

European smart specialisation strategies (RIS3): catalysts for tourism innovations?

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Abstract

This article examines the issue of innovation in the tourism sector, emphasising its crucial role in the transformation of the tourist offer within European regions. Faced with territorial disparities in terms of tourism innovations, we examine the impact of Regional Innovation and Smart Specialization Strategies (RIS3) on the deployment of tourism innovation. By analysing the 2014-2020 program through a three-step action research study, we identify a positive correlation between RIS3 initiatives and innovation in the tourism industry. However, RIS3 seem to be a necessary but not sufficient condition to stimulate innovation.

Keywords: innovation, smart specialisation, smart destination, quintuple helix model

Introduction

The devastating impact of the pandemic crisis on the global tourism sector has been notable, as highlighted by Škare et al. (2021). The slowdown in tourist activity has particularly affected the European Union (EU), where tourism represents a significant share of added value, especially in the southern EU countries. This crisis has revealed the vulnerability of the tourism sector of many European destinations, attributable to their inability to adapt quickly to changing demand and environmental constraints. Faced with this challenge, the sector is called upon to strengthen its resilience (Cheer & Lew, 2017) and innovation appears to be an essential means of achieving this, although this relationship is not without controversy (Torres & Godinho, 2023).

This raises questions about the effectiveness of tourism-oriented innovation policies (Hjalager et al., 2020). The question of whether tourism can, in itself, be an innovation sector is one of the major debates (Camison & Monfort-Mir, 2012; Gomezelj, 2016; Hall, 2009; Larrea et al., 2021; Nicolau & Santa Maria, 2013; Rodriguez et al., 2014; Shin & Perdue, 2022). Moreover, not all destinations are

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equally able to support innovation, despite proactive policies in this direction. These inequalities can negatively affect the productivity, competitiveness and attractiveness of territories, especially in a context of accelerated sectoral and geographical changes. Existing research has extensively explored the drivers of innovation in various sectors, including tourism (Hjalager, 2010; Nieves & Haller, 2014).

Similarly, the impact of smart specialisation strategies (Regional Innovation and Smart Specialization Strategy, RIS3) on regional innovation is beginning to be the focus of many studies (Foray, 2015; Gianelle et al., 2019; Gianelle et al., 2020). However, there remains a notable gap in the literature regarding the intersection of these two fields. In particular, there is a lack of empirical studies assessing the impact of RIS3 on innovation in the tourism sector. This shortage is particularly worrying given the importance of tourism to the economy of many EU regions. Furthermore, there is little research on how RIS3 have been applied specifically to the tourism sector (Biagi et al., 2021). This raises questions about the effectiveness of these strategies in promoting innovation in tourism and their adaptation to the particularities of this sector.

Faced with these shortcomings, this article proposes to answer the following questions: Have the RIS3 stimulated tourism innovation? How have smart strategies prioritising tourism been implemented and rolled out? Our aim is to provide useful information for the development of future innovation policies targeting the tourism sector. Analysis of the links between innovation policies and tourism is essential, especially at a time of review of the programming period for European funds 2014-2020. The results can help inform choices for the new period that extends until 2027, taking into account new challenges related to the effects of climate change. For this analysis, we rely on the frameworks proposed by Sörvik and Kleibrink (2015) and in particular that of Gianelle et al. (2019) regarding the effectiveness of smart specialisation strategies, and recent literature around the concept of smart destination, as developed by Boes et al. (2015), Carayannis et al. (2012) and Jean-Pierre and Perrain (2019).

Our analysis completes the econometric study by Romao (2020) on the impact of smart tourism on the growth of European regions, by being at a more microeconomic level. We will examine the systemic policies implemented under the current European cohesion policy and their ability to improve the performance of tourism innovation at the regional level.

The analysis is structured as follows: the first section reviews the literature on the link between innovation and smart specialisation strategies. The second section describes the methodology used for this study. The third section analyses the results. Finally, the fourth and the last sections are respectively devoted to the discussion and the conclusion of our analysis.

1. Literature review

Innovation has been widely accepted as a critical factor for hospitality and tourism enterprises, organisations and destinations and is recognized as a strategic issue to achieve growth and long-term oriented. However, the impact of innovation policies and their dissemination to the tourism sector that is raised, especially at the regional dimension.

1.1. Innovation and tourism

Innovation is defined as an “activity through which inventions are carried out in the market for a commercial purpose” (Schumpeter, 1934, p.66). Larrea et al. (2021) indicate that Innovation is often seen as “the basis of a competitive economy” and firm performance and success. Innovation is at the heart of the transformation of the tourist offer. It is arguably one of the most important intangibles for a destination (Cheer and Lew, 2017; Gomezelj, 2016; OECD, 2006). The analysis of the strategies adopted by businesses in the tourism sector demonstrates the imperative of innovation inherent in their survival and prosperity. Therefore, innovation, whether defensive or offensive, is undertaken internally for the best endowed companies or externally by mobilising all the dimensions of open innovation. Several groups, such as La Poste which launched “French IoT Impact x Technology” in 2015, Toshiba, with “Toshiba with the Innovation Fair” which presented its latest technological innovations in the company, or the LEGO group, a textbook case of successful open innovation, have also understood this, since they support the deployment of innovation through their participation in the various links in the innovation value chain. They also promote the hatching of young shoots which will subsequently be bought for most of them. Recent trends have indicated a shift towards experience-driven innovations in tourism, wherein tourists are not just passive consumers but co-creators of their experiences (Kokins et al., 2021).

