmaceutical applications; in order to achieve a significant decrease in generated waste and attain a position in the market for innovative products with added value [Valorization-Sea]
1.2	Development of the Galician aquaculture sector to convert the region into an international reference for the generation of new technology-based products and services applied to aquaculture [Aquaculture]
1.3	Diversification in the Galician energy sector in order to gain significant improvement in the efficiency of natural resources use in Galicia, giving priority to biomass and marine energy [Biomass and Marine Energies]
1.4	Modernisation of the Galician primary sectors (agriculture, fishing, livestock and forestry) aimed at sustainable improvement of the efficiency and profitability indicators for operations and creation of innovative products and services [Primary Sectors Modernisation]
1.5	Modernisation of the tourism sector and Galician cultural industries by means of intensive use of ICTs to achieve a tourist sector that is competitive at a European level based on cultural and nature tourism [ICT-Tourism]

- Sea and primary sector
- Food and nutrition
- Aquaculture
- Energy
- Tourism
- Mobility
- Environment
- Ageing

Source: Smart specialization strategy in Galicia 2014-2020.

http://www.ris3galicia.es/wp-content/uploads/2015/09/RIS3_Strategy.pdf

Example: Galicia (Spain)

Galicia:

- Some of the current calls in PPI, aiding regional priorities:
 - Energy storage in the harbours.
 - Promoting the use of liquefied natural gas in the fishing fleet.
 - Technological innovation in education.
 - Innovation in the health sector (SERGAS) → aging as one of the main challenges.

IS-1-Punto de atención diagnóstico terapéutico móvil
IS-2-Central de imagen médica
IS-3-Hospital en casa
IS-4-Productos de teleasistencia multiespecialidad
IS-5-Hogar digital. Accesibilidad a Servicios Sanitarios
IS-6-Paciente experto 2.0. Innovación e información activa para pacientes
IS-7-Sistema inteligente de alertas multinivel
IS-8-Central de simulación médica avanzada
IS-9-Sistemas de diagnóstico asistido por ordenador
IS-10-Profesional 3,0.
IS-11-Espacio innovación en servicios asistenciales
IS-12-Sistema integrado de información y gestión de datos clínicos y epidemiológicos para investigación
IS-13-Transferencia y difusión de resultados
IS-14-Sistema integrado de digitalización, indexación, custodia y gestión de la información clínica

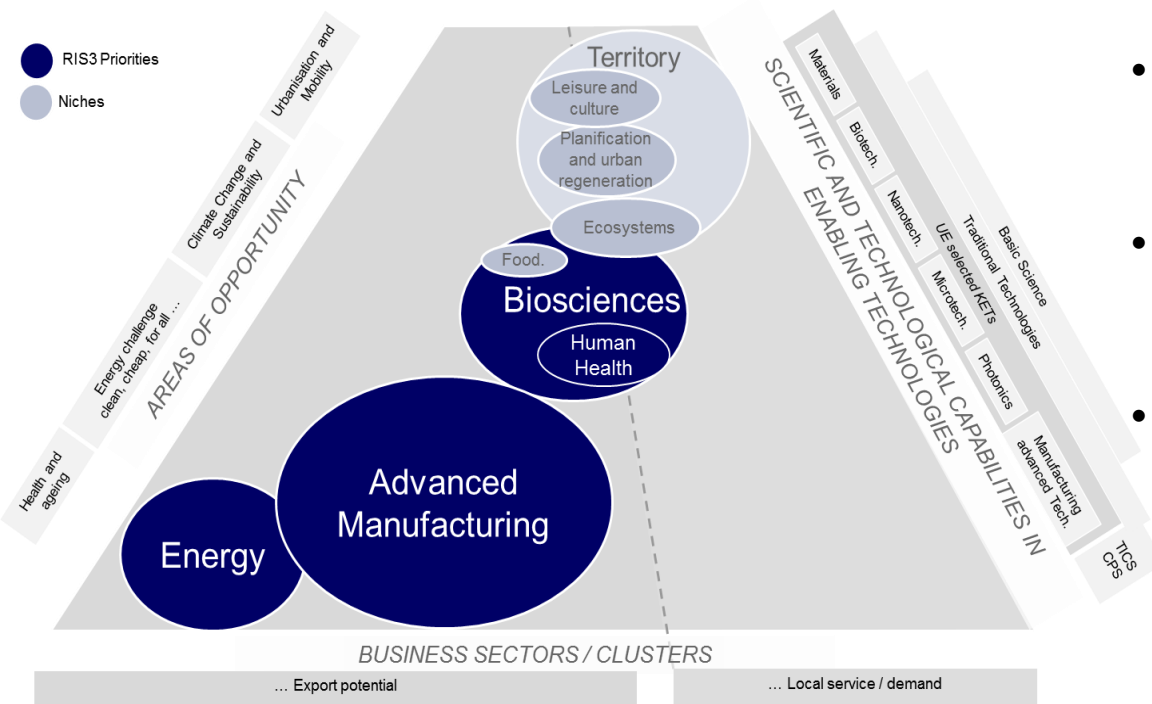
H2050-1-Urgencias-Sistemas de gestión inteligente en servicios de urgencias
H2050-2-Trazabilidad integral de pacientes y recursos
H2050-3-Robotización hospitalaria
H2050-4-Hospital autosostenible
H2050-5-Nuevo HIS - Modelo funcional del hospital del futuro
H2050-6-Habitación inteligente
H2050-7-Hospitalización Innovadora
H2050-8-Hospital digital seguro
H2050-9-Preservación de la Información Clínica

