

Smart Specialisation Strategies for Supporting Europe 2020 Vision. Looking at the American Experience: the Case of the Boston Area

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Synopsis: *These reflections aim to highlight the crucial challenge that European Regions are called to face applying the 'Research and Innovation Strategies for Smart Specialization' policy for pursuing the virtuous implementation of EU Cohesion Policy and 'Europe 2020' Agenda. The original cultural style of the 'US Smart Specialization model', supported by the 'cluster theory' and the 'innovation paradigm', represents a significant lesson in Boston area.*

1. Introduction

Since the beginning of the global economic crisis, Europe has been facing its major challenge of the last decades for pursuing a new season of prosperity and sustainable urban and territorial development. The ambitious Cohesion Policy has been conceived for tackling a persistent 'Research & Innovation gap' among European Union (EU) Regions. The privileged strategy for pursuing the vision of Europe 2020 is the virtuous integration of three fundamental vectors: the 'Smart Specialisation' concept enhanced by the so-called cluster policy, the high tech issue and the 'place based' approach.

These reflections aim at highlighting the original interpretation and evolution of the 'Smart Specialization' concept in US and its on-going process in the Europe 2020 Agenda. As it is physiologic for EU to look at the Smart Strategy 'American model', it has been investigated the successful case of the Boston urban area and the significant diversities that its cultural 'styles' suggest for Europe.

The idea of studying US cases for rethinking effective strategies in the European context seems particularly appropriate as the origin of the 'Smart Specialisation' concept is embedded in the 'transatlantic productivity gap' issue (McCann and Ortega-Argilés, 2015), due to the weak condition of the 'Old Continent' in the new technologies supporting the strategic economic sectors.

The section two of the paper briefly reconstructs the pivotal EU demand of tackling this gap leading to the origin of the 'Research and Innovation Strategy for Smart Specialisation' (RIS3), conceived by a high profile expert group coordinated by Dominique Foray (EC 'Knowledge for Growth', 2009) and adopted in the Europe 2020 Agenda within its privileged goals of 'Smart, Sustainable and Inclusive growth'.

The following paragraph discusses the RIS3 connection with the US entrepreneurship and innovation policies, which are strongly related to the widespread application of the 'cluster theory', as it was re-conceived by Michael Porter in the early '90s, after the original Marshall's districts (1920) and the interesting experience of the Italian industrial districts of the '70s. The recent best practices in US have highlighted the evolution of cluster benefits in terms of economies of scale for urban agglomerations, stakeholder networks and increase of local exchange knowledge.

The fourth part explores a significant fragment of policy and planning initiatives implementing the principles of Research and Innovation Strategies in the Boston area through the analysis of three case studies related to a complex cluster entanglement. The last part develops some preliminary findings, discussing virtuous and critical issues related to the 'Boston lesson' and

reflecting on emerging hints for the implementation of RIS3 framework in EU Regions and specific territorial and urban domains.

2. The origin of Smart Specialisation Strategies

The Smart Specialisation concept appears originally in the literature examining the so called '*transatlantic productivity gap*'. A first analysis discovered that the Information and Communication Technology sector (ICT) boosted the US productivity growth more than in Europe where the support of new technologies for innovation was scarce. The worse European performance in comparison to the US has been explained by multiple reasons, as the lower level of R&D investments (Falk, 2006), the differences in the industrial structure, and the pace of dissemination of new technologies across the economy (O'Mahony and Vecchi, 2005).

Therefore, in order to tackle the productivity gap and launch a model of knowledge-intensive growth (Camagni and Capello, 2013), the EU designed, within its *Europe 2020 Agenda*, the flagship initiative called 'Innovation Union', which aims to 'create an innovation friendly environment that makes it easier for great ideas to be turned into products and services that bring growth and jobs' (ec.europa.eu). The Innovation Union is part of the EU Regional Policy concerning 'Research and Innovation Strategies for Smart Specialisation' (RIS3) [EC, COM(2010)553], which aims to promote local innovation processes in particular sectors and technological domains through a bottom-up identification of specific 'innovation patterns' (Capello et al., 2012).