Innovation has been widely accepted as a critical factor for hospitality and tourism enterprises, organisations and destinations and is recognized as a strategic issue to achieve growth and long-term oriented (Pikkemaat et al., 2019). Innovation is paramount in transforming the tourist offer. Arguably, it remains a vital intangible asset for a destination (Cheer and Lew, 2017; Gomezelj, 2016; OECD, 2006). Moreover, the emergence of digital platforms, artificial intelligence, and virtual reality is changing the way tourists plan, book, and experience their travels (Gretzel et al., 2015). The strategies businesses adopt within the tourism sector highlight the indispensable nature of innovation for their survival and prosperity. Such innovative drives are either internally championed by well-resourced firms or externally by harnessing the various facets of open innovation. The emphasis on customer-centric innovations, leveraging user-generated content, and augmented reality solutions in tourism offers fresh perspectives and opportunities for businesses (Lim, 2016).

This link between tourism and innovation is nothing new. The literature has recognized for several decades that technological progress and tourism go hand in hand (Poon, 1993; Sheldon, 1997). As early as the 1980s, information and communication technologies (ICT) began to transform tourism on a global scale. Moreover, tourism has not escaped the changes that have impacted many other economic sectors in their business practices and strategies as well as the structures of the industry (Porter, 2001). Thus, the introduction of Computer Reservation Systems (CRS) in the 1970s and Global Distribution Systems (GDS) in the late 1980s, followed by the development of the Internet in the late 1990s, transformed dramatically operational and strategic best practices in the industry (Buhalis & Law, 2008; Emmer et al., 1993; O'Connor, 1999). Moreover, since the year 2000 we have witnessed a truly transformative effect of ICT. This has given the opportunity to develop a wide range of new tools, practical solutions and services that facilitate global interaction between players around the world (Buhalis & Law, 2008). Yet, with all these technological strides, the significance of sustainable and eco-friendly innovations is becoming increasingly salient, especially given the rising concerns about climate change and over-tourism (Scott, 2021). This adds another layer to the innovation discourse, promoting the integration of green technologies and sustainable practices in the tourism industry.

However, if innovation trickles down to all levels of the tourist offer, its deployment at the territorial level raises several issues. It is the whole question of the impact of innovation policies and their dissemination to the tourism sector that is raised (Hall, 2009; Torres & Godinho, 2023). This suspicion is first fuelled by the doubt that the tourism sector can be a place of innovation (Hall, 2009; Hjalager, 2010). At best, the tourism sector would benefit from innovations produced in other industries. Hjalager (2012) and Rodriguez et al. (2014) support this solitude of the tourism sector neglected by national policies of innovations. The fact that innovations are often seen as having a technological basis may explain this situation. However, the literature has recently underlined that the tourism sector is also a sector marked by numerous transformation activities (Huijbens & Jóhannesson, 2019; Sørensen and Hjalager, 2020). Thus, the tourism industry stimulates investment in infrastructure, human capital, and technology (Shahzad et al., 2017). Furthermore, the tourism industry is increasingly competitive (Gonzalez et al., (2011) and tourism players are constantly demanding new concepts and solutions to keep pace with tourists' expectations (Borodako et al., 2015). Thus, tourism can be an antecedent condition for the concentration of technology knowledge intensive business services (Larrea et al., 2021; Torres & Godinho, 2020). Hospitality and tourism innovation research focused also on innovation processes in hotel value (Nicolau & Santa Maria, 2013), firms management outcomes (Shin & Perdue, 2022) and a firm's capability to integrate, reconfigure, and recreate resources in response to the changing environment to attain competitive advantage (Camison & Monfort-Mir, 2012). The innovation phenomenon can be understood as an economic phenomenon, a market

phenomenon, and an organisational phenomenon (Shin & Perdue, 2022). Previous studies highlighted the role of policies and the structure of the public bodies for innovation activity (Hjalager, 2010b).

Not all destinations are equal in their ability to support innovation (Cheer & Lew, 2017). Although these territories conduct proactive policies towards innovative actors, this does not necessarily result in an innovative, differentiated or reinforced tourist offer in its resilience in the face of contemporary challenges: digitization of the behaviour of actors and organisational processes, the vagaries of impacts linked to climate change, changes in the behaviour of actors in a globalised world, etc. In other words, the questioning of the tourist innovation potential of destinations and that of their ability to mobilise this potential arise for several of them and more particularly for regional destinations. Additionally, the increasing focus on “smart tourism” integrates technology to enhance tourist experiences, optimize operations, and facilitate real-time decision-making, giving rise to “smart destinations” (Cimbaljević et al., 2019).

1.2. Innovation at the regional level

The disparities in the capacity to support innovation of destinations and in particular regional destinations are echoing the concept of absorption capacity posed by Lane et al. 2006. The latter define it through the effectiveness of the learning process associated with a firm and more specifically its ability to identify, assimilate and take advantage of the knowledge provided by its environment. It is therefore understandable that this absorptive capacity at the level of the firm can also play out at the level of a sector, a territory, and that its impact in terms of the performance of the organisation concerned can be discussed (Wales et al., 2013). Moreover, at the level of the tourism sector, a first explanation can be found in the great diversity of the dimensions of the structures who compose it. Consequently, these, especially the smallest ones observed at a regional level, cannot mobilise and rely on the research services often adapted to large organisations (OECD, 2006).

In addition, the interest of the regional dimension is, as Karahasan (2023), points out, to highlight specific factors that influence innovation at this reduced territorial scale and which are often masked at the larger scale of a country as a whole (Aarstad & Kvitastein, 2020; Corsatea, 2016; Fornahl et al., 2011; Grillitsch et al., 2015 and 2017; Odei et al., 2021; Rammer & al., 2020; Tavassoli & Karlsson, 2018; Wang & Lin, 2013). Small regional territories must, in fact, face the challenges of reduced critical masses, the small number of actors and consequently the small size of spillovers and finally low competition. Moreover, the question of regional competitiveness and tourism innovation suffers from a lack of clear and exact definitions and interpretations (Teixeira & Ferreira, 2018). However, these factors play favourably on innovation (Boschma et al., 2022). Their absence or small size can then hamper the innovation dynamic of the sector or the regional economy.

