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From Plan to Process: Exploring the Leadership Implications of RIS3

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Abstract

Regional innovation strategies for smart specialisation (RIS3) are currently receiving much attention in the face of the European Commission's requirement that all regions develop smart specialisation strategies in order to receive structural funds linked to innovation. Yet the entrepreneurial discovery process that is at the core of the smart specialisation concept remains a black box. The paper looks inside this black box through an exploration of leadership requirements. A review of literature on place leadership and territorial strategy identifies three key considerations for leadership if RIS3 are to result in coherent and successful place-based strategies for STI investment: a dualism in reference frame; a mix and rotation of leaderships; and the likely different sources of leaders. These are brought together with analysis of the distinct RIS3 processes in two neighbouring Spanish regions – the Basque Country and Navarre – to highlight a series of implications in terms of the context in which RIS3 develop, the required shift from plans to processes, and the required leadership mix.

Resumen

Las estrategias regionales de innovación para la especialización inteligente (RIS3) están siendo objeto de mucha atención debido al requerimiento de la Comisión Europea de que para recibir fondos estructurales vinculados a la innovación, todas las regiones deben desarrollar estrategias de especialización inteligente. No obstante, el proceso de descubrimiento emprendedor, que está en el centro de la especialización inteligente, sigue siendo una caja negra. Este trabajo analiza esa caja negra centrándose en las necesidades de liderazgo de las estrategias de especialización inteligente. La revisión de la literatura sobre liderazgo y estrategia territorial arroja tres condiciones clave para que los RIS3 resulten en estrategias regionales para la inversión en ciencia, tecnología e innovación coherentes y exitosas: una dualidad en el marco de referencia; una mezcla y rotación de liderazgos; y las distintas procedencias de los líderes. Dichas condiciones se analizan conjuntamente en, dos regiones españolas vecinas: el País Vasco y Navarra. El análisis identifica una serie de implicaciones relacionadas con el contexto en el que se desarrolla el RIS3, la necesidad de cambiar de planes a procesos y la combinación necesaria de liderazgos.

Laburpena

Azken aldian, garrantzi handia hartu dute espezializazio adimendunerako eskualdeko berrikuntza estrategiek (RIS3), Europako Batzordeak eskualdeei eskatu baitie espezializazio adimenduneko estrategiak garatzeko, berrikuntzari lotutako egiturazko funtsak jaso nahi badituzte. Baina aurkikuntza ekintzailearen prozesua, espezializazio adimendunaren erdi-erdian dagoena, oraindik ere kutxa ilun bat da. Lan honetan, kutxa ilun hori aztertu dugu eta, bereziki, espezializazio adimenduneko estrategien lidergo beharrak. Lidergoari eta lurralde estrategiari buruzko literatura berrikustean ondorioztatu dezakegu hiru baldintza bete behar direla RIS3ak eskualdeko estrategia koherente eta arrakastatsu izateko, zientzian, teknologian eta berrikuntzan egiten den inbertsioari dagokionez: dualtasuna erreferentzia esparruan; lidergo konbinatua eta errotazioa; eta liderren askotariko jatorriak. Baldintza horiek batera aztertu ditugu Espainiako bi eskualdetan: Euskal Autonomia Erkidegoan eta Nafarroan. Azterketa horrek hainbat ondorio dakartza, hainbat alderditan: RIS3 garatzeko testuingurua, planak alde batera utzi eta prozesuetan oinarritzearen garrantzia, eta lidergoen ezinbesteko konbinazioa.

I. INTRODUCTION

The notion of territorial strategy is currently undergoing a boom in popularity, alongside the re-emergence of debates around industrial policy. In Europe this debate has taken shape around what are now called 'research and innovation strategies for smart specialisation' (RIS3). The RIS3 concept has its roots in the work of the knowledge for growth expert group established in 2005 by the European Commission to provide advice on the contribution of knowledge to sustainable growth and prosperity in the European Union. Analysis of the EU-US productivity gap, and in particular of the role played by differences in R&D intensity, led to arguments based around the dual premise that: (i) R&D in Europe was fragmented along national lines; and (ii) that there was a tendency for both countries and regions to try to emulate success elsewhere rather than explore original ideas. This led to an initial proposal for 'smart specialisation', the idea that 'the European Research Area will only benefit countries and regions with clear visions and strategies for developing distinctive, original and modern areas of specialisation for the future' (FORAY and VAN ARK, 2008). These embryonic arguments have been rapidly adopted by European regional policy-makers (EUROPEAN COMMISSION 2010a, 2010b, 2011; FORAY *et al.*, 2012), and continue to be explored, developed and critiqued by academics (CAMAGNI and CAPELLO, 2013; FORAY, 2013; McCANN and ORTEGA-ARGILÉS, 2013; MORGAN, 2013; NAVARRO *et al.*, 2013; THISSEN *et al.*, 2013).

Much ongoing analysis and debate around smart specialisation strategies concerns the *processes* through which strategic intelligence and the associated identification of regional priorities emerge. Indeed the defining characteristic of a smart specialisation strategy in theory is that it should emerge from an entrepreneurial discovery process (EDP) at the territorial level involving a wide range of stakeholders. In this sense a smart specialisation strategy is envisaged not as a government strategy, but rather as a truly territorial strategy in which government participates in the identification of and pursuit of investment in STI priorities together with other elements of the so-called quadruple helix (government, plus business, university and civil society). While this process in practice remains a black box, European regional policy has raced ahead in the requirement that all regions develop smart specialisation strategies in order to receive structural funds linked to innovation. This has resulted in a scrambling around by regional governments to demonstrate the existence of a smart specialisation strategy amidst considerable confusion as to how this should be done, something that is reflected in the diversity of approaches and experiences currently emerging. It is an interesting and important moment therefore to analyse specific cases with the aim of increasing our understanding of the EDP and its role in regional strategy-making. In particular, until now there has been very little

attention afforded to the governance of these processes and the leadership that they require if they are to result in coherent and successful place-based strategies for STI investment.

The approach applied by many regions in the development of their RIS3 has been a classical one, based on writing a plan that has been fed in various degrees by strategic reflection processes among different agents (SOTARAUTA, 2004). Yet the notion of an EDP requires more open-endedness and flexibility; a fundamental shift from writing fixed plans that often remain on the shelf, to developing flexible processes capable of feeding an ongoing and evolving strategy. These processes are both complex and sensitive because they involve many different agents at many different levels, and ultimately they should determine important decisions around investment priorities. Questions of governance and of leadership are therefore fundamental. While initially FORAY (2009a and 2009b) held that government should be only a facilitator of the EDP, there are arguments for a more active role given the risk of too large an influence of individual private interests in regional strategies (OECD, 2011). Reinforcing this is the view that, especially in lagging regions, private actors typically lack the abilities or interest to lead the process (McCANN and ORTEGA-ARGILES, 2013). At the same time it shouldn't be taken for granted that regional governments themselves possess the capacities to lead (WALENDOWSKI *et al.*, 2011).

