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Regional innovation systems in tourism: The role of collaboration and competition

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ABSTRACT

The paper explores the concept of Regional Innovation Systems (RIS) in the context of the tourism industry. It emphasizes the importance of collaboration and competition among companies within regional systems to foster innovation. It also discusses the role of social capital, relational assets, and social relationships in driving innovation within RIS. The Campania Region recognizes the importance of tourism for its development and supports the digital transition, modernization of public administration, communication infrastructure, and production system. In this vein, the paper proposes a theoretical framework that combines dynamic capabilities, relational view, and resource-based theory to explain the mechanisms and dynamics of RIS. The co-creation of innovation and strategic plans within a system of regional assets is highlighted as a key aspect of RIS. The paper concludes by emphasizing the need for collaboration, innovation, and the integration of various stakeholders' interests in the development of sustainable and innovative regional systems.

1. Introduction

The expression “Regional Innovation” encloses two terms. Starting from the adjective “regional”, it is important to point out that according to Cambridge dictionary (2022) a Region is “a particular area or part of the world, or any of the large official areas into which a country is divided”. Although this definition can be sharable, it is useful to translate it into a specific geographic context. For example, considering Italy, that is the Nation where this analysis takes inspiration, the Region is the most important sub-state territorial body provided for in the Italian Constitution. Its introduction in the constitutional text, in 1947, marks one of the most important innovations with respect to the Albertine Statute (1848–1947), which did not provide for them. Currently the region tends to be considered as an open industry system, a space where all the elements, physical and human, are interdependent and driven by the same processes: that is, it is determined by the links between the components of the territory (geology, morphology, hydrography, climate, etc.) and the components of its organisation (population, land use methods, manufacturing activities, communication routes, etc.). These features have influenced both political strategic decisions and academic literature development (Sydow et al., 2011; Porter, 1990). Indeed, this geographic focus has led scholars to first focus the attention

on the concept of clusters and districts that have lent to the regional systems literature some of their characteristics. Indeed, the regional systems can be defined as geographic concentration where there are business communities and other actors that jointly perform activities, share resources, knowledge, tangible and intangible assets in order to increase both performance and productivity. The regional systems, of course, enclose mechanisms of collaboration and competition among companies (Annamalah, 2023). While it is true that regional systems play a vital role in fostering innovation as a strategic asset for both regional development and individual firms, it is important to recognize that their primary purpose extends beyond innovation generation. Indeed, regional systems serve as complex ecosystems that encompass various functions, such as knowledge exchange, talent development, infrastructure support, and economic diversification. In this optic, a Regional Innovation System (RIS) is defined as “a subsystem of knowledge generation and diffusion (knowledge infrastructure dimension), which includes research and development institutes, educational bodies and technology transfer organisations, and a subsystem of knowledge application and exploitation (business dimension), which is made up of the companies located in the region” (Trippi, 2010, p. 151). The focus on innovation within the RIS, has been examined according to an open innovation lens where the actors of the referring regional ecosystem are

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co-creators of innovation (Theeranattapong et al., 2021; Grèzes et al., 2016). The interrelationship between open innovation and regional culture has been explored by studies on regional advantage emphasizing socio-cultural aspects of opening innovation, the literature on regional clusters, emphasizing knowledge sharing in networks, and the contributions to regional innovation systems, emphasizing the role of the institutional environment (Grèzes et al., 2016; Pyka et al., 2018). Hence, through a case study, this paper examines how the hospitality sector potentially enhances integration levels, facilitates knowledge transfer, and fosters innovation within Regional Innovation Systems. The study is structured into three parts. The first part analyses and carries out a literature on regional innovation systems and on digital transformation in the tourism sector. In the second part, the paper analyses a case study and, finally, conclusions and managerial implications have been outlined.