If this disparity in regional performance in terms of innovation can be a source of concern, it is also because it adversely influences the dynamics of productivity and the competitiveness and attractiveness of territories, particularly in a context of accelerated sectoral and geographical changes. This is what is at stake in the EU's ambition since the beginning of the 2000s and the "Lisbon strategy": to raise Europe to the rank of knowledge-based economy "the most competitive and most dynamic of the world". To do this, the Union has worked to increase the synergy of national, local and community policies around innovation by mobilising a lever: the implementation of smart specialisation strategies known at regional level by the acronym RIS3 (or Regional Innovation and Smart Specialization Strategy, RIS3). The EU's RIS3 initiative serves as a testament to the importance placed on regional innovation. But for these strategies to be fruitful, there needs to be a continuous feedback mechanism, where regional experiences and outcomes influence and refine overarching strategies, ensuring relevance and effectiveness (Morgan, 2017).

RIS3 is indeed at the heart of the European Commission's efforts to strengthen the Union's competitiveness and to promote smart and sustainable growth (Asheim 2019; European Union, 2011). Appeared in the mid-2000s, the concept of smart specialisation is, as an economic concept, a variation at the regional level of the analyses on innovation put forward on competitive advantage and on value chains by Porter (1990) and on returns to scale in a globalised economy by Krugman (1991). More specifically, for Foray (2015), smart specialisation is "the ability of an economic system (a region for example) to generate new specialties through the discovery of new areas of opportunity as well as a concentration and agglomeration of local resources and skills in these areas".

In doing so, during the current programming period (2014-2020) of the European Regional Development Fund (ERDF), European regional authorities have developed their own RIS3, to ensure effective and efficient investments in research and development. Each region has thus defined priority sectors, and several of them have integrated tourism (Sörvik & Kleibrink, 2015). Analysis of the effectiveness of regional innovation policies, and RIS3 in particular, is beginning to emerge in the literature. Examples include the work contained in Gonzalez-Lopez and Asheim (2020)'s book which provides several channels for apprehending the impact of innovation policies on a European regional scale.

Assessing the deployment of innovations in tourism is therefore relevant in light of the issues aimed at supporting the resilience of regional destinations. So, have the European RIS3 been catalysts for tourism innovation? And in this context, what role can the smart destination lever play in supporting the implementation and deployment of smart strategies prioritising tourism? Beyond the interest posed by the analysis of the link between innovation policy and tourism, there is also the question of the relevance of the choices and the effectiveness of the concentrations of resources chosen for almost 10 years (creation of cluster, mobilisation of channels

of certain investment channels (fundamental R&D versus investment in tourism businesses).

To our knowledge, this is the first study to examine, at the level of the tourism sector in particular, the measures of the systemic policies implemented within the framework of the current European cohesion policy and their capacity to improve the performance of innovation. regional tourism.

To do this, our analysis mobilises the framework proposed by the work of Gianelle et al. (2019) who carry out a first investigation of the effectiveness of smart specialisation strategies on innovation ecosystems in general, and also by the innovation mapping work carried out by Sörvik and Kleibrink (2015) and the levers posed by investigations Lane et al. (2006). Our work also presses the recent literature surrounding the concept of smart destination developed by several authors (Boes et al. 2015; Carayannis et al., 2012; Perrain and Jean-Pierre, 2019). This concept also offers a relevant analytical framework for studying the deployment of smart strategy based on the tourism economy. The concept of smart destination designates a new approach to the development and management of tourist destinations. It is based on the use of new information and communication technologies (ICT) to improve the tourist experience, to optimise available resources and to facilitate the governance of destinations. The concept is based on three components. First, the technology, which refers to the technological infrastructure necessary to connect the various tourism stakeholders (tourists, local businesses, public bodies, etc.) and to collect, analyse and share relevant data. Technologies used may include Internet of Things (IoT), big data, artificial intelligence, augmented reality, etc. Secondly, the component of the territory, which concerns the sustainable and smart management of resources and local tourist attractions, taking into account their carrying capacity, their cultural and environmental value, and the expectations and needs of tourists and local communities. Third, the governance component that involves close cooperation between the different tourism stakeholders (public sector, private sector, local communities, etc.) for the planning, development and management of the destination. This may involve the use of destination management systems (DMS), collaborative platforms, etc. The relevance of the smart destination concept for the study of the deployment of a smart strategy based on the tourist economy lies in the fact that it offers a holistic analytical framework that considers the complexity and interdependence of various factors that influence tourism development. Moreover, by focusing on innovation, value for money, sustainability and inclusion, it can help identify and resolve challenges and barriers to innovation in tourism and highlight opportunities to improve the competitiveness and resilience of destinations.

2. Methodology

Ours works on European regions concerned by the implementation of smart specialisation strategies are based on a three-step process:

- An operational and cartographic diagnosis of tourist specialisations in European regions, using the Eye@RIS3 platform;
- A stage of analysis of crossing priorities in tourism and the tourist intensity of the regions;
- A first assessment of the first effects on the deployment of tourism innovation using information sources from European projects: the NECSTouR network and The European Capital of Smart Tourism competition.