Ultimately, the Smart Specialization policy is based on four principles. First, economic development is knowledge and innovation-driven, and in the long run is about 'true economic regeneration' which is not possible to plan *ex ante*; for this reason, it refuses the '*picking-the-winner policy*'. Second, history matters, meaning that Regions have different potentials, institutional effectiveness, industrial specialization and knowledge level and an analysis of the Region environment is indispensable. Third, the perspective of economic growth embraces the bottom-up approach. Fourth, this policy is demand-driven, as it is derived from local potentials and local needs.

Therefore, the RIS3 policy has joined the 'place-based' approach (Barca, 2009) in order to identify the specificities that each Region can utilize for a successful innovation process. This approach implies collaboration and sharing of information between local actors and all levels of government in order to enhance the 'grassroots' factors which create knowledge and transform it in sustainable innovation.

In this context, local policymakers, universities and private entrepreneurship are the key actors for promoting knowledge and innovation as the principal features for Regional growth (Capello, 2014), whereas governments perform a strategic role in the productive sphere, giving great importance to the involvement of local stakeholders and public-private coordination (Iacobucci, 2014).

On one hand, the public policies are based on the concept that Regions have their own specific industrial and institutional history, and that the local stakeholders – entrepreneurial agents, policy makers and the society – should be made part of the implementation of Regional development (Coffano and Foray, 2014). In this approach local stakeholders have a great role in defining the main strengths, weaknesses, potentials and bottlenecks in a Region and it is their duty to analyse the technological and market opportunities, to find possible strategies and articulate a pattern of economic growth. The policy process should be inclusive and allow for a large number of stakeholders to participate in order to acquire specific needs by using available resources.

On the other hand, it is pursued the process of 'entrepreneurial discovery' (Foray et al., 2011), which consists in selecting and prioritising fields and sectors where a cluster should be developed and where the entrepreneurial activity unveils new domains for the future specialization. In the self-discovery process (Hausmann and Rodrik, 2003) public and private sectors have to collaborate strategically, evaluating costs and opportunities and reducing the impact of the imperfect information. Therefore, governments have a prominent role, more important than safeguard property right, to avoid corruption and guarantee economic stability.

3. The cluster concept and its relationship with the RIS3 policy

The cluster idea has enjoyed a surge in popularity over the last two decades largely thanks to the work of Michael Porter (1990, 1996), although early theorisations of the concept of 'cluster' date back to the last century (Marshall, 1920). Challenging the dominant narrative of internal economies of scale as main sources of specialisation advantages, the later known 'Marshallian economies' basically entail that a firm can remain small and still capable to be highly specialised and competitive, as far as it interweaves with other firms an extensive network of direct and indirect intra-industry relationships. Despite their potential, Marshall's speculations have long struggled to find their way within the mainstream economic theory. A resurgence of the idea of industrial district occurred on a pervasive scale only many decades later, when scholars started taking a renewed interest in the dynamics occurring within Regional agglomerations of SMEs. Indeed, many Regions in central-northern Italy, the so-called 'Third Italy' (Bagnasco, 1977), were traditionally home to a large variety of local socio-economic systems characterised by 'the active presence of both a community of people and a population of firms in one naturally and historically bounded area' (Becattini, 1990, p. 39). Eventually, cluster theory went through a more structured systematisation within Porter's theory (Porter, 1990, 1996), where clusters were defined as '*geographic concentrations of interconnected companies, specialised suppliers, service producers, firms in related industries, and associated institutions (for example, universities, standard agencies, and trade associations) in particular fields that compete but also cooperate*' (*ibidem*, p. 197).

Among the many credits of Porter's theory, three at least deserve to be mentioned here: firstly, his emphasis on the critical duality between collaboration and rivalry, which concurrently create pressure to innovate and upgrade competitiveness in the system. Secondly, his general definition of cluster allows encompassing a broader range of Regional agglomerations, beyond the traditional Marshallian industrial district. Finally, and most notably, Porter has 'not only promoted the idea of 'clusters' as an analytical concept, but also as a key policy tool' (Martin and Sunley, 2003, p. 6), by explicitly including policy-makers as key actors in fostering local economies.