2. Literature review

2.1. Open innovation and systemic collaboration

The process of fostering innovation is closely linked to the generation of novel knowledge, as emphasized by Du Plessis (2007). Moreover, it is essential to recognize that knowledge serves as the common thread connecting all forms of innovation, a notion well-established in the existing literature (Mytelka and Smith, 2002). In recent years, studies on innovation and knowledge transmission have increasingly highlighted the importance of dynamic collaborations occurring both within and across various industries. This emphasis has led to the emergence of open innovation, a paradigm that departs from the traditional "closed" or "linear" models (Ngo, 2023). Open innovation, as suggested by Chesbrough (2003), posits that firms can significantly enhance their innovation performance by actively engaging with external sources of knowledge and expertise. This concept is gaining momentum across various industries, facilitating enterprise-level technological advancements, bolstering market growth, increasing sales revenue, and catalyzing research and development efforts for innovative products (Qiu et al., 2021). Furthermore, it underscores the critical role of inter-firm cooperation, as recognized in academic research (Belussi et al., 2010). Effective collaboration is widely acknowledged as a vital ingredient for fostering innovation (Varadarajan and Cunningham, 1995). This study specifically examines the tourism and hospitality sector, where transformative changes have been initiated but require further implementation. The open innovation approach holds particular relevance for the above-mentioned sector due to several reasons (Dias et al., 2022): 1) tourism and hospitality firms experience benefits rather than costs when engaging with external stakeholders compared to other sectors; 2) distinctive innovation patterns within these firms make it essential to consider external innovation processes as a more accurate indicator of their innovative capacity (López-Fernández et al., 2011); 3) the tourism and hospitality sector is characterized by actors deeply rooted in local communities, enabling the formation of social capital networks. Firms can leverage such networks by adopting open innovation practices to cultivate and advance innovative approaches (Kim et al., 2013). These considerations introduce the concept of systemic innovation and the importance of relational and dynamic capabilities. Systemic innovation refers to the ability of interdependent and self-organizing actors to continually identify and prioritize constraints and opportunities. In response, they coordinate and collaborate with others to mobilize new and existing knowledge, resources, and capabilities. This includes experimenting with social, technical, and institutional options (Schut et al., 2014). Firms can activate mechanisms of inter-firm cooperation with various external entities, such as customers (a valuable source of knowledge), competitors (sharing know-how across sectors promotes innovation), and public or private research centres and universities (recognized as significant sources of specialist knowledge and technology transfer). Consequently, we align with Marasco et al. (2018)

assertion that collaborative and systemic approaches to innovation have become increasingly central. This increased interest is a direct response to the cutthroat competition prevalent in the industry, where collaboration and innovation have evolved from optional strategies to indispensable tools for improving the competitiveness of companies and destinations. A key observation relies on the recognition of tourism and hospitality enterprises operate in a delicate equilibrium between competition and cooperation. This balance is emphasized by Hall and Williams (2008), who note that the production and consumption of tourism experiences are inherently intertwined with the formal and informal connections that bind various providers and organizations together. Similarly, Den Hertog et al. (2011) further elaborate on this perspective, pointing out that a hospitality experience typically comprises different elements of service. Accordingly, this complexity profoundly influences the concept of innovation within this sector. In this intricate network of collaboration and innovation, inter-organizational structures are the facilitators of knowledge and information exchange (Hjalager, 2010; Shaw and Williams, 2009). This highlights the significance of creating and nurturing structures that enable the seamless flow of ideas and insights. At the same time, customer relationships emerge as a dynamic force (Hjalager and Nordin, 2011). These relationships play a central role in the development of novel products and services, emphasizing the need for customer-centric innovation strategies. In this regard, Campos et al. (2018) underscore the significance of collaborative design in shaping unique and compelling tourism experiences. The phenomenon of collaborative networks, framed within the context of systemic innovation, has garnered considerable attention in the examination of destination competitiveness (Baggio and Cooper, 2010). Nevertheless, it is only in recent years that researchers have started to explore the collaborative dynamics of innovation. These networks of collaboration bring advantages not only to individual organizations but also to the destination. By accessing external resources and knowledge, these networks enable the creation of value-added relationships, expansion of offerings through new or enhanced services, cost reduction, and fulfilment of the needs of various stakeholders in the tourism industry (Novelli et al., 2006; Denicolai et al., 2010). A wide range of scientific articles consider collaborative networks at systems level, and specifically at regional level (Booyens and Rogerson, 2016, 2017; Brouder, 2012; Novelli et al., 2006; Prats et al., 2008; Tolstad, 2014). These studies, drawing mostly on innovation system theories, has the common aim to identify factors influencing innovation processes, such as the regional business economic structure, the institutional environment, the proximity of universities, research institutes and financial institutions, as well as socio and cultural elements of local society (Lundvall, 2010).

