

17. Territorial Cohesion and Innovation: a needed dialogue

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Abstract

Despite this conceptual proximity, territorial cohesion and innovation have their own agendas, almost always disconnected from a territorial strategy that considers the specificities of each space as central elements to development. Some data that support this statement will be presented using the research carried out in the Centro region of Portugal, namely interviews with 21 mayors. In general, we contribute to a better understanding of territorial policy options and to the identification of priority areas for a necessary dialogue between territorial cohesion and innovation. Based on this research, we argue that the regional/local development dynamics and projects, especially those related to territorial cohesion, competitiveness, and innovation contribute significantly to the citizens well-being. These development dynamics which are structurally unbalanced and the consequences of these imbalances are harmful to the quality of life of the territories. Thus, public policies – as spatial planning, territorial governance instrument and intervention mechanism – acquire great relevance in the management and mitigation of these imbalances. The focus is then placed on the effectiveness of public policy since the development of the territory and the quality of life of societies depends on it. Considering the existence of a wide range of factors that prevent or reduce this effectiveness, it is essential to ensure a dialogue and convergence between the two fields of action that structure local and regional development dynamics, that is, territorial cohesion and innovation.

Keywords: territorial cohesion; territorial innovation; development; Centro region; Portugal.

1. Introduction

Territories and communities, at different scales, experience constant changes of economic and social nature, with a strong spatial base. Although the change is permanent, the last few years have been particularly intense in the speed and complexity of transformation, with spatial compression (Harvey, 1990), temporal acceleration (Giddens, 2006), growing mobility and leisure times (Madanipour, 2017) and the COVID-19 pandemics playing a decisive role. However, the pace and intensity of change and inadequate or insufficient responses from public governing and planning entities, has promoted asymmetries of a diverse nature and reinforcing the importance of more effective and efficient public policies oriented to promoting innovation and territorial cohesion (Balland et al., 2015; Sá Marques et al., 2018; Pires et al., 2020; Silva et al., 2021).

Within the European Union, regional policy and structural funds were more and more concerned on promoting territorial, economic and social cohesion in European regions. To do so, European policies assumed that innovation-driven models are the drivers of regional development and economic growth (Mikulic & Nagyszombat, 2015). The focus on territorial innovation and cohesion was so intense, that the three main European funds of the Cohesion Policy – the Cohesion Fund, the European Social Fund, and the European Regional Development Fund – absorb almost one third of the EU budget (Brandsma et al., 2014). However, despite of large funding to several projects in different regions under the EU Cohesion Policy, regional disparities have persisted and even

increased in EU regions and countries (Amin & Tomaney, 1995; Pylak, 2015; Chamusca, 2021).

Territorial-based innovation is understood as a transformative process of interaction between agents, in which the creation of economic and social value is anchored in the existence of endogenous resources (Lundvall & Johnson, 1994; Jensen et al., 2007; Lundvall, 2010). These resources become territorial assets, playing a decisive role in promoting local and regional development. Innovation ecosystems (Boschma, 2005; Amoroso et al., 2018) are based on networks of knowledge production and innovation, which involve diverse actors and various territorial scales. These networks represent links associated with processes of creation, production and transfer of knowledge and innovation, and may trigger co-specialization and related variety among the different actors located in the regions.

Territorial cohesion has been gaining momentum over the last decade, in a conceptual construction (and expected practical application) that assumes it as process of designing a more cohesive and balanced territory, seeking to: i) overcome the deficits of strategic articulation, administrative constraints and existing development asymmetries; ii) promote sustainable development and a more balanced, integrated and well-governed territorial organization; value diversity, complementarity and territorial articulation, as well as social and spatial justice as structuring elements of decision-making (Luukkonen, 2010; Hartmann & Hengstermann, 2014; A. Medeiros, 2016).

Both territorial cohesion and territorial-based assume that local specificities and endogenous resources (natural and economic diversity) should be valued, enabling citizens to make the most of inherent features of these territories. Despite this conceptual proximity, territorial cohesion and innovation have their own agendas, almost always disconnected from a territorial strategy or vision of the future. In this chapter we present some data that support this statement, using the research carried out in the Central region of Portugal, namely interviews with 21 mayors. The results contribute to the understanding of territorial policy options and to the identification of priority areas for a necessary dialogue between territorial cohesion and innovation. The remainder of this paper is organized as follows. Section 2 elaborates on the research methodology, with Section 3 presenting a conceptual background and core ideas on territorial cohesion and innovation at the Centro Region of Portugal. Section 4 presents the major results of interviews conducted with the 21 mayors, and Section 5 discusses territorial cohesion and innovation, presenting the major conclusion that support the idea of reinforcing dialogue between them.