Indeed, since the work of Porter, policymakers have long made their way to seize the notion of 'cluster' as a tool for promoting Regional growth and competitiveness, and this has led to 'a proliferation of policies that seek to nurture and support cooperative relationships among firms and with other production-related agents' (Aranguren and Wilson, 2013, p. 7).

The European regions have long established cluster policies within their regional systems in order to facilitate relationships of cooperation between firms and institutions, emulating the US policy framework, which substantially grounds upon the concept of 'cluster' as a specific target and strategic tool to enhance sub-national economic systems.

These networking policies aim at building a territorial 'platform' of local stakeholders, firms, institutions, public and private organisations, universities, technology transfer offices, civil society, who are encouraged to interact together in formal and informal relationships in order

to create, use and disseminate knowledge, enhance social trust, elaborate a harmonized vision for the future of the region. They operates below 'macro-level' policies with the aim to improve the ecosystem for all firms through 'setting the table' activities (Lerner, 2009), and above 'micro-level' policies, tailored to the need of individual firms (Porter, 2007).

It is quite straightforward, by these means, that the domain of cluster policies shares much common ground with the underlying principles of RIS3, thus requiring an overarching consideration in terms of their complementarities and contradictions. Foray himself acknowledges that 'vibrant innovative clusters' should be considered as a 'classic outcome' or an 'emergent priority' of a RIS3 strategy, but also warns that Smart Specialization is not the same thing as a cluster policy (Foray et al., 2011). In fact, two main distinctions can be made (Aranguren and Wilson, 2013) both in terms of target and focus. Cluster policies, indeed, are tailored to the specific needs of cluster agents and do not deal with the broader scope of gaining competitive advantages for the regional economy as a whole. Moreover, they seek to promote the competitiveness of the cluster among a broad range of areas (internationalisation, quality standards, training, R&D, innovation, etc.), while RIS3 strategies specifically target the allocation of regional investments for the enhancement of the innovation processes and the valorisation of human capital. Nevertheless, both cluster policies and RIS3 can be considered as 'systemic policies' (Sudgen et al, 2006) insofar as they set up new forms of governance and institutions in order to promote cooperation among a wide range of industrial and non-industrial actors within a specific sub-national economic system. Moreover, both policies are considerably place-dependent, since they root in that bundle of assets and capabilities that are already present in the territory, both in terms of constraints and opportunities.

Finally, while RIS3 policies have been sized accordingly with the geographic and political reach of the European Regional governments, cluster policies or, broadly speaking, public initiatives aiming at fostering entrepreneurship in specific contexts, can be activated at the national, regional or municipal level, but they usually are narrowly place-specific (Chatterji et al., 2014), favouring a very specific local area, as it is showed in the case of Boston Innovation District (§4.1). The rationales of this geographic concentration can be ascribed to the broad objective of generating positive externalities in a designated area, which usually occur at a micro-scale level (Rauch, 1993) and can be fostered by the coordination of a governmental entity that connects different firms. Cities provide a natural and preferential testing ground for these policies thanks to a vast array of favourable conditions that can be found in the urban area, among which the presence of an educated and 'creative' workforce (Florida, 2002), the 'local supply' of entrepreneurs (Glaeser et al., 2010), the high concentration of private venture capital (Samila and Sorenson, 2011), the more diversified business environment (Glaeser and Kerr, 2009), and the provision of public infrastructures (Chatterji et al., 2014) are undoubtedly the most relevant. This is why, for the purpose of this study, the analysis of US industrial and entrepreneurship policies will be anchored to a specific urban context.