This paper starts from an assumption that change from a classical to a process-based approach in territorial strategy-making is not automatic, and requires the generation of new regional leadership capabilities. The aim of the paper is to explore what is required in terms of leadership to make this move from planning to processes of entrepreneurial discovery in regional strategy. To do so the paper takes advantage of the fact that European regions have been grappling intensively over the last year or so with the development of smart specialization strategies that fulfil the European Commission's requirements for innovation funding. Specifically it juxtaposes the quite different experiences of two seemingly similar and neighbouring Spanish regions: the Basque Country and Navarre.

The paper is structured as follows. The next Section discusses the complex process of entrepreneurial discovery that is central to RIS3, highlighting its main features and justifying the need for a better understanding of leadership requirements. Literature on place leadership and territorial strategy is then explored, in search of elements that could be important for the ongoing development of regional EDPs. Section Four presents a comparative analysis of RIS3 experiences in the Basque Country and Navarre. Finally, Section Five concludes by bringing together a discussion of these experiences with

the earlier conceptual analysis to inform a set of conclusions around the territorial leadership implications of RIS3.

II. RIS3: A COMPLEX PROCESS OF ENTREPRENEURIAL DISCOVERY

Most existing analysis, debate and practice concerning RIS3 have focused on two core features of the smart specialisation concept: prioritization and the EDP in place to arrive at prioritization. Ultimately smart specialisation is about selecting certain STI activities over others for investment of public and private resources within the region. This includes both vertical prioritization relating to specific productive activities (biosciences or creative and cultural industries, for example), and horizontal prioritization relating to broader regional competences (innovation cooperation or policy evaluation, for example). Yet as recognised by FORAY (2013) the key novelty is in vertical prioritization, and any prioritisation of activities that favour certain technologies, fields, and therefore firms, is inherently difficult. How to focus public STI investment in the region is ultimately a policy decision taken by government, with all of the political pressures that go with that decision. The challenge is therefore twofold: (i) how to inform this government decision from an EDP that brings together the diverse knowledge on capabilities and possibilities that is embedded and constantly evolving among the quadruple helix of business, government, research and civil society; and (ii) how to ensure that the decisions and resource commitments of all of the components of the quadruple helix are well-aligned with the emerging priorities such that the strategy can be considered to be truly territorial (and not just a government investment strategy). Central to both challenges is the concept of governance.

Governance has risen relatively recently and rapidly to prominence in the social sciences (JESSOP, 1998), where it has become a critical element in our understanding of economic development. It is by no means a straightforward concept, however, and is often confused as being narrowly associated with the decision-processes of government (SUGDEN *et al.*, 2006). This misconception is particularly important for smart specialisation debates, given that governments are only one of the many agents that should engage in EDPs. Taking a broad view, then, governance refers to the emergence of some sort of order for coordinating socioeconomic activities among a whole range of actors (and their associated interests) (KOOIMAN and VAN VLIET, 1993; JESSOP, 1998; ARANGUREN *et al.*, 2008). For STOKER (1998) the essence of governance is in mechanisms that do not depend on the authority or sanctions of government, which is in line with KOOIMAN and VAN VLIET's (1993: 64) view of governance as 'the creation of a structure or an order which

cannot be externally imposed'. Rather than being externally imposed by a single authority, the structure or order that characterises any particular governance setting should result from continuous interaction among the range of different actors with a stake in the outcomes of the decisions to be taken in that setting.

It is no surprise therefore that governance forms a central concern in the smart specialisation debate, as reflected in its inclusion as one of six steps in FORAY *et al.*'s (2012) *Guide to Research and Innovation Strategies for Smart Specialisation*. As they argue (p. 21), "the fact that RIS3 is based on a wide view of innovation automatically implies that stakeholders of different types and level should participate extensively in their design." Moreover they highlight the need to go beyond the usual triple helix, to include a fourth *market and civil society* sphere of consumers, citizens and workers. The resulting quadruple helix should be involved in the governance processes behind the design and ongoing evolution of the RIS3, in what can be seen as an extension of the concern with governance in concepts of innovation systems (BRACZYK *et al.*, 1998; EDLER *et al*, 2003; OECD, 2005; OECD, 2011) or clusters (KARLSSON, 2008; PITELIS *et al*., 2005).

When analysing the governance of RIS3, as with any other construct, *the* critical consideration is that different governance processes can result in different outcomes. Depending on who is involved, what form of interactions take place between them, and how power dynamics are exercised among them, the outcomes in terms of the coordination of socioeconomic activities - in this case the priorities a territory should target in research and innovation - will be different. Indeed, following BAILEY *et al.* (2006), every agent or territorial system has a development path, and therefore a development strategy that is either explicit or implicit in shaping that path. In these strategies there are (conscious and unconscious) choices which orient the strategy towards different aims (SUGDEN and WILSON, 2002), meaning that the decision-making processes surrounding these choices must be at the heart of what is meant by governance and, in the context of RIS3, of what is meant by entrepreneurial discovery.

The need to understand the articulation of governance processes in practice is complicated by the multi-level nature of territorial relationships. While multilevel governance is by no means a new concern, it has been largely ignored in debates around RIS3, resulting in a failure to clearly recognise the different levels of analysis (and their articulation) required for a coherent regional strategy. Yet the new, dynamic forms of governance required for EDPs do not have the luxury of being able to develop within an isolated single-level territorial system. The rise of systemic approaches to

innovation and the importance that this places on proximity-based relationships has corresponded with a decentralisation in the governance of STI policies in many places, with certain competences shifting from national to regional and local levels. At the same time there has also been an extension of policy competences at supra-national levels in some parts of the world, for example the European Union. This has become widely recognised as adding a significant element of complexity to the design, implementation and evaluation of STI policies (KAISER and PRANGE, 2004; BRAUN, 2008; OECD, 2011; MAGRO and WILSON, 2013), which is exacerbated by a fragmentation and multiplication of agents. It is common to find a lack of policy coordination among the range of different government departments that deal with STI policy issues, operating alongside different agencies responsible for different phases of the policy-making processes (design, implementation and evaluation), and involving different sets of agents from the innovation system in their processes (firms, universities, research centres, etc.). In this respect STI governance can be understood as a coordination of decision-making among three different layers – political, administrative and operative (BOEKHOLT *et al.*, 2002; LINDNER, 2012, MAGRO *et al.*, 2013) – each of which are also present at various territorial scales.

The scenario faced by regions seeking to develop and pursue a RIS3 is above all one of complexity, therefore, in which it is no easy task to establish governance mechanisms capable of involving the right set of agents from the right places and at the right moments. The governance requirements are particularly challenging because the centrality of an EDP to RIS3 implies a strategy that is *alive*, constantly evolving, and constantly engaging a broad range of agents in its definition, implementation and evaluation. This requires new, dynamic and networked forms of governance that break with the more static and hierarchical forms that governments and other agents are used to when making their formal strategic plans in relatively top-down processes. Indeed, in the same way that public policies are path dependent of previous ones, territorial strategies exhibit a strong path-dependent character (Valdaliso *et al.*, 2014). Thus the approach with which institutions and policy-makers in a territory address the issue of strategy is highly influenced by the way in which territorial strategy was constructed in the past. To change from one approach to another requires the development of new capabilities among agents, and in particular it raises questions for the role of different types of leadership in these processes.