2. Methodology

The Portuguese state is structured in scales of hierarchy and decreasing territorial dimension: central, regional, intraregional and local. The Portuguese regions administration – except the autonomous regions of Madeira and Azores – are an unconcentrated organism of the central state. They are managed by a public structure (Commission for Coordination and Regional Development, CCDR in the Portuguese acronym) with financial and administrative autonomy, which have the mission of implementing environmental policies, spatial planning and local and regional development at the NUTS II level, promoting coordinated action of unconcentrated regional services and technically supporting local authorities and their associations.

The Centro Strategic Plan for 2030, recently approved by CCDR within a highly participated process involving the main regional stakeholders, shapes a strategic vision oriented to: i) reinforce its national and international competitiveness and consolidate a territorially and socially inclusive innovation model; ii) promote the empowerment and capacitation for the resilience of the most vulnerable and demographic deprived territories; iii) foster the evolution towards a more sustainable society, promoting innovation and transition to the circular economy, integrating the climate change implications in the productive systems and territorial organization; iv) promote an urban system based on a territorial model of cooperation between competitive and innovative territories and more depressed territories; and v) promote people's qualifications and skills, attracting qualified population (Strategic Vision for the Centro Region 2030, official document).

The concerns about territorial cohesion and innovation were already present in previous regional documents, namely the Smart Specialization Research and Innovation Strategy (RIS3), where territorial cohesion, together with resource sustainability, energy efficiency, and internationalization were identified as cross-cutting priorities (Centro Region RIS3 official document). In this new 2030 strategy, there is a strong focus on the two major issues addressed by the Ministry of Territorial Cohesion as key to stimulate the practical implementation of territorial cohesion. In fact, the Strategic Vision for the Centro Region 2030 has a clear focus on urban development, competitiveness, sustainability and territorial cooperation, with a clear concern on the more depressed territories.

In the context of this research, 21 Mayors of the local administration, representing different economic, social and territorial contexts, were interviewed. These field work were carried out between November 2019 and February 2020, organized according to a structured guide of 8 questions: 3 guided answers (from a list of options)- [Q1, Q2, Q3], 4 free answer [Q4, Q5, Q7, Q8] and 1 mixed answer (Q6). The total of these 8 questions, listed below, allows us to discuss how cohesive the Centro Portugal is (from policy design

to practical implementation of projects) and to work on a territorial cohesion measurement tool to be implemented at these scales.

Table 1.

Q1	1. From the following areas of public policy select the 3 that you consider most relevant for a balanced territory development, ordering them by degree of importance:	i) economic development; ii) environmental sustainability; iii) territorial cohesion; quality of life of populations; iv) involvement and empowerment of citizens; v) justice and social protection; education, vi) health and culture; vii) accessibility and mobility; demographic dynamics; viii) quality governance.
Q2	2. Considering the specific characteristics of this territory, classify the following development priorities by degree of importance, on a scale of 1 to 7:	i) health; ii) education; iii) culture; iv) employment; v) population; vi) housing; v) social support; vi) companies; vii) productivity, knowledge and innovation; viii) accessibility and mobility; ix) environmental sustainability; x) urban rehabilitation; xi) participation and involvement; xii) training; xii) governance.
Q3	3. Of the priorities you ranked as the most important select the top 3.	
Q4	4. What are the main obstacles to the development of the objectives you have identified as priorities?	
Q5	5. How do you define territorial cohesion and how do you think the priorities you have identified can promote cohesion?	
Q6	6. [Territorial cohesion is the process of designing a more cohesive and balanced territory, valuing territorial diversity and complementarity, as well as social and spatial justice as structuring elements in decision-making. It is effective when it: i) reduces social and economic asymmetries between territories; ii) promotes environmental sustainability; iii) reinforces territorial and sector-based cooperation; and iv) develops territorially-based public policies, aimed at valuing local resources.] Do you agree with this definition? Why? What's missing? Is it useful/important to you?	
Q7	7. Territorial cohesion is usually measured based on five main dimensions: Equity; Competitiveness; Connectivity; Environmental sustainability; Governance.	7.1. How do you evaluate the importance of each of these dimensions for territorial cohesion at different scales: regional, intraregional and local 7.2. What makes you consider different importance for the same dimension between scales?
Q8	8. Please indicate the most important information for assessing territorial cohesion on an intraregional/local scale.	