The paper deals in the following with two specific elements of the RIS3 strategies that are largely shared by cluster-oriented policies: the process of entrepreneurial discovery and the engagement of stakeholders in the evaluation of RIS3 potential, which can both be framed within the first two of the six steps selected by Foray (European Commission, 2012) for S3 design: (1) 'Analysis of the regional context and potential for innovation: a wide view of innovation' and (2) 'Governance: ensuring participation and ownership'. While the scope and the boundaries of the public actor is quite well stated in both policies, very little is known in terms of effective diagnostic processes of the regional contexts, which should be capable of

fully recognise the role of local entrepreneurs and their grassroots organizations. Moreover, the way market and civil society (the 'quadruple helix') should be included in order to foster a 'Collaborative leadership' (*ibidem*, p. 17) is not well specified in the RIS3 guidelines, while a long-lasting tradition of successful Public-Private Partnerships (PPP) and territorial-oriented initiatives can be recognised in the US policy framework. Finally, the way RIS3 policies deal with a broader range of objectives, not only specifically oriented to the enhancement of the 'business realm' (Lorenzen, 2007), but also affecting territorial dynamics (spanning from local development to urban regeneration) is largely overlooked.

4. The Boston case: what to learn

Nowadays, the Greater Boston area is one of the most innovative realities within the U.S. scenario. Thanks to its high agglomeration of educational institutions and industries, as well as its physical and infrastructural system, the whole metropolitan region has been able to attract an increasing interest of main investors and venture capitalists. This flourishing environment has positively impacted on the economic growth of the Metropolitan area, showing the highest rate of growth across the US (Kahn et al., 2012). Specifically, in the last thirty years the Cities of Boston and Cambridge have implemented economic and urban policies that have turned it in one of the most prosperous and vibrant settlement of the nation. Therefore, public and private investments have been carried on to spur sectors such as education, financial services, life science and high-tech, that today represent the main clusters sustaining the urban economy by generating a significant rise in job creation, also in other cross-sectors.

Apparently, the effects of these economic policies are experienced on the territory by the spread of new development and renewal projects that are changing the urban geography of the city by supporting the settlement of innovation hubs within the neighbourhoods. The emerging model that embodies the idea of recreate an innovative urban ecosystem is well represented by the concept of 'Innovation District', a 'geographic area where leading-edge anchor institutions and companies cluster and connect with start-ups, business incubators, and accelerators' (Katz and Wagner, 2014).

4.1 *LifeTech Boston*

The '*LifeTech Boston*' (LTB) was launched by the public agency 'Boston Redevelopment Authority' (BRA) in 2004 and it was absorbed in the Business Development Division of the same agency in 2013. The original mission was to foster the growth of Boston's life sciences and high technology sectors by nurturing the incumbent companies in the City and attracting national and international businesses. It targeted three different domains: Biopharmaceutical, Information Communication Technology and Medical Device.

The '*LifeTech Boston*' initiative assisted companies looking for a new localisation, providing city services, and identifying financial resources. In this activity they built a network of partnership as consulates, trade and investment organisations, non-profits and public agencies. In particular, they worked with two stable partners: *MassBio*, a not-for-profit organization that represents and provides services and support for the life science sector, and the *Massachusetts Life Science Center* (MLSC), a quasi-public agency of Massachusetts tasked with implementing the Massachusetts Life Sciences Act.

LTB identified and promoted 5 areas of possible localisation two of which deserve to be mentioned here.

The first area is the Boston Innovation District (BID), a component of the '*Innovation Boston Strategy*', that aims to create a neighbourhood able to attract financiers, resources, and talent

mimicking the success of *22@Barcelona*, considered the most virtuous prodromal experience of the innovation district model. The BID project was conceived to redevelop the South Boston Waterfront, a 1000 acres underutilized area that hosted industrial activities, transforming the area into a thriving hub of innovation and entrepreneurship together with new residential, commercial and retail surfaces within a mixed use configuration.

The BRA managed the project and provided partial funding for constructing new public spaces, building a network with private companies and using financial and planning tools within the PPP 'architecture' in order to guarantee the progressive implementation and ease the burden of the costs of the project on the City's budget. The centrepiece of BID is the District Hall, a large public space where innovators can meet, aggregate, exchange ideas, explore potential synergies, finalize their creativity, find concrete agreements. The building, opened in 2013, offers 12,000 square feet of meeting space, and it is the result of a PPP between the BRA and private investors. The City plans to add 1.2 million square feet to the Massachusetts Convention Centre, the major anchor in the district, with a project of 1 billion dollars and to implement the project with the construction of new private housing units.