In the first step, our analysis, inspired by the work of Sörvik and Kleibrink (2015), operates an operational and cartographic diagnosis of the different tourist specialisations chosen by the European regions within the framework of the development of their respective RIS3, using the Smart Specialization Platform (S3P) which developed the online database Eye@RIS3. The Eye@RIS3 tool offers critical information to support European territories in prioritising investments and collaborating. Its underlying database contains the smart specialisation priorities as indicated by EU Member States and regional administrations as well as the research and innovation priorities of several non-EU countries and regions. Furthermore, data comes from a number of sources, such as from the national and regional public managers as well as from European Commission staff encoding the data based on the approved RIS3 documents. In the case of non-EU countries, existing national and regional innovation strategies are the source. In very few cases, the data on considered priorities are based on S3P RIS3 Peer Review Workshops and expert reports. The ultimate aim of this open tool is that the regional/national authorities regularly update their RIS3 priorities in this tool accordingly with their respective on-going stakeholder involvement processes (Entrepreneurial Discovery Processes). This first stage focuses on the period 2014-2020. Indeed, if Eye@RIS3 concentrates all the established priorities by the European States and regions which have drawn up an S3 or RIS3 on the 2014-2020 program, this is not the case for the 2021-2027 program for which the display of priorities for this new period is not complete on the platform.

The second step leads to an analysis method for prioritising innovation dynamics is then conducted, by crossing data on the tourist intensity of the regions and the importance of tourism in these regions. This step helps to understand whether the regional priorities seek to strengthen a dominant sector in the regions or to develop a new engine of growth. In the absence of a tourism satellite account to measure the weight of tourism industries at the regional level, our analysis focuses on the tourism intensity of the regions, i.e. the number of tourist arrivals per 100,000 inhabitants. In this perspective, we try to mobilise data such as the tourist accommodation arrivals by NUTS 2 regions and the arrivals of residents and non-residents. In this regard, an arrival is defined as a person (tourist) who arrives at a tourist accommodation establishment.

The third and last step allows us to perform a first assessment of the translation of the wishes and intentions of the priorities into action, that is to say by looking at the first effects on the deployment of tourism innovation using two sources of

information from European projects. On the one hand, NECSTouR, a European network of 34 regional tourism authorities that helps destinations to adopt a smarter and more sustainable approach to tourism development. On the other hand, The European Capital of Smart Tourism, a competition of European cities, in order to stimulate the sharing of best practices as smart tourism destinations. The practices in each category (Accessibility, Sustainability, Digitalisation, Cultural heritage and creativity) have been derived from applications that cities have submitted to the European Capitals of Smart Tourism competition.

3. Results

The results presented in this section provide nuanced insights into the intersection of RIS3s, regional strategic priorities, and tourism innovation. We have divided our results into three subsections. First, we examine the role of tourism within the RIS3s and explore the nature of the priorities set within these strategies. This analysis provides an overview of how tourism is perceived within the regional strategic framework. Secondly, we further investigate the regional priorities, probing whether they aim to strengthen a dominant sector within the regions or stimulate a new engine for growth. This analysis sheds light on the strategic ambitions underpinning these priorities and their alignment with regional economic profiles. Finally, in section 4.3, we scrutinise the policies or measures supporting smart or innovative tourism.

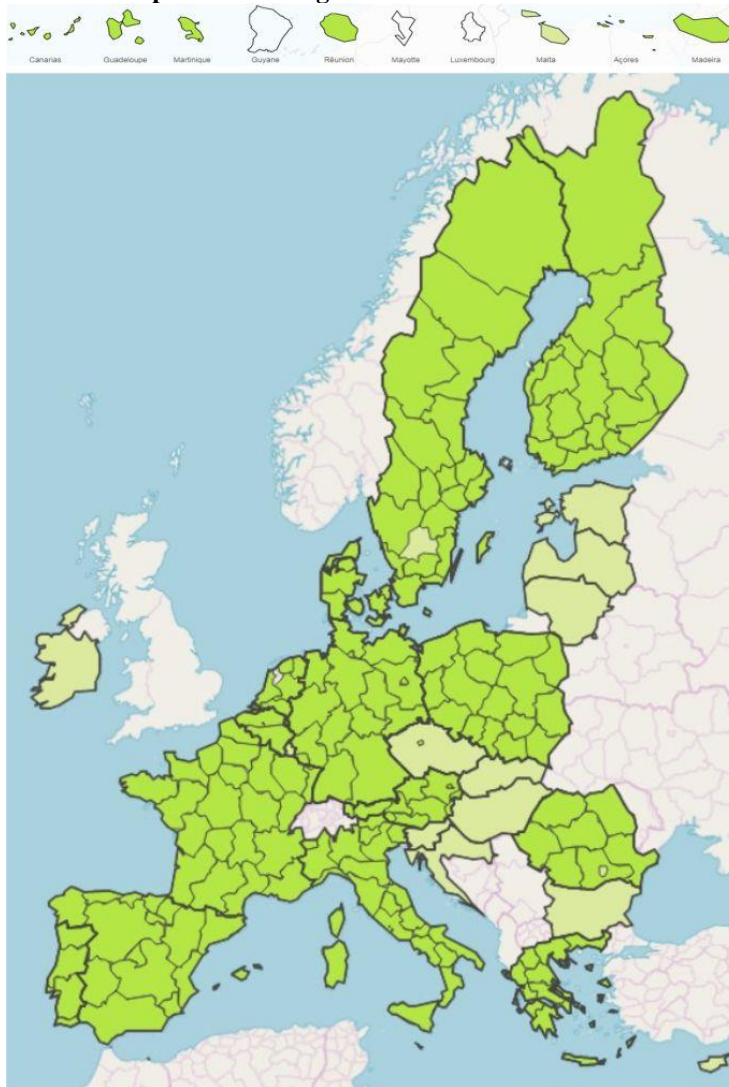
3.1. Place of tourism in the RIS3 and nature of the priorities