The selection of mayors resulted from the analysis of a set of indicators, considering the municipalities that, in each sub-region, present greater deviations (positive and negative) in relation to the average values of the region, as long as they are integrated into different groups (which resulted from a multivariate analysis of the considered indicators). The indicators selected for this exercise were structured according to five main dimensions:

a) territorial - population density; b) demographic - rate of variation of the inhabitants; percentage of the elderly population (ageing); c) social - number of social income beneficiaries per 1000 working-age inhabitants; total dependency index; d) accessibility - average duration of commuting movements of access to work and school (connectivity, mobility and access to employment); number of doctors per 1000 inhabitants (access to health); access to housing, measured through an exercise that calculates the average size of housing that a couple can acquire with 30 years of income; e) economic - long-term unemployed per 1000 working-age inhabitants; average monthly gain; purchasing power index.

Considering these criteria, the following municipalities were selected (see table 1).

Table 1– Municipalities selected and its participation on the case-study

Intermunicipal Community (sub-region)	Higher positive deviation	Higher negative deviation	Others ("capital")
Oeste	Alenquer	Cadaval	Caldas da Rainha
Região de Aveiro	Aveiro	Murtosa	
Região de Coimbra	Coimbra	Góis	
Região de Leiria	Marinha Grande	Pedrogão Grande	Leiria
Viseu Dão Lafões	Oliveira de Frades	Castro Daire	Viseu
Beira Baixa	Vila Velha de Ródão	Idanha-a-Nova	Castelo Branco
Médio Tejo	Entroncamento	Vila Nova da Barquinha	Tomar
Beiras e Serra da Estrela	Guarda	Sabugal	

Source: Own elaboration

3. Territorial cohesion and innovation at the Centro Region of Portugal

Considering the demographic, social and economic dynamics, Portugal has experienced, over the last few decades, an intense process of metropolization (Wolf et. al, 2020). Available data shows that there has been a progressive concentration around some urban spaces, with special advantage for areas close to Lisbon and Porto. In this metropolization process, there is not only the concentration of people, but also of the political decision-making power, headquarters of large companies and the media. The analysis of population and company density allows a clear view of this process, underlining, even so, the relevance and importance of the Center region. In fact, in Portugal, the Centro Region plays a very important role in the economic and social dynamics, considering its strategic position (it is situated between the two major national urban centres: Lisbon and Porto), its dimension (approximately 31% of Portugal's total area) and the population (21.5% of the population living in the country in 2021) and enterprises (20.4% of the enterprises in the country in 2019) relevance.

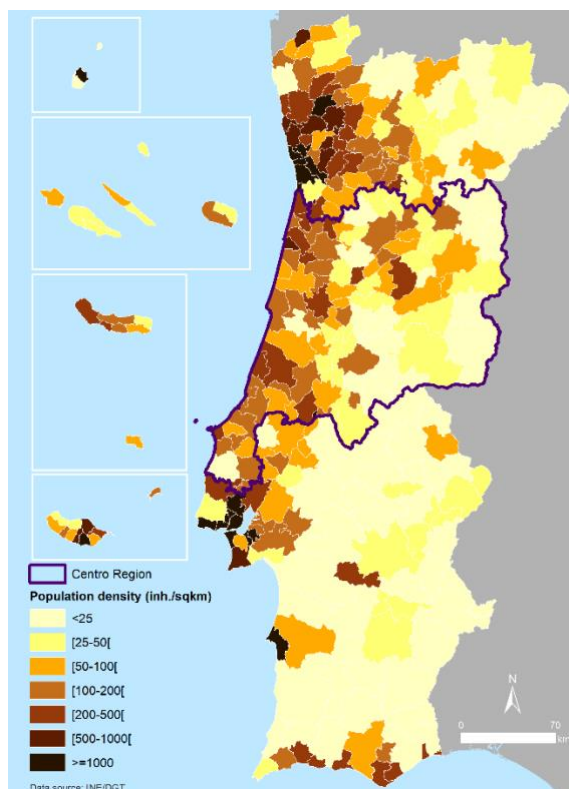


Fig. 1 - Population density in Portugal (2021)
Source: Own elaboration, using INE data