III. LEADERSHIP OF THE ENTREPRENEURIAL DISCOVERY PROCESS

While there has been some recent acknowledgement of the significance of collaborative leadership for RIS3 (MARTINEZ and PALAZUELOS-MARTINEZ, 2014), it is an aspect that has been little explored. This is reflective of the more general and widespread perception that the human element of how policies are designed, including the role of leadership, has been neglected in regional studies (COLLINGE and GIBNEY, 2010a; GIBNEY, 2011; KARLSEN and LARREA, 2012; SOTARAUTA, 2005; SOTARAUTA and MUSTIKKAMAKI, 2012; STIMSON *et al.*, 2009; STOUGH, 2003).[i] Yet SOTARAUTA (2009) has argued that as regional scenarios become more complex, regional development relies more heavily on leadership and network management; while this new complexity can't be controlled, it can be influenced (SOTARAUTA, 2010).

In earlier work SOTARAUTA (2004) translated the distinction between deliberate and emergent strategies introduced by MINTZBERG (1992, 1994) to debates on territorial strategy. Deliberate strategies are in line with what might be termed a classical view of territorial strategy, whereby a written plan is formulated, committed to and then executed. Emergent strategies, on the other hand, form spontaneously from the development of patterns in an array of diverse processes, which require alignment. Citing LINNAMAA (1996), SOTARAUTA (2004: 24-25) defines an 'actor- and communication- centred approach' to regional strategy as a continuous process during which 'various goals and strategies of individual organisations are made as parallel as possible by communication and negotiation'. In practice, territorial strategy tends to be the result of a combination of both deliberate and emergent processes, but in different weights from place to place, in different dimensions or components of the strategy, and at different moments in its development.

What is more, each type of process requires different types of leadership. In this regard COLLINGE and GIBNEY (2010b) make a distinction between *purposive* and *spontaneous* governance. While the former is related to a direct leadership from government policy, the latter refers to an indirect leadership or metagovernance in which leadership creates the conditions (incentives, structures, etc.) for complex governance relationships to flourish. While purposive leadership predominates in the traditional practice of government-led plans for innovation and competitiveness, the leaderships required for spontaneous governance take on greater importance in a territorial EDP involving the entire quadruple helix. In particular, more systemic leaderships are required that are capable of somehow bringing together the different purposive leaderships that may be established not just by

government, but by a range of other agents in their own domains (leading firms or clusters, universities, civil society groups, etc.).

Another way of looking at this is that as governance scenarios become more complex the questions of *how* and *who* become more important than the question of *what* (SOTARAUTA, 2009). This line of argument finds a parallel in the territorial strategy framework developed by NAVARRO *et al.* (2013), which draws on a range of literature from business strategy, territorial strategy and science and technology policy to distinguish three questions that a territorial strategy should answer; *what for*, *what*, and *how/by whom*.[ii] ARANGUREN and LARREA (2014) have delved deeper into the *how/by whom* question. Specifically, they argue that three of the strategy schools identified by MINTZBERG *et al.* (1998) – the learning, cultural and power schools – are particularly relevant for how territorial strategy takes place. On the one hand the EDP is a perfect fit with the key premise of the learning school; that "strategy-making must above all take the form of a process of learning over time, in which, at the limit, formulation and implementation become indistinguishable" (*Ibid*.: 208). On the other hand the EDP is characterised by the social interaction based on shared beliefs and understanding that is central to the cultural school, and takes place in the context of conflicting interests that will inevitably lead to the types of political behaviours analysed by the power school (*Ibid*.).

Given its acknowledged importance as a lubricant for the interactive relationships central to the learning, cultural and power schools, the concept of social capital (PUTNAM, 1993; FUKUYAMA, 1995; NAHAPIET and GHOSHAL, 1998) presents itself as an important departure point for a deeper understanding of the leadership requirements of EDPs. While the concept remains somewhat fuzzy (INKELES, 2000), NAHAPIET and GHOSHAL's (1998) distinction between three dimensions of social capital – structural, relational and cognitive – is useful. The structural dimension emphasises the importance of *creating spaces* to enable dialogue, sharing of information/experiences and making explicit areas of conflict or consensus. In the EDP these spaces are critical for uncovering the knowledge (or strategic intelligence) around existing capabilities in the region and around opportunities available from combining those capabilities. These spaces also play a key role in *generating a shared vision* of the strategy – what for, what, and how/by whom – among diverse agents and clarifying the roles of each agent in that vision; the cognitive dimension of social capital. For the strategy to be sustainable then the shared vision itself must develop in a way that is mutually beneficial and that balances benefits to different agents over the short and long term, a challenge that relies on *behaviours of reciprocity and trust*; the relational dimension of social capital.

For the ongoing process of learning that is necessary for the aims, content and process of a regional strategy to be 'discovered', leadership requirements will therefore be diverse. Above all we can talk of what SOTARAUTA *et al.* (2012) define as 'knowledge leadership'. A region is a complex system and in a complex system the knowledge necessary to overcome challenges and take advantage of opportunities is distributed, and not only among different territorial actors, but at a global level. The strategy cannot be led by one individual, but must develop around a multiplicity of quadruple helix partnerships that respond to different strategic challenges and/or opportunities. There are different roles to play within this. Leaders with a systemic vision are needed to create the interaction spaces and inspire involvement in those spaces; and leaders with an understanding of processes and with capabilities to nurture all important trust and reciprocity are needed to manage those spaces in ways that facilitate the emergence of opportunities and the generation of a shared vision. Leaders with knowledge of specific fields (sectors, technologies, scientific fields, product markets) are also needed to identify specific opportunities for smart specialisation, or perhaps better termed smart diversification, from combining regional capabilities, and to galvanise the right set of agents in developing them. On the one hand these different roles are similar to the distinction between 'policy generalists, persons of substance and persons of process understanding' identified by SOTARAUTA (2010), for example, or to TERRY's (1993) distinction between 'content visionaries' and 'process visionaries' as cited by MABEY and FREEMAN (2010: 512).

On the other hand their reliance on each other and their necessary configuration to generate a regional EDP points to the concept of shared leadership that has become popular in the leadership literature (CONGER and PEARCE, 2003; FLETCHER and KAUFER, 2003; PEARCE and CONGER, 2003). According to PEARCE and CONGER (2003: 1) shared leadership is 'a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both.' Rather than relying on downward hierarchical influence, shared leadership is based on a mixture of downward, upward and horizontal influence. This mix would appear particularly relevant at regional level, where there can be no one hierarchical leader setting a strategy and imposing downward influence for its execution.[iii] Yet while lessons can be learned for territorial leadership from the organisational or business literature, care must be taken in how they are translated given the notable differences related to complexity, temporal scale, motivations, etc. (COLLINGE *et al.*, 2010; GIBNEY, 2011; GIBNEY *et al.*, 2009). With this in mind, a number of considerations for the specific shared leadership or mix of leaderships likely to be required by regional EDPs can be highlighted.