The Eye@RIS3 database brings together 1307 priorities from 20 EU countries, 174 EU regions, 6 non-EU countries and 18 non-EU regions. Among these priorities, 68 priorities relate to tourism, i.e. 5% of the total. 53 regions have made tourism a priority, i.e. almost a third of European regions (figure 1). This relatively high weight of region prioritising tourism in their RIS3 and this extended region with a tourism priority in fact mask a certain concentration of tourism priorities in a few countries and in certain regions. Thus, 7 countries concentrate 90% of so-called tourist priorities. Greece and Spain account for half of the tourism priorities of European regions (18 priorities identified in Greece and 15 in Spain). This concentration seems to be correlated with the importance of this sector in their economy (10% of GDP in Spain and more than 20% in Greece). Next come Portugal (7 identified priorities), Romania (6), Italy (6), France (4) and Sweden (4).

All Portuguese and Greek regions have included tourism in the innovation strategy, in line with the national strategies of these countries. This strong contraction in tourism also concerns Spain, where two thirds of the regions have chosen tourism in their RIS3, Romania with three quarters of the regions, Sweden with half, and France with a third (figure 1).

These first results converge with those of Sörvik and Kleibrink (2015) which clearly show that, under the cover of the similar Smart Specialization Strategy framework, the choices and methods of tourism specialisation and prioritisation of investments in innovation on tourism have been very different varied between European regions.

Figure 1. RIS3 tourism priorities at regional level



Note: In green, regions with RIS3 tourism priorities; in white, others regions without tourism in their RIS3 priorities and, in grey, regions in Europe without RIS3.

Sources: Eyes@RIS3, authors

Tourism is approached differently depending on the region. However, the themes highlighted are: tourism and information and communication technologies - ICT (cited 21 times), tourism and culture (16 times), sustainability (9 times), experiential tourism (7 times) tourism and innovation (6 times, figure 2). There are also 8 priorities which highlight ICTs at the service of tourism, but also of other sectors.

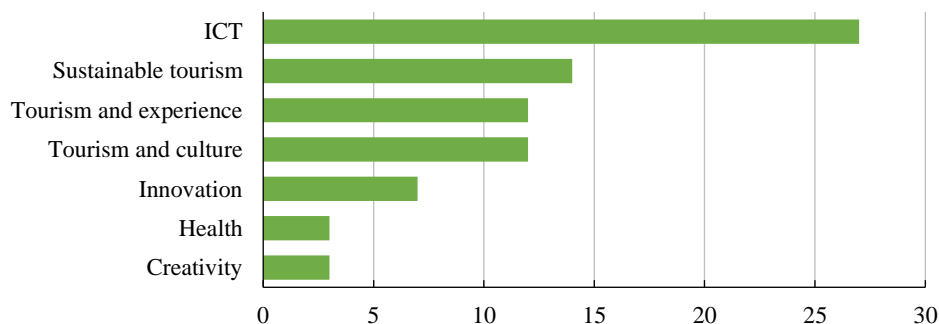
A third of the tourism priorities of the RIS3 are linked to ICT. It seems that this choice of theme suffers from a bias of association of regional decision-makers between innovation and new technologies. This undoubtedly leads the regions to interpret the need for innovation of the RIS3 by proposing to increase their digitalisation. We then find the suspicion developed by (Hall, 2009; Hjalager, 2010) and mentioned by Torres and Godinho (2023).

Sustainable tourism is the second theme chosen by European regions in their so-called tourism priorities. This theme is part of the sustainable innovation axis. Sustainable innovation involves making intentional changes to a company's products, services, or processes to generate long-term social and environmental benefits while creating economic profits for the firm (Boons et al., 2013; Elkhwesky, 2022; Elkhwesky et al., 2022). Experiential tourism also plays an important role. Indeed, experiential tourism has become a popular term for travel marketers (Wang, 1999; Aho, 2001).

Another theme often put forward, the association of tourism and culture (18% of the priorities identified) seems to respond pragmatically to the needs of European policies, particularly in Cultural and creative industries, the development of regional cultural and creative industries (figure 2). However, some regions link their priority to this European policy without indicating the term culture in their priority. 37 priorities out of 63 (58%) chose "culture and creative industry" as the associated European policy. The same applies to the choice of the sub-objective in terms of European policy. 32 regions selected "Development of regional cultural and creative industries". Finally, it is important to note the difficulty of linking the priorities to the fields of intervention of the ERDF.

Finally, more than half of the so-called tourist priorities are associated with "accommodation and food service activities". Note that tourism is highlighted 9 times in the RIS3, but without precision.

The analysis of the previous results highlights numerous disparities in the levels of investment in innovation, in the types of links in the tourism value chain targeted by innovation efforts and also in the organisational models chosen to build the capacities of absorption. Beyond these differences, there are also disparities in the gaps between what is expected and what is achieved, no doubt highlighting at this stage the need to bring together certain choices or priorities as being necessary, but not sufficient, conditions for the success of the project.

Figure 2. Themes addressed with tourism in priority

Sources: Eyes@RIS3, authors

The analysis of the previous results provides food for thought at two levels at the heart of the ambition of smart specialisation strategies. Firstly, do the regional priorities thus identified seek to strengthen a dominant sector in the regions or to develop a new engine of growth? Secondly, are the choices made in favour of smart or innovative tourism?

3.2. Do the regional priorities seek to strengthen a dominant sector of the regions or to develop a new engine of growth?

Have the choices in terms of priorities and the efforts made led to a change in the regional economic structure and in particular to a new positioning of tourism? In the absence of the weight in regional GDP, we focused on the tourist intensity of the regions, namely the number of tourists per 100,000 inhabitants (data available on Eurostat). The year 2018 was chosen because it brought together the most regions for which data was available, i.e. 46 regions out of the original 53.