Anchoring procurement to place-based needs/ bridge with global needs

- Specifications that are reflective of the needs of a location
 - E.g. Social Value Act in the UK (Matthew&McInroy, 2014)
 - Environmental requirements (Morgan, 2008)
 - Considerations related to specific problems and culture of the territory (Morgan & Sonnino, 2007)
- Develop/nurture knowledge capabilities to address these needs
- However, need to scale up/bridge distances in order to achieve sufficient market pull
 - Aggregation of demand (Timmermans and Zabala-Iturriagagoitia, 2013)
 - Sharing of good practice (Knutsson and Thomasson, 2014)
 - Consideration of broader (multi-local) needs to improve access to broader markets for regional firms

Example: Basque Country (Spain)

Three different sub-national cases that illustrates scenarios and possible itineraries.

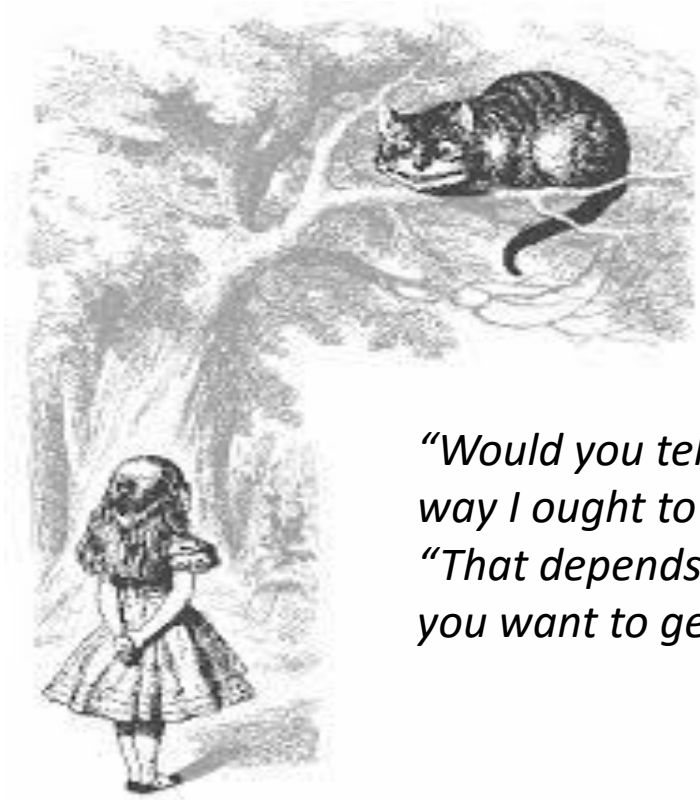


Basque Country (Spain)

- No prior experience in the use of PPI, but managed to create a biosciences industry from scratch.
- Biosciences for human health is one of the RIS3 priorities aiming to both external and internal markets.
- PPI is being introduced in a strategic manner as a tool to develop this priority, taking advantage of the highly developed regional health system.

Conclusions

- Need for more nuanced rationales for the use of public procurement to promote place-based innovation-driven economic development
 - PPI literature only considers national level policy rationales
 - Planning & PPP literature considers the local effect of public procurement but does not look at knowledge and innovation
- The idea of ‘conversations’ reflects the social and the spatial embedding of user-producer interactions for innovation
- It provides us with a **framework** to: explore the multiple geographies of procurement, the opportunities for ‘anchoring’ them to a particular place to advance regional development goals, and their associated trade-offs and tensions.



“Would you tell me, please, which way I ought to go from here?”
“That depends a good deal on where you want to get to”

(Alice's Adventures In Wonderland - Lewis Carroll)

Relevance of taking a spatial dimension of PPI

- A considerable share of public procurement is undertaken at subnational level → potential for market shaping
- Cities and regions can be spaces for experimentation and development of niche technologies (Hodson&Marvin, 2010)
- Procurement can be geographically ‘sticky’:
 - Spatial footprint of public procurement (Peck and Cabras, 2010)
 - Procurement of anchor organizations rooted to a place (CLES, 2014)
 - Benefits of proximity for user producer interaction (Boschma, 2005)
- And it is influenced by the quality of place, incl. institutions and policy learning
 - Geography is not only about ‘being there’; ‘being where’ also matters (Healy and Morgan 2012)
- However tendency to see procurement at the regional/local level as a one-size-fits-all routine, efficiency driven, footloose activity rather than an strategic activity for regions

Framework

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