Firstly, there is an underlying need for the development of new collaborative habits among both public and private agents. In particular they need to establish the region as a frame of reference for their thinking and their decisions, alongside an already existing frame of reference (their firm, university, government department, etc.). STOUGH (2001: 35), for example, defines territorial leadership as the "tendency of a community to collaborate among sectors (different groups) in a sustainable and decided way to increase the economic outcome of a region". This implies that "formal leaders find themselves representing places as well as / rather than organisations" (GIBNEY, 2011: 616), and would suggest that a *dualism in reference frame*, and the ability to effectively manage that dualism, is a key characteristic of the leadership required for territorial strategy-making. Indeed, in this sense STIMSON *et al.* (2009) make a distinction between 'leaders' and 'entrepreneurs' in regional development. They share certain characteristics (both should seek to innovate and assume risks, for example), but the motivation and behaviour of the entrepreneur is more individualistic than that required of a leader.[iv] While the engagement of people from all parts of the quadruple helix with ideas and willing to take risks is undoubtedly critical for a regional EDP, it is the willingness and ability to put specific aims and concerns not shared by others to one side and think in terms of the region that distinguishes leaders in this process. This relates also to the concept of ownership of the strategy, which should be regional, and not belonging to any one agent. This doesn't imply that governments, firms, universities etc. do not have their own strategies, but that leadership of a regional strategy implies thinking beyond those specific frames of reference and putting certain interests to one side where necessary.

A second consideration is that different leadership competences are necessary at different stages of the development of a regional strategy. With regards network management, for example, KLIJN *et al.* (2010:5) argue that there are some phases in which 'institutional design' is more important and others that correspond more with a 'management process'.[v] Similarly, HARMAAKORPI and NIUKKANEN (2007) argue the necessity for different types of 'regional development network', each of which requires a different type of leadership. This argument could be extended to the different dimensions or components of a territorial strategy. As STI prioritizations are identified in a RIS3, for example, there will also be moments when leadership based on knowledge of specific content comes to the fore. The different competences required at different stages and in different components of the strategy are not typically held by the same actor or organization, implying *a mix and rotation of leaderships*, with different agents playing different roles at different times. It is important therefore that each actor identifies the moments when its role could be critical and assumes

responsibility, and likewise identifies the moments where it should step back and let others with different competences lead.

Finally, there is the important question of from where different leaderships emerge, given that different roles are likely to suit more or less different profiles from the quadruple helix. Here the above reflections on the requirements with respect to different moments and components of the process can guide us. For example, it is more likely that government or government agencies have the capacities to play the systemic leadership role required for process design and for creating base conditions for engagement of other agents, and here too academic institutions may play an important role (ARANGUREN *et al.*, 2014; GODDARD *et al.*, 2013). When the strategy process is in a phase where specific prioritizations are being explored and experimented, the necessary knowledge leadership is more likely to be found in technology centres, universities, leading firms or clusters of firms (ARANGUREN and WILSON, 2013; EUROPEAN COMMISSION, 2013). The *source of leaders* is likely to vary significantly region-by-region, however, according to the capacities of regional governments and the presence (or not) of universities, firms, clusters and other institutions with the capacities to play different leadership roles.

IV. RIS3 IN THE CASES OF THE BASQUE COUNTRY AND NAVARRE

For the 2014-2020 period of European Regional Development Funding the European Commission has introduced an *ex-ante* condition that requires all EU member states and regions to have a RIS3 in place before their operational programmes are approved (EUROPEAN COMMISSION, 2014). The formal responsibility to comply lies with member states, and there has been diversity in the degree of implication at regional level in accordance largely with the degree of policy autonomy that regions in different countries are afforded. Spanish regions have among the highest levels of policy autonomy in Europe and in Spain the processes of preparing RIS3 have been led at the regional level. In this context the cases of the Basque Country and Navarre make for an interesting comparison given that they are neighbouring regions that share the highest levels of decentralization in Spain (unlike other Spanish regions they have their own tax-collection powers). From the outside they also look very similar, sharing similar economic performance, innovation performance, sector specialization (in manufacturing) and export orientation (see Table 1.). Both regions have also been relatively forward-thinking in terms of innovation policy, and have been heavily active in European discussions and forums around RIS3 over the last two years.

Table 1: A Summary Comparison of the Regions of the Basque Country and Navarre

	BASQUE COUNTRY	**NAVARRE**
Population (size)	Medium	Small
Density and urbanization	High	Low density, but urban concentration
Population growth	Stability and little immigration	Dynamism linked to immigration
Population 65 years or more	High rate	Average rate
Decentralization	Highest	Highest
General quality of government	Medium-high (above Spanish average)	Medium-low (below Spanish average)
Sectoral specialisation	High in industry, KIBS & ICT	Very high in industry
Manufacturing specialisation	Very high in basic metals, transport equipment, machinery	Very high in transport equipment, food & drinks
Export orientation	Medium-low (1.5 of Spanish average)	Medium-high (double Spanish average)
Firms size	Medium (above Spanish average, due to industrial specialisation)	Medium-high (double Spanish average, due to industrial specialisation & MNCs)
Innovation system	Innovation follower (RIS2014), with strong business R&D and technological infrastructures, and weak universities	Innovation follower (RIS2014), with strong business R&D and universities
Economic performance	High productivity, medium labour participation, high unemployment (but lowest in Spain) and very high per capita GDP (highest in Spain)	High productivity, medium labour participation, high unemployment (but second lowest in Spain) and very high per capita GDP (second highest in Spain)

Source: Own elaboration. See Appendix 1 for a detailed statistical comparison of the two regions on which this summary is based.

Yet there are important differences between the regions with respect to each of the elements of the quadruple helix that have implications for the development of EDPs and that can shed light on questions of governance and leadership. The authors have strong knowledge of the Basque case, having studied the competitiveness of the Basque region for many years (see, for example, ORKESTRA, 2007, 2009, 2011, 2013), and having played an active role over the last two years in discussions with government and other agents around the development of a RIS3. In the case of Navarre, along with analysis of secondary sources (see, for example, BAYONA et al., 2005; BERGERA and ARIVE, 2011; ERRO and NAVARRO, 2011; HARMAAKORPI, 2013; MODERNA, 2011) the authors conducted a dozen in-depth interviews with key players in the RIS3 process during July 2014. The remainder of this Section reports the key differences between the two regions that may influence the EDP in terms of each of the elements of the quadruple helix, and summarises the main characteristics of the respective RIS3 as they currently stand.