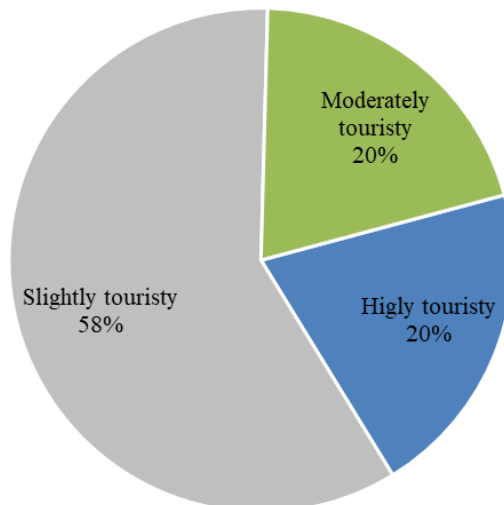
Three categories of intensities have been selected to distinguish the regions:

- Weakly touristic: marked by intensity lower than the average of all European regions (an intensity lower than 849 arrivals per 1000 inhabitants);
- Moderately touristic: marked by an intensity above the situation of low intensity, but below the average of the regions having identified tourism as a priority in their RIS3 (between 849 and 2057 arrivals per 1000 inhabitants);
- Highly touristic (greater than 2057): marked by an intensity above the average for regions that have identified tourism as a priority in their RIS3.

It appears that, among these 46 regions, two thirds have an intensity of less than 849 arrivals per 1000 inhabitants (the EU average for all regions combined). This suggests that two-thirds of the regions have chosen to prioritise tourism as the future engine of their region and not to establish its development (figure 3). This result relativizes previous observations on the choice of tourism in the RIS3, which

showed that the RIS3 reinforced the existing more to the detriment of new specialisations (Torres & Godinho, 2022). These authors denounce a risk of capture of resources by the actors in place. According to the authors, tourism is positioned as a widely shared innovative priority. Although there are good examples of service innovation in relation to tourism, the high popularity of this priority in the context of RIS3 may also be explained by the willingness of many regions and Member States to continue to use the ERDF to subsidise their existing tourism industries and infrastructure, despite the fact that tourism (and culture) do not feature prominently among the ERDF Thematic Objectives. There is a risk that these investments will be driven by political priorities, rather than by a genuine process of discovery and a realistic assessment of the potential of R&I and business.

Figure 3. Tourism intensity in region with tourism priority



Source: Eyes@RIS3, authors' representation

The analysis of S3 at the regional level shows that tourism can also be a source of innovation in regions where it is certainly already present, but whose tourist intensity shows that there is indeed room for improvement. However, one region out of five has decided to strengthen tourism even though the tourist intensity there is higher than the average for our regions that have prioritised tourism.

3.3. Do the regional priorities seek to strengthen a dominant sector of the regions or to develop a new engine of growth?

It is generally difficult to measure innovation contributions in tourism. Information on patents associated with tourism is difficult to access, R&D expenditure is not necessarily targeted at tourism, etc.

Nevertheless, an alternative way consists in looking through operations supervised by the EU, particularly in connection with the measures and policies put in place by European regions or cities. At this level, two sources of information emerge: European Capital of Smart Tourism competitions (2019 and 2020) and NECSTouR, the voice of European Regions committed to sustainability, economic, social and environmental.

More precisely, the European Capital of Smart Tourism is an EU initiative. It was proposed as a preparatory action by the European Parliament and has been implemented by the European Commission since 2018. It gives European cities the opportunity to share their exemplary practices as smart tourism destinations and awards the titles of European Capital of Smart Tourism through an EU -wide competition to those cities that implement the most outstanding measures. The analysis of the cities that participated in this competition and their grouping into regions makes it possible to identify 140 innovative tourism projects from 42 cities for 36 regions.

As far as NECSTouR is concerned, it is the voice of European Regions committed to sustainability -economic, social and environmental- as a crucial driver of destination competitiveness. Since 2007, it has provided an integrated approach to tourism governance and acted as an important link between regional and wider European levels of government, while developing interregional cooperation through European Projects.

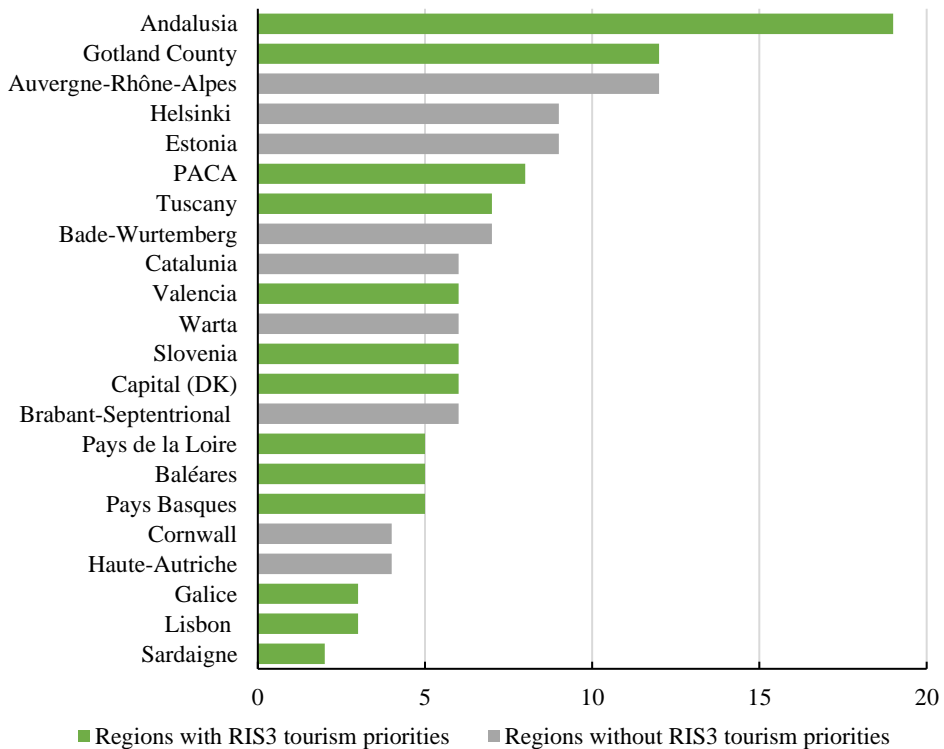
The overall analysis of these sources makes it possible to identify 98 projects in 2019 and 2020, carried out by 22 European regions. These projects are based on an innovative approach in terms of accessibility, sustainability, digitization and cultural heritage and creativity. For example, Lyon, in the Auvergne-Rhône-Alpes region, is setting up an environmentally-friendly local label. Tallinn, in Estonia, is creating its own digital travel itinerary; other examples include smart city maps, in Copenhagen, or the power of art in public spaces, in Linz, Austria.