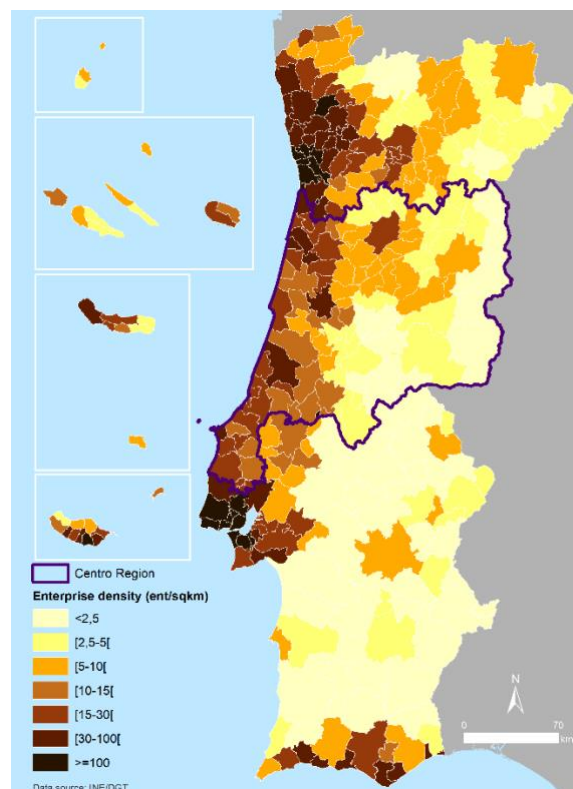


Fig. 2 – Enterprises density in Portugal (2019)
Source: Own elaboration, using INE data

Overall, the Centro Region has lost population over the last ten years (-4.29%), at a rate higher than the national average (-2.03%), a process that was accompanied by a process of population aging (INE, census 2021). In terms of territorial cohesion, the set of dynamics and problems are very similar to the ones registered in Portugal as a whole, namely: i) an asymmetric distribution of the population in the territory, with a tendency towards concentration of population, employment and investment in the main urban centers, which promotes problems of depopulation, aging and social filtering; ii) inequalities in access to essential goods and services – in terms of education, health and justice, for example –, as well as obstacles to mobility, which creates several difficulties to inhabitants and businesses settlement or attraction; iii) an unequal distribution of income and, consequently, of the economic power of families, with the indicator of the purchasing power of citizens (INE, 2020), showing that, in 2019, only five municipalities, (Lisbon, Porto, Sintra, Vila Nova de Gaia and Cascais – all of them outside the Centro Region), concentrated 21.7% of the total purchasing power of the national territory, which reduced the quality of life of those who live in other territorial spaces; and iv) a very centralized governance system that depends on the national government, making it difficult to adapt public policies to the specificities of the territory as well as to the development of regional and intraregional cooperation strategies.

The variation in the number of companies (2009-2019) showed a contrary trend, with a growth of 11.4% in the Centro Region (18.39% in Portugal), which turns out to be especially significant with regard to large companies, as the growth was 39.16% (24.37% in Portugal). This dynamic of economic transformation supports the consolidation and dynamization of three functional areas in the Centro Region (of the eleven identified by the OECD in Portugal), associated with the cities of Aveiro, Coimbra and Viseu.