With regards the government sphere of the quadruple helix, there are some significant differences between the two regions that have impacted on the RIS3 process (Table 2). While the two regions share one of the highest levels of policy autonomy in Europe, the scenario in the Basque Country is far more complex in terms of multilevel governance. On the other hand Navarre is characterized by a greater degree of political instability and poorer perceptions of quality of government. While both

have a long trajectory of making regional plans, Navarre has tended to pursue more horizontal policies and bottom-up processes, and both have sought to establish new institutions in recent years to support innovation and promote the infusion of external expertise.

Table 2: Government in the Basque Country and Navarre

	BASQUE COUNTRY	NAVARRE
Multilevel	Regional, provincial, county and municipal.	Regional.
Departments	9 (several with R&D competences).	8 (R&D competences more concentrated).
Autonomy level	One of highest in EU (high in tax & R&D&I).	One of highest in EU (high in tax & R&D&I).
Government quality	Good general image & good capabilities in R&D&I policies.	Bad general image, but acceptable capabilities in R&D&I policies.
Political stability	Rotating since 2008 after long period of stability. Currently a minority in government, but consensus of almost all parties on industrial & R&D&I policy.	Same party in power since 1996, but currently governing in minority. Severe institutional & political crisis that affects even the management of the RIS3 strategy.
Elected officials and bureaucracy	Elected officials mainly related to ruling party. Elected officials & bureaucracy involved in RIS3.	Second level of elected officials very often coming from bureaucracy, easing continuity & communication.
Legacy of plans	Long history of plans & strategies. Active role of government in emergence & development of new thematic activities (bio, nano, etc.).	Long history of plans & strategies, without thematic priorities until 2010. Less active role of government & a more bottom-up process.
New institutions	Innobasque (2007): Innovation agency. Orkestra (2006): Research institute focused on applied analysis of territorial competitiveness	Moderna Foundation (2011). Public-private organization with explicit role to develop the Navarre RIS3

Source: Own elaboration based on authors' knowledge through involvement in processes, interviews with key regional stakeholders and a review of RIS3 and other documents.

There are also important differences in the other elements of the quadruple helix (Tables 3-5). While the regions have quite distinct university and scientific research systems, both in structure and quality, in both cases these have not played a leading role in territorial strategy processes for different reasons. In the technological system of both regions there is a network of technology centres which work directly with industry, more integrated and stronger in the Basque case. Business itself exhibits different characteristics across the regions. Basque Country business is more diversified and also more endogenous, with very little foreign ownership and an important singularity in the prevalence of cooperative firms. There is also more of a tradition of business involvement in territorial strategy in the Basque country, with the long-standing cluster policy having supported the development and engagement of cluster associations (ARAGÓN *et al.*, 2014; ARANGUREN *et al.*, 2014). Finally, with regards the civil society sphere the main difference is that in Navarre both political parties and trade unions actively participate in territorial strategy processes, while they watch from the side-lines in the Basque case.

Table 3: Universities and Knowledge Organisations in the Basque Country and Navarre

	BASQUE COUNTRY	NAVARRE
Legal status & size	One large public university (UPV-EHU: 42,000 students) & two private universities (UD: 13,000 students; MU: 3,000 students).	One public university (UPNA: 8,000) & one private university (UN: 11,000).
Quality of universities	Overall, medium-low: UPV better in R&D; UD in teaching; MU in third mission.	Overall high: UN one of the best in Spain & UPNA medium-high.
Role in territorial strategy	Government strategies have prioritized technology & tend to mistrust the university. The public university has governance problems that impede a proactive approach to territorial strategy.	The dominant private university pursues its own strategy (with implications for Navarre). The potential role of the public university has not been considered (partly due to the huge influence of UN).
Other scientific research centres	The regional government has created several centres because of mistrust of the university and given that Spanish public research centres are located outside of the region.	They are created in collaboration with the Spanish government in the specialisation areas of Navarre.
Technological centres	They constitute one of the main strengths of the Basque innovation system. In the 1980s and 1990s they were the key actors, although recently the regional government has also supported other actors (e.g. research centres).	They have been created to bridge the distance between universities & industry. There is currently a network of technological centres, but not as strong as the Basque one & in need of concentration.

Source: Own elaboration based on authors' knowledge through involvement in processes, interviews with key regional stakeholders and a review of RIS3 and other documents.

Table 4: Business in the Basque Country and Navarre

	BASQUE COUNTRY	NAVARRE
Ownership	Scarce penetration of foreign capital, although significant internationalisation of Basque Firms. Important presence of cooperative companies.	Big presence of foreign capital (13 out of 27 top Navarre firms are foreign-owned). In contrast, few firms from Navarre have plants abroad.
Representation of firms	Business associations have lost prominence & direct representation of large firms or representation via cluster associations has increased, playing an important role in territorial strategy processes.	Business associations play an important representative role & cluster associations are becoming more important (particularly for SMEs). Large firms and MNCs typically don't want participate in territorial strategy processes.
Diversity	The economy and industry are quite diversified	The economy and industry is much more concentrated

Source: Own elaboration based on authors' knowledge through involvement in processes, interviews with key regional stakeholders and a review of RIS3 and other documents.

Table 5: Civil Society in the Basque Country and Navarre

	BASQUE COUNTRY	NAVARRE
Political parties	They don't participate explicitly in the development of territorial strategies and policies. Their input is limited to discussing proposed plans in the Parliament.	The two main parties participate in the governing bodies of the current RIS3. The process has become politicised, creating confusion about the role of representative political democracy.
Trade unions	Unions are strong in the Basque Country, but since the early 1990s they don't take part in industrial policy.	Along with business associations, they take part in the governing bodies of the current RIS3. There has been a culture of dialogue and agreement between the main business & worker associations. Some complaints that this defends more the existing rather than the emergent system.
Other agents	There is a strong associational movement in the Basque Country, but these associations are not involved in the current RIS3.	There is a strong associational movement in Navarre, but these associations are hardly involved in the current RIS3.

Source: Own elaboration based on authors' knowledge through involvement in processes, interviews with key regional stakeholders and a review of RIS3 and other documents.

Having made a comparative analysis of each element of the quadruple helix, Table 6 compares the main characteristics of the resulting RIS3 as they currently stand (and bearing in mind that RIS3 is an ongoing process). More detail on the current prioritizations identified in these RIS3 is provided in Appendices 2 and 3. There are similarities in terms of the starting point for the current RIS3 process; an existing plan that had been approved prior to the requirement for a RIS3 by the EU and that identified certain priorities. However the differences are more significant: in how the RIS3 is integrated in a more general socio-economic development strategy; in how the priorities were initially arrived at; in the priorities themselves; and in what has happened subsequently in terms of the EDP.