Half of the regions presenting innovative projects indicated tourism in the RIS3 (figure 4). We can therefore assume a form of correlation between the transformation of the priority in tourism in the RIS3 and the realisation of these projects. However, this only concerns 1 out of 5 regions with a priority in tourism. The transformation of the priority into innovative projects therefore remains quite limited. Nevertheless, we observe that the 2 regions with the most innovative projects identified have also placed tourism in their RIS3: Andalusia and Gotland Country. It is interesting to know that Andalusia has placed “tourism innovation” as a priority in the RIS3, more precisely, “Research, experimentation, demonstration and technology transfer projects in the field of the tourism industry; cultural heritage management; leisure and cultural tourism”. This ability of the Andalusia region to be at the top of the rankings of dynamic destinations in innovation echoes its determination to make innovation the lever of its tourist agility. At this stage, it can only be at best a correlation between choice of specialisation or priority in the RIS3

and performance in the ranking. A more in-depth analysis, this time on the scale of a comparison between this dynamism and that of another less efficient region, would make it possible to better understand the possible effects in terms of causality. Gotland County remained more neutral in defining its tourism prioritisation. Nethertheless, this region concentrates many innovative projects.

Finally, it is nonetheless interesting to note that other regions without an explicit priority on tourism have carried out many innovative tourism projects. The Auvergne-Rhône-Alpes region has 12 projects, while tourism is not one of its priorities (figure 4). This French region is at the top of the regions without priority in tourism thanks to the dynamism of the city of Lyon, which won a trophy in 2020.

Figure 4. Number of European projects listed in a Capital of Smart Tourism competitions and NECSTouR



Sources: Eyes@RIS3, Capital of Smart Tourism competitions, NECSTouR, authors

4. Discussion: towards a conceptual framework for Smart Destination Governance Policy

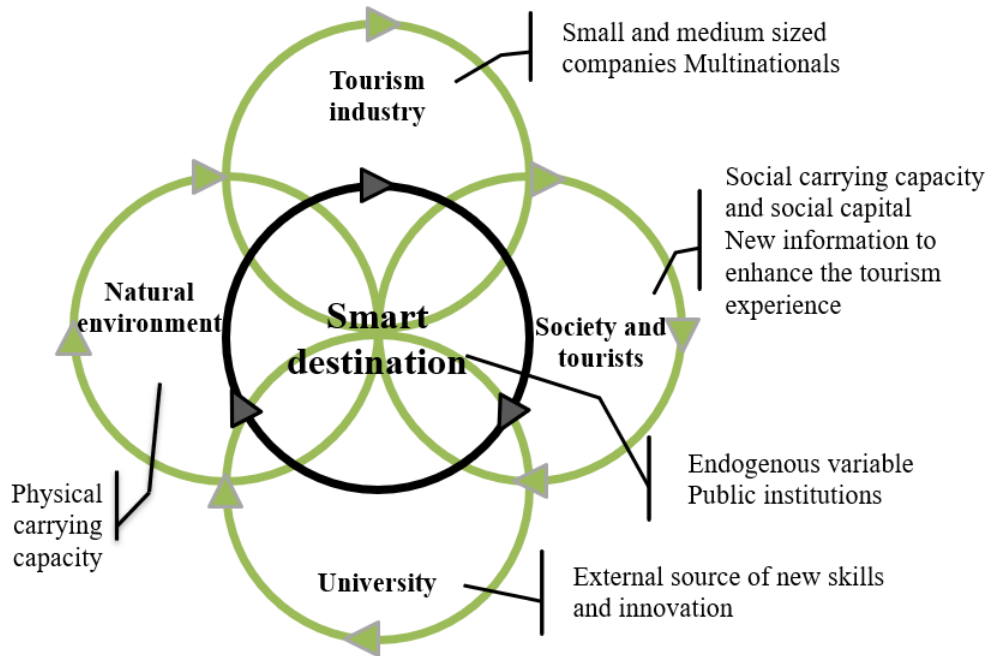
The analyses of the RIS3, the place of tourism and the transformation of the priority in tourism into innovative projects remain quite limited. These results provide food for thought at the heart of the ambition of smart specialisation strategies. This observation demonstrates the interest of thinking or rethinking the dissemination of innovation in tourism via the RIS3. This echoes the work of Gianelle et al. (2019) as well as the proposals of Carayannis et al. (2012) regarding the quintuple helix innovation model. Moreover, the Quintuple Helix Model (QHM) has inspired the European Commission to upgrade the EU regional innovation policy through the implementation of S3.