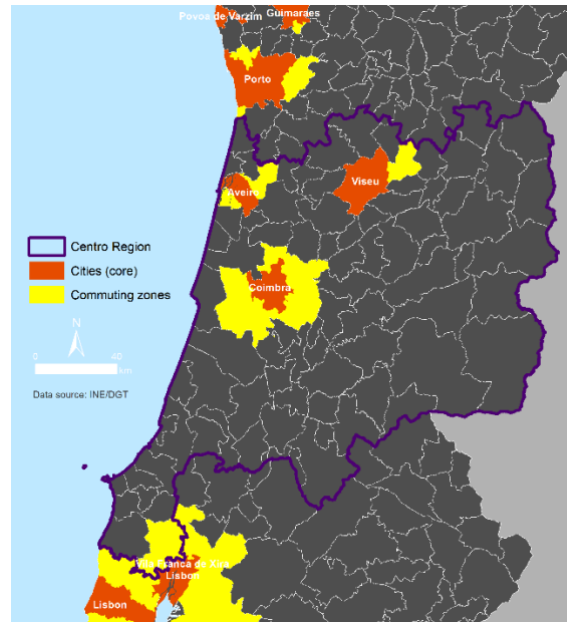


Fig. 3 - OECD functional areas in the Centro Region of Portugal
Source: Own elaboration, using OECD data

These functional urban areas – along with the Leiria subregion – are key to understand much of the Centro region dynamics. In terms of R&D and innovation resources, and when compared to other Portuguese regions, Centro ranks second regarding PhDs in Science and Technological areas per 1,000 inhabitants (0.87 in 2018, above the national average – 0.79) and ranks third concerning R&D researchers in active population (0.78% in 2017, below the national average of 0.86%) (INE, 2020). In Centro Region, in 2019, 36.5% of the population aged 30-34 had tertiary education (Eurostat, 2020), which is above the national average (36.2%) but lower than the EU average (41.6%). The number of employees in the high-tech sector has been increasing since 2012, registering a total of 23,300 employees in 2019 (Eurostat, 2020). This represented 15.1% of the national employment in the sector and 2.2% of the total employment (against the EU average of 4.1%) (Eurostat, 2020).

The analysis of the innovation networks of each subregion in the Centro Region allows us to systematize some of its fundamental characteristics, namely: i) the existence of a regional innovation system that clearly shows the differences between the regional relational space, emphasizing the inequalities of organizational density; ii) a system polarized by the Regions of Coimbra, Aveiro and Leiria, which dominate the processes

of knowledge creation and production, benefiting from the effects of innovation; iii) a trend towards specialization in some areas of knowledge, especially in ICT and materials technologies, and incorporation of knowledge in more intensive activities in technology and knowledge, such as health, as well as in traditional industries; and iv) a geographical proximity in relationships, where regional scale in innovation processes is privileged, but also the expansion of the relational space to the Portuguese Northwest.

4. The disconnected agendas and lack of territorial Agendas in Centro Portugal

4.1. Regional/Local decision-maker's perspectives on territorial cohesion and innovation

The political constructions of territorial cohesion present some variations, namely between one that values the concept as a collective process of promoting development and others that replicate ideas of European policies associated with convergence, equality and the reduction of asymmetries. Globally, local and intraregional political decision-makers agree on three main ideas associated with the definition of territorial cohesion: i) it is very important to reduce the asymmetries between territories, ensuring equal opportunities for all; ii) the current social and economic trends and territorial dynamics demand public authorities to work on a greater capacity and opportunities for strategic articulation between territories; and iii) territorial cohesion is only possible with joint strategies to promote economic growth/development at the intraregional scale, with benefits for all territories resulting from the political articulation.

There are no official definitions of territorial cohesion at these scales or specific projects, programs or goals related to it. Political understandings are territorially differentiated, and each municipality assumes different values, resources and dimensions that compete for territorial cohesion. Although, this space-based differences presents no clear territorial patterns within the Centro Region, which seems to result from political and strategical visions of the Mayors rather than from social and economic dynamics.

In short, evidence from the Centro Region local administration allows us to conclude that: i) there is no clear definition of what territorial cohesion is or how it is integrated into the policy or strategic documents; ii) there is insufficient theoretical background of some mayors, reproducing words and concepts in the discourse without understanding their scope or practical application; iii) the political construction or perception of territorial cohesion is essentially the result of a political vision and consideration of the values/problems that each territory presents; and iv) territorial cohesion is thought of individually, without vertical and horizontal coordination. There is no cooperation or articulation culture of decision-makers, despite of recent experiences within Intermunicipal Communities.