Table 6: RIS3 in the Basque Country and Navarre

	BASQUE COUNTRY	**NAVARRE**
Starting point for the process in 2013	Existing "Plan for Science, Technology and Innovation (PCTI) 2015", approved in 2012. New ruling party in government. Significantly fewer resources than those estimated in the PCTI-2015. Expert criticism of PCTI-2015 for lack of focus on thematic priorities.	Existing Moderna Plan for a "new economic development model", approved in 2010. Severe institutional, political and economic crisis paralyzing government, both in resources and initiatives.
Response to the requirement for a RIS3 by the EU	Initially, to claim that the PCTI-2015 is the Basque RIS3. Then, taking advantage of the requirement, to design a new plan, the PCTI-2020 as the Basque RIS3, focusing more on thematic priorities.	To claim that the Moderna Plan is the Navarre RIS3, and that this plan already contains thematic priorities.
Extent of the focus on thematic priorities	Thematic priorities can be considered frames of reference rather than accurate priorities. They will have to be specified by posterior EDPs.	Thematic priorities are an attractive arrangement of almost all the strengths and potentially interesting activities of Navarre, hardly excluding anything.
Analytical basis	The first exercise of setting thematic priorities was a frame of reference developed by Orkestra, taking into account previous prioritizations, the economic context, and existing/potential capabilities. This was planned as a loose starting point to be discussed and refined with a wide range of quadruple helix agents as an impetus to an EDP. This hasn't yet happened, as rather than opening debate the government has preferred to collect very detailed evidence to justify this starting point.	The election of thematic priorities was the result of both statistical analysis and a process of consulting with a wide range of agents from the quadruple helix.
Balance between traditional and emergent activities and roles of government	While previous plans prioritized the emergence of new activities (bios and nanos), the current process gives more weight to activities with undeniable existing strengths. Government has traditionally played a key role in targeting emergent activities, with business more prominent in developing existing activities.	Until the Plan Moderna vertical priorities had not been identified. In Moderna, whose main goal is to change the economic model, new activities are sought, both in existing sectors (rows 1-3 & columns 1-2 columns of Appendix 3) & new sectors (rows 3-5 and column 3 of Appendix 3). Government has played a facilitating or supporting role.

Entrepreneurial discovery process	Previously prioritizations had been discussed largely within government. Now they will be discussed in general terms with business, knowledge and territorial agents in the drafting process of the PCTI-2020. Different departments will then lead the development of each priority, with an EDP yet to be designed in each case.	As Moderna Plan was approved in 2010, there has been time to advance in the development of the thematic priorities. For each thematic priority working roundtables were set up, which operated with a similar method and resulted in particular action plans. The government acted largely as a facilitator of these processes. Until now the launch of emergent activities not connected to existing ones has been absent.

Source: Own elaboration based on authors' knowledge through involvement in processes, interviews with key regional stakeholders and a review of RIS3 and other documents.

IV. CONCLUDING DISCUSSION: THE LEADERSHIP IMPLICATIONS OF RIS3

The literature-based analysis in Section III identified three key considerations for the leadership requirements of RIS3: a dualism in reference frame; a mix and rotation of leaderships; and the likely different sources of leaders. These three considerations relate in various different ways to the regional cases of RIS3 development set out in Section IV, and this concluding discussion aims to bring together both sets of insights. To do so arguments around the leadership implications of RIS3 are organised into three broad areas: (i) implications from the context in which RIS3 develops; (ii) implications associated with the shift from planning to process; and (iii) implications in terms of the required mix of leadership capabilities.

With respect to the *implications from the context in which RIS3 develops*, while the European Commission has insisted on the development of a RIS3 in all regions and countries in the European Union, the cases of the Basque Country and Navarre serve to highlight the differences in context between regions, an aspect that is clearly conditioning the development of their RIS3. Moreover, this specificity of context conditions not only the objectives of the strategy and the types of activities that are prioritized, but also the governance processes and leaderships necessary to activate EDPs. There are many different aspects of regional context that might be important in this regard, of which the case analysis points especially to those related to the complexity that characterises the region and the stability and quality of regional institutions.

In the RIS3 sphere regional complexity refers primarily to the government administration (departments and government agencies involved, levels of government that operate in the region) and the innovation system (types of knowledge agents and other intermediary institutions). Along with the number of different agents involved in governance processes, the degree to which each of their roles are well-established and clear and the sophistication of established coordination mechanisms

between them will all condition the development of a RIS3. There are also other characteristics highlighted by the Basque and Navarre cases that might be associated with scenarios of greater or lesser complexity in the articulation of governance. These include: (i) the size of the region and the degree of urbanization (the proximity associated with smaller size and greater urbanization in the case of Navarre can be seen to ease governance relationships); (ii) the concentration of economic activity (coordination can be seen to be simpler in the Navarre case, where industry is more concentrated in a few sectors and knowledge therefore more homogenous); (iii) the types of firms (establishing a regional frame of reference for decisions is observed to be more difficult in the Navarre case, where there is a greater presence of large, multinational firms owned by foreign capital); and (iv) the associational culture and existing social capital of the region (the density, variety and quality of existing networks present in the Basque Country can be seen to facilitate governance relationships with a regional frame of reference).

In this respect, the number of potential variables means that talking about the degree of regional complexity can be disingenuous because all regions are complex in different ways. It makes more sense to talk about types of regional complexity, and the cases of the Basque Country and Navarre illustrate well how different scenarios can be complex in different ways, which in turn generates different leadership requirements for territorial strategy processes. In the Basque Country, for example, the type of complexity (lots of agents at multiple levels; poly-centric geography; diversified industry with heterogeneous knowledge bases) suggests that the systemic leadership role will be especially difficult, although there are also existing characteristics (largely endogenous firms; strong associational culture) that make it easier to establish process leaderships with a regional frame of reference. Broadly speaking the Navarre case demonstrates an opposite scenario, and this is reflected in the quite different outcomes (to date) of their RIS3 processes. While the Navarre RIS3 appears to be neater and more complete, having integrated consultation processes with most of the relevant agents, the Basque RIS3 has been tentative and with a reluctance for regional government to lose control in wider stakeholder processes. This outcome reflects the challenges of systemic leadership amidst the type of complexity present in that region, but also arguably reflects a confidence that the strong existing regional frame of reference and associational culture in the region will make it easier for process leaderships and content leaderships to emerge at a later stage. In this sense the cases support the argument that different regional complexities require different types of leadership roles at different moments of the RIS3 process.

The stability and quality of regional institutions is the other element of context that emerges as particularly important in the case analysis. A difference in general institutional quality between the two regions is reflected in their relative performance in Charron *et al.*'s (2012) index (see Table 1). It is important, however, to make a distinction between confidence in government at a general level and the capacity of government to manage specific policies. The trajectory of Navarre in this latter respect, reflected in the early trajectory of its RIS3 process (advanced as it was in terms of European developments in this area), suggest that the two need not go hand-in-hand. However, the more recent political instability at a general level has led to the RIS3 process becoming politicised, with a paralysing effect. This would suggest that political stability of some degree (whether through a political majority or a stable coalition between political forces) is a prerequisite for the effective functioning of the processes that are central to RIS3.