However, the transposition of the QHM to the tourism sector requires watching for some specificities of the tourism industry beyond the necessity to change the stakeholders included in the original model (figure 5). Indeed, “the superposition of globalised and local networks, the strong involvement of the public sector and the high level of economic segmentation lead to numerous discontinuities that hinder coordination of actors” (Clergeau & Philippe, 2011). A polycentric governance, based on a quintuple helix approach, seems adapted to tourism as it highlights the fundamentals of a destination based on the knowledge economy: the university, society and tourists, the tourism industry, the natural environment and the destination. First, the University is part of this new model, like the triple helix model, through its ability to create human capital and research and development. It is an external source of new skills and innovation for small and medium-sized enterprises in the tourism industry, which generally do not have an internal innovation process (Metsaots, 2016). Like the quadruple helix, local people are also stakeholders of the project. Their well-being and opinions are elements to be integrated into this governance framework, in order to anticipate and remedy problems of overtourism. In addition, tourists should be active elements of the destination. On the one hand, they participate in the design of the world tourism map. The question of the attractiveness of destinations and their ability to attract these tourists is a problem that must be addressed and that does not appear in the classic triple helix model. On the other hand, tourists produce new information that the destination must now know how to transform into new uses and new so-called “smart” services. However, the question arises as to the level of acceptance of tourists regarding the use of their data (Femenia-Serra et al., 2018).

The tourism industry forms a logical component of this governance model. Indeed, supply must become “smart” in order to match demand, by collecting a maximum amount of information on tourists to personalise offers and advices for a more adapted consumption of the territory. It is made up not only of small and medium-sized local companies, but also of large tourism players. Russell and

Faulkner (2004) show that entrepreneurship and entrepreneurial decisions are critical factors in the evolution of tourism destinations.

Figure 5. A conceptual framework for Smart Destination Governance Policy



Source: authors' representation

Natural environments and their preservation are at the heart of smart destination issues. The quest for sustainability has become a major strategic issue for destinations and this governance must base its existence on sustainable tourism practices (Van Der Yeught, 2012). The destination is at the centre of the concerns and the process of tourism innovation. It constitutes a force of balance and unity between the different actors of this governance. At last, the destination should be a collective construction upstream of the economic reflection and tourism development. The destination is “endogenized” by the different elements that make it up: tourists, tourist industries, the university, natural amenities, tourist infrastructures, its identity, its history, its culture and its public institutions. The latter are fully integrated into the destination, as facilitators of this co-construction. The new quality management of the destination for its stronger resilience therefore lies in its ability to combine the creation of new knowledge, know-how and innovation in balance with nature. Resilience, and hence innovation and this new quality-management become strategic assets for the destination facing the challenge to reinvent itself constantly.

Conclusion

This article aimed to carry out an analysis of Research and Innovation Strategies for Smart Specialization (RIS3) in the context of the tourism sector. Understanding the influence of RIS3 on tourism innovation is paramount, given the growing importance of tourism as a driver of economic growth in many European regions. In particular, we ask ourselves whether the RIS3, as European Union policies aimed at fostering growth and competitiveness through innovation, have indeed served as catalysts to stimulate innovation in the tourism sector. The main objective of this study was to assess whether the RIS3 have enabled European regions to develop and implement innovative initiatives in the field of tourism. To achieve this, we conducted a three-phase action study, which involved examining several relevant indicators and collecting data from various reliable sources.

Despite the evidence suggesting a positive correlation between RIS3 initiatives and the performance of regional tourist destinations in terms of innovation, we recognize that it may still be too early to draw a comprehensive assessment of the effectiveness of RIS3. As the latter are long-term strategic instruments intended to transform regional economic structures, their impacts may only become fully apparent over time. However, our research has identified several key points. In particular, it appears that the RIS3, although necessary, are not in themselves sufficient to stimulate innovation in the tourism sector. This finding reinforces earlier observations by Torres and Godinho (2023).

The findings of this research suggest important managerial and policy implications. On the managerial side, the important association of new technologies with innovation in RIS3 highlights an opportunity for tourism stakeholders to further integrate information and communication technologies into their operations and marketing strategies. The focus on sustainable and experiential tourism reflects a move towards more holistic tourism management that takes into account environmental imperatives and improving the customer experience. This trend should inform the training and practices of tourism professionals.

From a political point of view, the results of our study underline the need to adapt innovation policies to regional specificities to ensure their effectiveness. This finding reinforces the idea that tourism strategies need to be carefully crafted taking into account the complexity of local contexts. Moreover, the focus on sustainable tourism in the RIS3 priorities underlines the importance of policies supporting sustainable tourism practices. Moreover, the link frequently put forward between tourism and culture highlights the importance of solid cultural policies to support the development of tourism. Finally, our analysis indicates that tourism is often presented as a means of fostering sustainable growth and competitiveness within the framework of the ERDFs.

To deepen our knowledge of this complex subject, several avenues for future research are emerging. For example, it would be relevant to carry out a comparative

study between regions which have given priority to tourism in their RIS3 and which have experienced different levels of innovation, such as Andalusia (where tourism innovation has been strong) and another region with weaker innovation dynamics. Furthermore, our analysis, which focuses on the 2014-2020 programming period, could be enriched and updated with data from the implementation of the new European programming period 2021-2027 and the new RIS3. Finally, particular attention could be paid to the study of the effects of transforming a destination into a smart destination, a concept that fits into the current trend of digital innovation and sustainability in tourism. This perspective could help us better understand how RIS3 can foster the adoption of innovative and smart strategies in the tourism sector.

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