4.2. Policy design and implementation

In the Centro Region there is a great diversity of opinions on the most relevant public policy areas, as a result of a discourse that, as a general rule, chooses to emphasize the complementarities between the different areas and the advantages of integrated interventions. The discourse of the mayors emphasizes, almost always, that an efficient governance results from the success of all others. The general idea points to a greater value of economic development (including innovation), health, education and culture, followed by other issues such as environmental sustainability, accessibility and mobility and issues associated with demography.

In fact, there is an emphasis essentially on the short-term needs, which results from what seems to be an inability to strategically interpret the territory (municipal, but essentially sub-regional). This explains the centrality of “economic development”, with most of the mayors defending the importance of investing in R&D mechanisms and job creation as central elements to stop depopulation, promote development and increase the quality of life. This is also visible in the appreciation of other policy areas associated with direct investment (often in infrastructure or equipment) in the fields of education, health, culture or accessibility.

The topic of territorial cohesion is not identified as a priority, mainly because is assumed as a consequence of the integrated and balanced development of other areas and not as an object of work or direct investment. Even so, the reduced valorization of territorial cohesion as a priority area seems to result essentially from three factors: i) the absence of a strategic vision for the territory, with day-to-day management oriented to the satisfaction of short-term needs, with special emphasis on job creation and for an adequate response in the fields of health and education; ii) a great attraction for fundraising or investment, which means economic development or the establishment of new companies are identified as the most relevant for regional and national affirmation of the municipality; iii) distrust and criticism of others: from the government to other municipalities, with a clear absence of a culture of supra-municipal cooperation.

On the opposite plane, innovation is identified as a development priority. In this exercise, the concern with programs actions and projects that are associated with economic activity is evident, followed by accessibility, mobility and population as priority themes, whether by investing in education/training or by the need to invert problems of depopulation and aging. The mayors' speech has some common points, as they state that it is necessary to have people and jobs in the territory, identify the economy as a development engine, and demand more public and private investment in job creation and enterprises legal and financial support.

4.3. Obstacles to territorial cohesion and innovation

Several obstacles and constraints to the balanced development of territories are identified. In the vast majority of cases, there is a strong challenge to the dominant spatial planning culture (or lack thereof) and to the public policy options, drawn from Lisbon (sometimes with reference to Porto), based on the problems of the capital and without positive discrimination instruments or programs capable of reversing the low-density cycle that affects large parts of this territory. The discourse is more pronounced in the territories of interior areas of Portugal (such as, Viseu-Dão-Lafões, Beiras and Serra da Estrela and Beira Baixa), but it ends up being transversal to all. In this discourse, words/expressions such as centralism, lack of investment, need for positive discrimination, absence, deficit are common.

In general, the main obstacles identified are associated with:

- a) Centralism and central government options;
- b) Multiplication of policies and investments in favour of Lisbon and Porto;
- c) Lack of skilled labour;
- d) Absence of critical mass and little training of local agents;
- e) Depopulation and aging and lack of measures to reverse the processes;
- f) Deficit in public and private investment.

5. Conclusion

The territory, geography and social and economic dynamics of each place play an especially important role in the perception and political construction of territorial cohesion and innovation at local and intraregional level. In this context, it is essential to assume that territorial cohesion is a dynamic (in constant construction and transformation) and multidimensional process (associated with various dimensions and characteristics), and that its evaluation can be varied according to the geographical context of analysis, our sectoral framework and the profile of the data user. In other words, a territory may have different characteristics of cohesion, and the possibility of analysis and understanding of all these variables should be ensured. These systems should develop different tools and methodologies for weighting and valuing the dimensions of territorial cohesion, ensuring a correct assessment of their dynamics and multidimensionality.

Likewise, territorially based innovation can be understood as a transforming process of interaction between agents (public, private or community), where the creation of social and/or economic value is based on the existence of endogenous resources. There is a panoply of communication, collaboration and specific resource sharing processes that can foster these innovation mechanisms. However, its most basic assumption is based

on the relevance of these resources as territorial assets, and on the conviction that they can have a significant impact on local and regional development. In fact, practice has proven that projects that bring people together and create networks - often based on the transfer of knowledge -, in proximity to territories and based on strong cohesion between the different stakeholders, will have positive results and impact, namely on the economy, on employment, in well-being, and in the quality of life. Territorially based innovation values people and territories, promotes development and quality of life, and reinforces the efficiency and effectiveness of decision-making processes.