When it comes to the *implications associated with the shift from planning to process* path dependency plays an important role. As a general argument different regions typically have quite different experiences in the construction of territorial strategies, which conditions their existing leadership capacities for igniting EDPs and making the required shift from plan to process. In particular, there is an important issue of perceptions; of what is understood within the region by strategy. In this sense the third step for articulating a RIS3 in the *RIS3 Guide* (Foray *et al.*, 2012) refers to the the importance of having a clear and shared vision of the future development of the region around which stakeholders can be engaged. This is commonly interpreted as a common vision of the direction that the region should take, but there is a strong argument that a common vision is also required around how stakeholders should engage in the strategy process. Where there is a history of government-led regional STI plans, such as in the Basque case, it is more difficult to shift the mindset towards a process-based strategy. Indeed, up until now the sense of security provided by the development of a government plan (the PCTI-2020) can be seen to have created a barrier to the opening up of EDPs in the Basque Country. In the case of Navarre, in contrast, previous plans had emerged from more bottom-up processes and had not tackled thematic priorities, which can be seen to have eased the stakeholder processes underlying the current Moderna Plan. An implication is that different types of leaderships - more or less disruptive - will be required not only in different phases of the strategy but also in function of existing regional inertias and perceptions.

These arguments are also related to the ownership of the strategy, where there is a key distinction to be made between territorial strategy and government strategy. RIS3 is about the former but has been interpreted in many regions largely as the latter. While it is to be expected that different agents in the

region (government, firms, universities, clusters, civic associations, etc.) have their own strategies, leaderships must be capable of developing a dual reference frame that positions these strategies alongside an overall territorial strategy and puts specific interests to one side at certain moments. Both cases studied here illustrate the existence of important, though different, barriers to doing that: in the case of Navarre the lack of participation of large firms, the pursuit of an isolated strategy by the dominant university, and the politicised involvement of the main political parties in the process; in the case of the Basque Country the reluctance of government to cede control of its planning process in the early stages, despite the existence in the region of forms of leadership among certain agents (clusters, for example) that have demonstrated a dual reference frame.

Finally much of the above discussion points to specific *implications in terms of the required mix of leadership capabilities*. A clear conclusion is that both existing leadership capabilities and current leadership requirements will depend on the specific context of the region and the previous experiences of constructing territorial strategies, as well as on the type of strategy that is being pursued (for example, a strategy based primarily on horizontal priorities is not the same as one based on clear vertical priorities). Thus the mix of new leadership capabilities to be developed will vary from region to region; in some regions the need will be greater for systemic leaderships, in others for process leaderships, and in others still for content leaderships. Moreover these requirements will necessarily evolve with the life of the strategy. In the case of Navarre, for example, while the Moderna Foundation has played a key leadership role in the design of the RIS3, it has struggled to assume the leadership to manage the subsequent processes and their tensions. In this sense participation in RIS3 processes is punctual, not continuous, and a key requirement for all forms of territorial leadership is to know and accept when to step forward and when to step back. Indeed, in the case of the Basque Country it could be argued that the process and content leaderships are much better developed among a wide range of agents, but the capabilities to ignite the processes in a regional frame are too concentrated in one agent (government). Leadership for RIS3 depends above all on specific context, therefore, and on finding the right *leadership mix* for that context.

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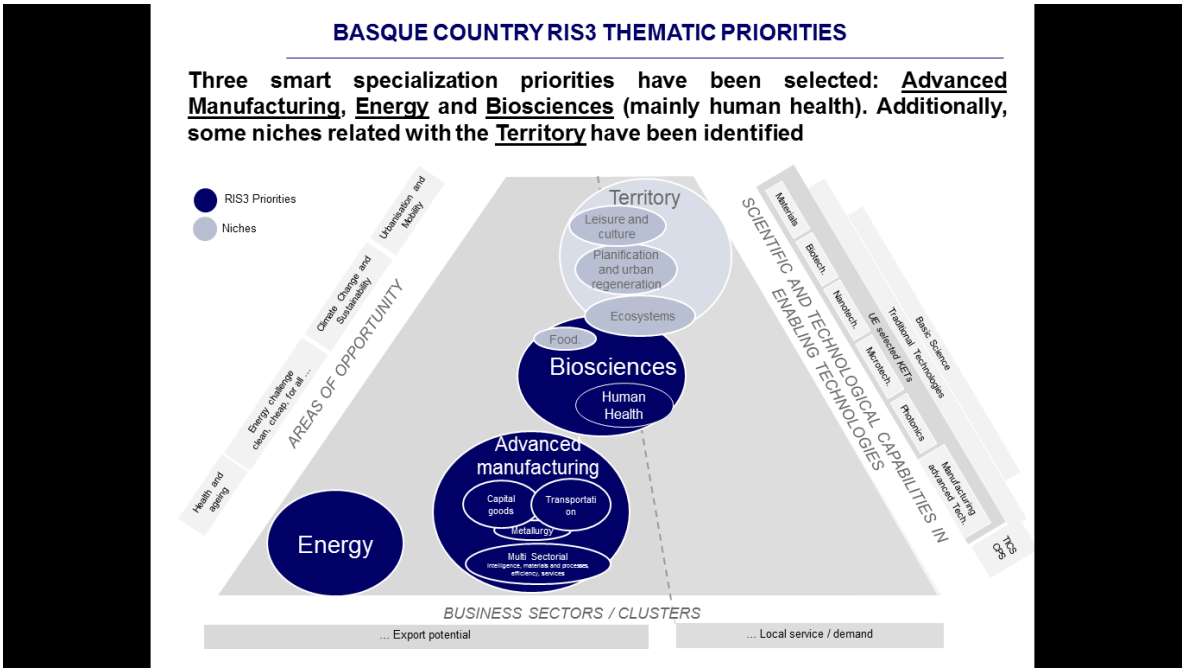
APPENDIX 1: Statistical Comparison of the Basque Country and Navarre