In this area the LTB initiative worked to attract both start-ups and more established companies as Vertex Pharmaceutical that has set up its new headquarter in the District.

The second one, the Longwood Medical Area, is characterised by research, health care and academia territorially dense activities hosting several key players (Brigham & Women's Hospital, Children's Hospital, Dana-Faber Cancer Institute, Harvard Medical School, Harvard School of Public Health, Harvard School of Dental Medicine, Merck) and 43,000 people including scientist, researchers and staff and 19,000 students. Thus, the LTB initiative worked especially with *Kowa Pharmaceuticals* and *Pfizer* helping these companies to find a space for their offices. The main activity was the assistance during the administrative process for licences and permissions.

4.2 Greentown Labs (Somerville)

Greentown Labs (GTL) is a PPP initiative with the aim to become the largest incubator for clean-tech start-ups in the USA. The initiative is characterised by a high localisation mobility, determining a path within the already existing 'Innovation Districts' of Boston and Cambridge. It originally stemmed from the Cambridge area, then moved to Boston, and at last it ended up in Somerville municipality following criteria such as space availability, rent prices, and public funds. Although its second location within the BID was highly strategic, given the knowledge spillovers with other business ventures and the provision of public infrastructures, the area was no longer affordable in terms of rents. Eventually, the City of Somerville managed to attract GTL's localisation by linking it to its 20-year plan called 'Somervision', whose overall mission is to attract innovative business activities in the area in order to generate new employment opportunities and positive externalities for the community as a whole. The Future Economies Commission of this Municipality eased the Lab through a working capital loan, to be secured to some general requirements in terms of new job creation for low-income citizens. The Commonwealth of Massachusetts as well contributed to Greentown's expansion into Somerville through a \$300,000 grant, provided by the Massachusetts Clean Energy Centre (MassCEC). The localisation history of GTL is due to its continuous expansion and the increasing number of start-ups they host in their spaces (currently 43, planned to become 100).

The GTL initiative can be framed in terms of a business incubator that offers strategic resources tailored to the specific needs of clean-tech firms, by providing access to a prototyping space, educational assistance and trainings from sponsors and partners on

specific tools and resources (like Veolia, National Grid, Engie and CertainTeed Saint-Gobain), acceleration programs (Greentown Launch and Manufacturing Initiative), and, most notably, network building with other entrepreneurs, angel investors, venture capital firms and public organizations.

The case of Greentown Labs provides several strands of analyses, by means of territorial outcomes implications, institutional texture, and policy implications. The rationale behind the persistent interest in this project by local policy-makers is twofold: on one side, local governments typically target fields that appear to have long-standing comparative advantages in the city (Chatterij et al., 2014), and the policies tend to reflect the new ideas and human capital that can be fostered by these sectors. Public support for clean-tech is seen, by these means, as a tool for dealing with the negative externalities, like carbon emissions, associated with traditional energy sources, which have been dominating the innovation scenario over the past two decades. On the other side, local municipalities acknowledge the importance of 'seizing' industries and strategic actors within their own territorial domains, since knowledge spillovers and branching-off processes have been proved to attenuate rapidly across the city, even over just few blocks, as showed for the case of Manhattan (Arzaghi and Henderson, 2008).

In terms of policy implications, the case of Greentown Labs shows that the function of 'clustering' entrepreneurs can also be performed by private developers (Chatterji et al., 2014), thus galvanizing the concept of entrepreneurial discovery and grassroots seeding. Public policies can, thus, layer over privately-funded initiative and anchor them to broader economic or territorial initiatives, as in the case of the City of Somerville. The 20-year program 'SomerVision', by these means, provided a fertile ground for the development of Greentown Labs, and benefited from multiple positive externalities thanks to its location: among the others, the creation of new job opportunities, the requalification of a mature industrial area, and the establishment of a vibrant community of entrepreneurs, who are also encouraged and sponsored to pilot their green innovation in the city under the Somerville Green Tech Program. By these means, Greentown Labs constitutes a convergence point of a complex network of public policy initiatives that act a different scale and with different objectives. Along with the municipal level, different federal public agencies, like the NSF and the SBA, are involved in the initiative in order to enable the production of radical innovation in the clean-tech and foster sustainable transition, while at the State level, institutions like MassCEC, are primarily focused on encouraging start-up formation and growth, spurring knowledge transfer across various organizational boundaries, and creating a regional hub for specific clean-tech sectors. Therefore, a sound policy mix, at the State and local level, aiming at building and supporting clusters, can be consistent with a leading role of private initiatives and should encompass a territorially-led vision in order to internalize the externalities that can come from innovation and new start-ups.