In this context, the quality of life of territories is associated with their dynamics of regional development, a process that combines several dimensions, of which two appear as central or structuring: the competitiveness associated with innovation processes, and the cohesion territorial. These dynamics are structurally unbalanced, with different economic and social consequences for different territories. When imbalances reach high levels, they not only create economic and social tensions – with high economic, social and political costs – but also jeopardize the regional development process itself. Problems associated with territorial cohesion are one of the manifestations of these imbalances and therefore deserve special attention.

There are levels of territorial cohesion that positively enhance economic innovation and social dynamics and other levels that lead to the breakdown of the economic and social system itself. No one knows the ideal level of territorial cohesion for a given society, but inadequate levels of territorial cohesion are easily identified, usually because of the problems they pose to other relevant dimensions of society.

Thus, it seems important to value bottom-up approaches that assume that each territory and development dimension should be addressed in a very particular way, considering its own resources and people (Wolf et. al, 2019). Nevertheless, the measurement of the practical implementation of projects that promote territorial cohesion an innovation it is also relevant. In fact, contemporary societal challenges require dynamic monitoring of processes and evaluation of the implementation of strategies, policies, or actions in a context of multiple of social, economic and territorial interactions. Therefore, the operationalization of new decision support tools requires the development of technical and scientific bases that are also dynamic, open and flexible to face the challenges of collecting, processing and modeling large volumes of information (Borges et. al, 2020). At the same time, it is key to provide an operational and analytical orientation to these procedures of a more technical nature, ensuring that the final product is a tool capable of producing relevant, timely and rigorous knowledge, rather than a mere repository of data.

So, the devices for promoting, evaluating and measuring territorial cohesion and innovation should be designed according to the policy design of strategic development and the goals associated with it – with indicators of achievement and outcome for its practical implementation – assuming as central five operationalization objectives:

1. the collection, processing and provision of useful, timely and reliable information on public policies for territorial cohesion, ensuring the optimization, integration and communication of information produced – and dispersed, in particular by the various public administration entities – in a flexible and innovative way.
2. the development of instruments that better qualify decision-making processes and the qualification of the strategic planning activity and territorialized public policies with a view to territorial cohesion, contributing to greater effectiveness of government processes.
3. the monitoring, evaluation and dissemination of knowledge on innovation, regional development and territorial cohesion, promoting an informed and qualified debate on policy guidelines for territorial cohesion.
4. support for monitoring the efficiency and effectiveness of public investment, both at national level and in compliance with national and European policy guidelines.
5. The promotion of space-based development and the improvement of the quality of life of all those who live or use these territories, through the development of territorial-based (preferably non-sectoral) public policies that promote horizontal and vertical cooperation and coordination.

In this context, in which monitoring and evaluation are crucial, the objective of territorial cohesion is to reduce the level of inequalities – in terms of proximity and access to essential goods and services – but with a concomitant increase (or decrease) in the level average of the variable that serves as a reference to measure these same inequalities. So, public policies are a fundamental dimension (along with the market and the third sector) of the processes associated with the dynamics of regional development. It means that they are also responsible for the results in terms of innovation and territorial cohesion (the good and the bad). In these terms, the role of public policies in solving problems associated with territorial cohesion has gained relevance in recent decades. It is therefore important that public policy is effective in managing territorial cohesion and innovation. The greater the degree of effectiveness of public policy in solving economic and social problems, the better the use of this mechanism is justified. Furthermore, reinforcing the efficiency and effectiveness of public policies gives it economic and social value and, in this way, consolidates democracy and confidence in decision-making processes.

To conclude, we can argue that citizens well-being depends on the regional/local development dynamics and projects, especially those related to territorial cohesion, competitiveness and innovation. These development dynamics which are structurally unbalanced and the consequences of these imbalances are harmful to the quality of life of the territories. Thus, public policies – as spatial planning, territorial governance instrument and intervention mechanism – acquire great relevance in the management and mitigation of these imbalances. The focus is then placed on the effectiveness of public policy, since the development of the territory and the quality of life of societies depends on it. Considering the existence of a wide range of factors that prevent or reduce this effectiveness, it is essential to ensure a dialogue and convergence between the two fields of action that structure local and regional development dynamics, that is, territorial cohesion and innovation.

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