		Basque Country	Navarre	Spanish regions (average)	EU regions (average)
Geo-demografic profil	Area (square kilometer) (2013)	7.235	10.390	29.762	21.064
	Density (inabitants per km^2) (2013)	300,9	61,8	166,6	308,0
	Population in cities and commuting zones (%)	80,0	71,2	70,6	60,8
	Population (thousands; 2013)	2.177	639	2.739	2.411
	Population (percentage change) (1990-2013)	2,9	23,1	20,3	6,5
	Percentage of population of 65 years or more (2011)	20,0	18,1	17,2	17,4
Sectoral distribution of total employment (%; 2012)	Agriculture, forestry and fishing (A)	1,3	3,6	5,2	6,6
	Industry (except const.) (B-E)	21,0	25,5	15,3	17,4
	Construction (F)	6,1	6,7	7,3	7,3
	Trade, hotel & restaurants, and transport (B-I)	23,4	23,4	28,5	23,8
	Information and communication (J)	3,3	2,6	2,3	2,4
	Financial and insurance activities (K)	2,8	2,2	2,2	2,5
	Real estate activities (L)	0,4	0,4	0,5	0,7
	Professional, scientific and technical activities (M-N)	11,1	7,9	8,9	7,9
	Public administration (O-Q)	23,5	22,1	22,4	24,4
	Arts, entertainment and recreation (R-U)	7,3	6,5	7,5	5,0
Sectoral distribution of manufacturing employment (%; 2011)	Mining and quarrying (05-09)	3,8	5,3	11,2	12,0
	Food, drinks and tobacco (10-12)	6,0	21,5	20,7	15,4
	Textiles, apparel and leather (13-15)	0,9	2,5	5,2	6,0
	Wood, paper and printing (16-18)	6,2	6,4	7,2	8,1
	Chem, pharm, rubber, plastic and refined petroleum (19-22)	8,9	6,9	8,6	9,6
	Non-metallic mineral products (23)	3,7	4,5	4,7	4,1
	Basic metals and metal products (24-25)	26,8	10,9	14,6	13,2
	Electric, electronic, computer and optical equipment (26-27)	8,1	5,4	4,0	6,8
	Machinery (28)	12,0	7,2	4,5	6,3
	Transport equipment (29-30)	18,4	23,3	9,1	8,4
	Other manufacturing (31-33)	5,2	6,1	10,3	10,0
Firms	Exports (% GDP)	22,0	29,6	14,6	27,8
	Average firm size (number of workers)	16,5	19,2	11,3	16,5
RIS 2014 (normalized values)	Population with tertiary education	0,97	0,77	0,61	0,48
	R&D expenditure in the public sector	0,31	0,37	0,35	0,36
	R&D expenditure in the business sector	0,53	0,51	0,29	0,34
	Non-R&D innovation expenditures	0,14	0,16	0,21	0,32
	SMEs innovating in-house	0,40	0,49	0,27	0,41
	Innovative SMEs collaborating with others	0,37	0,32	0,19	0,34
	EPO patent applications	0,24	0,31	0,15	0,25
	SMEs introducing product or process innovations	0,42	0,54	0,33	0,44
	SMEs introducing marketing or organizational innovations	0,21	0,30	0,21	0,38
	Employment in knowledge–intensive activities	0,65	0,55	0,41	0,50
	Sales of new to market and new to firm	0,62	0,66	0,52	0,45
Economic performance	GDP per inhabitant (PPS) (2011)	32.500	31.100	24.153	23.465
	GDP per worker (PPS) (2011)	79.162	74.959	65.043	58.113
	Employment rate (% over population) (2013)	40,1	40,4	36,7	43,1
	Unemployment rate (2013)	16,6	17,9	24,7	11,7
Institutions	Decentralization index	58,0	58,0	58,0	47,4

	Quality of governmental institutions	0,67	0,17	0,19	0,05

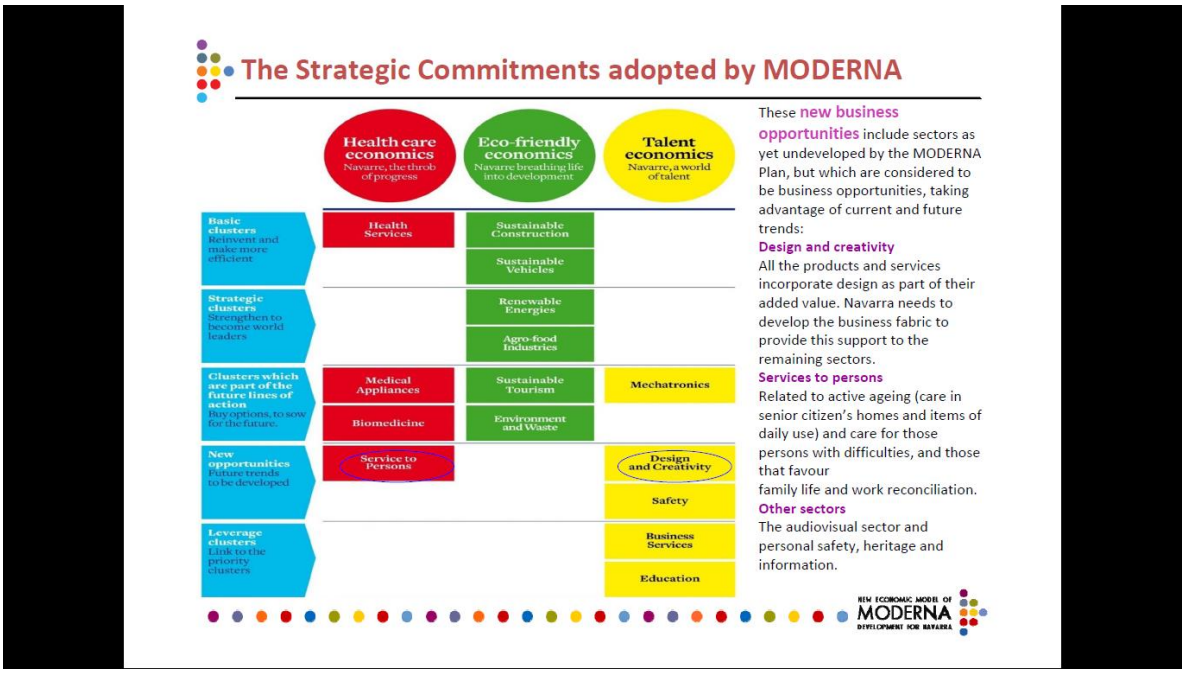
Source: Eurostat and Navarro et al. (2014). Own elaboration.

APPENDIX 2: Priorities in the Basque Country RIS3



Source: Basque Government (2014). RIS3 in the Basque Country. Economic Development and Competitiveness. September 2014.

APPENDIX 3: Priorities in the Navarre RIS3



Source: Government of Navarra (2011). New Economic Model for Navarre. Executive Summary.

[i] GIBNEY (2011) also notes that the leadership literature has not taken on board the place dimension.

[ii] See also VALDALISO and WILSON (2014) for the further development of this framework and its application to a set of regional cases from around the world.

[iii] Indeed, this is likely to be even more so at regional level than at national level, where HARMAAKORPI and NIUKKANEN (2007), for example, note that strategies have tended to be more hierarchical.

[iv] BENNEWORTH (2007) also makes a distinction between 'institutional leaders' and 'institutional entrepreneurs', the former of which are argued to be leaders in that they commit to taking more risks, while the latter respond to the new opportunities that emerge from this by proposing new activities.

[v] This is in line with the distinction between the roles of leader and manager in the organisational leadership literature (COLVARD, 2008), a distinction that is also recognised in analysis of territorial leadership (GIBNEY *et al.*, 2009; HARMAAHORPI and NIUKKANEN, 2007). In this regard, LOCKE (2003) also notes that the type of leadership should change depending on the domain of operation (military, political, business…).

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