4.3 *Neighbourhood Innovation District (Boston)*

The *Neighbourhood Innovation District* (NID) is an ongoing public strategy launched in 2014 by the Boston Municipality. The main goal is to encourage and to widespread innovation and technology within low-income neighbourhoods as necessary tools that generate a positive impact on small business growth and local economic development. However, rather than supporting a specific industrial sector in advance, the NID' strategy has adopted a more territorial-based approach able to empower the existing business activities as well as the physical features of the places. Thus, the initiative's most innovative aspect has been to shift the focus from the solely idea of entrepreneurship towards a more inclusive and community

oriented perspective taking into account the overall economic empowerment of the neighbourhood. For the first time in the framework of the innovation policies, this approach has tried to prevent the community displacement generated by the development of innovation districts whose creation inevitably leads to a dramatic rise of the real estate values. Therefore, this is why the 'NID Committee' - body created by the present administration for identifying policies, practices, and infrastructure improvements to support the development of innovation districts throughout Boston - has strongly suggested a District Housing Plan as a tool to ensure within the neighbourhood a consisting provision of new affordable housing and business spaces.

The Committee, in charge for piloting the whole process, is composed by local leaders, businesses experts, representatives of community-based organizations and representatives of the City. It encourages a participatory approach working with residents and local stakeholders in order to ensure a shared and affordable vision of economic development within the city. The results achieved by the Committee have been collected in a final document that defines the guidelines to implement an Innovation District into an existing distressed neighborhood. Four specific recommendations are highlighted in the document: ensuring an adequate entrepreneurial education programs, promoting a streamlined regulatory framework for new entrepreneurs, providing enough space for both retail activities and new affordable housing and delivering publicly-accessible business space and infrastructures that support the networking between private entrepreneurs.

Following specific criteria remarked in the Innovation District literature (transit access, affordable office space, arts and cultural amenities, involvement of non-profit organizations) and considering the peculiarities of the area (presence of high-educational institutions, vacant lots, transportation nodes) the choice fell on *Dudley Square-Upham Corner Corridor*, a vibrant zone within the Roxbury neighborhood. Overall, the area collects all physical and structural characteristics to become a promising pilot project able to spur local entrepreneurship. Since the beginning of the initiative, the area has attracted few local stakeholders' investment, such as the non-profit 'Initiative for Competitive Inner City' (ICIC) founded by Michael Porter in 1994, that proposes several State and Federal programs of research aimed to boost market opportunities and investment into inner areas (such as Roxbury) as a whole; after few months of activity only, the Roxbury Innovation Center is mainly involved in providing vocational training programs for local residents, nonetheless, the local administration, due to the lack of a thriving socio-economic environment, is struggling to find entrepreneurs ready to invest in the corridor.

5. Preliminary findings and final remarks

The case studies evaluated have been deliberately selected in order to provide evidences of different approaches in targeting innovation and cluster dynamics at the urban level. Notwithstanding the high variance of the initiatives, an overarching assessment could still be feasible by framing it within two main levels of analysis: the *objectives* and *targets* of the initiatives, in terms of territorial and/or industrial orientation, and the *negotiation process* between private and public actors, that can show either a bottom-up or top-down approach. By combining the alternative modes of the two dimensions under analysis, four areas of policy-intervention can be plotted, as displayed in *Figure 1*. Considering the role played by private entrepreneurs in launching the initiative and dealing with the different public agencies progressively involved, GTL could actually be plotted in terms of a bottom-up approach that incorporates a clear industrial orientation (SE quadrant), with some relevant openings towards a more systematic vision of local development (the modulation of the 20-

years City Plan, the requalification of the area, the pilot-tests of green innovations in the neighbourhood, etc.). NID, instead, clearly shows a strong commitment in the involvement of all the stakeholders, by dealing with a vast array of local communities and simultaneously pursuing different goals (the spurring of local entrepreneurship, the urban regeneration of the area and inclusiveness) Although the policy can still be framed in terms of the 'innovation district' (Katz and Wagner, 2014) approach, the overall mission is definitely consistent with a more specific territorial orientation (SW quadrant). Finally, some criticisms are related to the identification of the LTB initiative in terms of top-down vs. bottom-up approach, without questioning its narrow industrial orientation. Indeed, while we can still detect some feedback-mechanisms allowing the firms to influence the decision processes, the general methodology applied by policy-makers shows a clear preference towards a top-down implementation and a general lack of territorial orientation. Therefore, also considering the relevant differences with the GTL case, the initiative can coherently be placed in the NE quadrant.

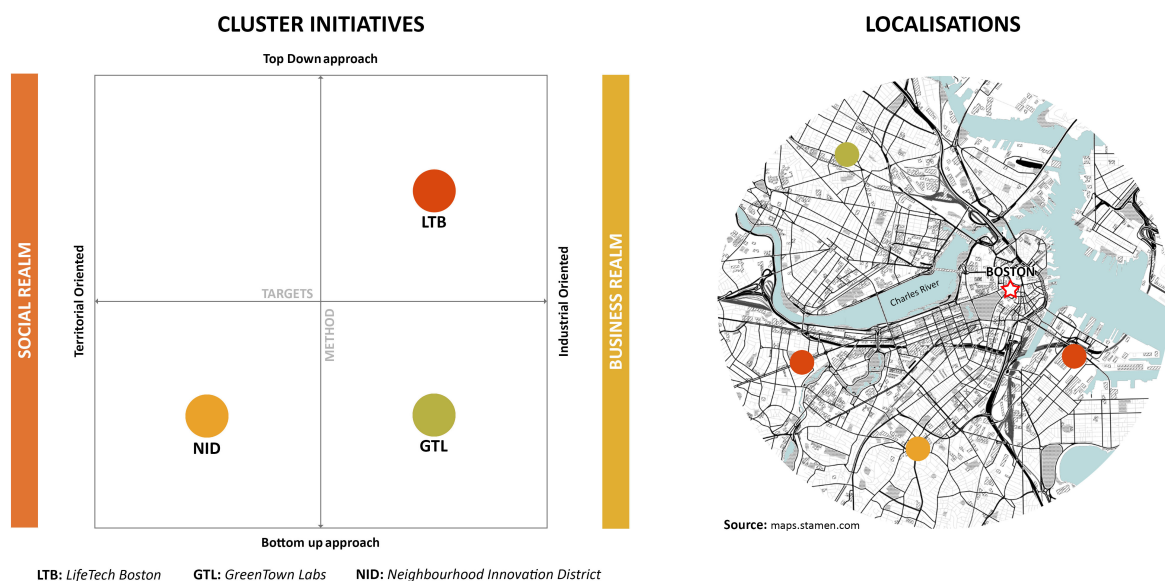


Figure 1: Overarching assessment of the three case studies

Although we acknowledge that any schematisation of these initiatives cannot but deliver preliminary and partial considerations, the scheme provides a useful tool of analysis for evaluating how public actors take into account local stakeholders in the formulation of the initiatives, which is also a pivotal element in the implementation of RIS3 policies. Bottom-up approaches, either by addressing the 'business realm' alone (Lorenzen, 2007), as in the case of GTL, or by involving the overall 'social realm', as in the NID case, are both highly consistent with the process of 'entrepreneurial discovery' fostered by the EU Commission.

In a first attempt to draw some insights from these findings, some critical questions arise: what is the original interpretation of the RIS3 in the 'American style' emerging from the policy initiatives within the Boston area? What is the role of clusters? Is there a specific interpretation of the 'place-based' approach useful for the EU 2020 vision?

It is not simple to find a univocal answer to these questions. The first findings within the ongoing research process, looking at the limited number of case studies previously described, highlight that the interpretive style of the term 'innovation strategies' is tightly intertwined on the specific synergy between different actors of the multiple helix model, with a privileged role played by the enterprise universe. As to the other principal 'stakeholders' of

urban regions, specifically public governmental institutions and local communities, it is possible to recognize a 'flexible geometry approach' in which strategies and roles can assume from time to time different identities, where the boundaries between public and private initiatives are often blurred. By looking at the European policy scenario, instead, these 'geometries' are likely to be shaped by a dominant regional approach, where Regions themselves actually catalyse and address the role of other public and private actors potentially involved in implementing and fostering innovation policies.

Referring to the cluster model as it is well known according to the Porter's theory and evolutionary interpretation, it would be inappropriate and substantially incorrect to investigate, chase and recognize clusters in their completeness at neighbourhood or municipal level as the assessment method adopted by Porter's research team at the Harvard Business School (see clustermapping.us) has been validated at a State and County scale. Nevertheless, their regional reconstruction of clusters delivers intriguing interpretations at urban level as well. Indeed, the physical concentrations of dense fragments and significant 'critical mass' represent authentic 'hot spots' in the urban fabric and 'topologically materialize' cluster fractals belonging to complex and widely extended network systems. The Longwood Medical Area and the Boston Innovation District, for instance, do not show only the concentration of a huge range of economic activities, but most of all propose new thriving patterns of integrated models with young actors naturally gravitating around the space of potentials and opportunities. In general, in the 'innovation district' phenomenon the ideal objective of the regeneration strategy is the synergy between increased creative production, associated with cross-fertilization interaction, and a high level of 'urbanity'.

The dialogic relationship between two 'opposite' cases like BID and NID demonstrates that locations, proximity, conditions 'ex ante' still matter, and that governance has a great importance for the possible success or failure of such initiatives. Given the relevant commitment and direct involvement of the public institutions in the BID case it is possible to interpret the evolution of the redevelopment strategy which becomes the product of a long-term planning and shared investment on the part of taxpayers, anchor institutions, and private sector partners. In the public-private-non-profit partnership the cooperation of actors has been able to manage the risk, mostly emphasizing the potential for private profit together with a recognized public benefit. Nevertheless, it is impossible to forget the overwhelming business-driven general philosophy of the policy and planning initiative.

Finally, according to the rhetoric of the official documents evaluated, this new redevelopment strategy should be adapted to meet local needs with programs intended to foster a more inclusive ecosystem, creating economic opportunities not only for the 'haves' (and tech connected) but mostly for the 'have nots'. This is the most difficult challenge that the present Boston administration is called to face after locating an Innovation Center in a critical distressed neighbourhood like Roxbury for turning really upside down the ongoing traditional strategies and doing something truly innovative: disrupt the patterns of inequality. By looking at the European case with similar lens, the main challenge for the EU policymakers can be framed in the need to pursue a novel model of RIS3 which should not only emphasize the role of industrial clusters, but also 'territorialise' the redevelopment vision. As originally the 'Smart Strategy' idea has been mostly developed in a non-spatial dimension, the centrality of territories represents the core issue. In order to overcome this limit, it is necessary to apply the principles of the 'place-based' approach for identifying, recovering and increasing the values of local cultural specificities and build virtuous regeneration projects including the potential of territorial 'DNA' related to the local communities. The conscience of places still matters.

Acknowledgment

This paper is related to the dissemination of the EU research project 'MAPS-LED' (*Multidisciplinary Approach to Plan Specialization Strategies for Local Economic Development*), Horizon 2020, Marie Skłodowska-Curie RISE, 2015-2019. The program implementation is based on networking universities from EU (Mediterranea Reggio Calabria, "Sapienza" Roma, Aalto Helsinki, Salford Manchester) and USA (Northeastern University Boston, San Diego State University).

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