2.2. Regional innovation systems

The concept of Regional Innovation Systems (RIS) draws upon the territorial approach, as discussed by Asheim and Isaksen (1997). In this context, interfirm learning processes and relational proximity are central factors contributing to the generation of innovation flows. In addition to emphasizing inter-firm collaboration, RIS also underscores the significance of the institutional ecosystem. Within this context, it is crucial to recognize that public-private collaboration is an integral component of the RIS framework (Asheim and Coenen, 2005). Although the border would appear regional, the interregional dimension should not be neglected. What is important to emphasize is the dynamicity of the context in which RIS is inserted. From a strategic perspective, it is worth noting that RIS highlights the critical role of dynamic capabilities at the network level. These capabilities are defined as "the capacity of the firm to develop a purposeful set of routines within its networks, resulting in the generation of new resource configurations and the firm's capacity to integrate, reconfigure, gain, and release resource combinations" (Ambrosini and Bowman, 2009, p.32). This definition encompasses the concepts of exploitation capability (leveraging) and of

exploration (creation of new resources) through the regional network. This concept is strictly linked to the level of innovation a firm can potentially achieve through external relationships and the related knowledge and competences it generates for both the single firm and the regional system in which it is involved. In this direction, the process of knowledge transfer and resource sharing are useful for the generation of innovation (Mitton et al., 2007). The concept of RIS presents a geographic perspective on innovation. It posits that innovation creation and enhancement occur as localized processes wherein regional communities, shared knowledge, and a sense of identity act as vital interplaying factors. This approach underscores that the resulting innovations are inherently tied to their geographical context (Doloreux and Parto, 2005). The continuity between regional system and firm is proved by the embeddedness approach (Cooke et al., 1998) since the Region is the milieu of social relationships. In line with these assumptions, the RIS framework highlights the significance of building robust social relationships with various actors, even competitors, to succeed (Cooke, 2016). This view is linked to the concept of social capital, defined as (Nahapiet and Ghoshal, 1998) “the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Social capital thus comprises both the network and the assets that may be mobilized through that network”. Based on this definition, it becomes evident that relational assets (Dyer and Hatch, 2006; Dyer and Singh, 1998; Chou and Chow, 2009) hold a central role within the context of RIS. The relational dimension of the social capital which explains how interpersonal relationships can lead to the creation of social capital through the sharing of goals and norms, the diffusion of trust and the determination of common expectations. Several studies have underlined that social capital allows the access for the creation of new opportunities (Batjargal, 2003), the improvement of innovation (Abuja, 2000; Goktan and Miles, 2011) and/or of the company identity (Leana and Van Buren, 1999). Innovation process consists of a mix between current (recalling the definition of social capital these are resources embedded within and available through) and new knowledge (derived from looking at social capital definition) implemented for commercial objectives. Trust, shared values and mutuality become evident only when collaboration is effectively spread among the RIS. This process appears to foster a co-competition context, which can prove highly profitable (Nalebuff et al., 1996). Competition often stimulates innovation, and through collaboration, strategic initiatives can be initiated, enhancing the overall market power of the entire RIS. The RIS configuration assumes the existence of relationships among competitors, leading to the development of both competitive and cooperative attitudes. Indeed, what happens inside the RIS is a paradoxical view since the exchange of resources and competences as well as knowledge sharing are the basic logics between the members while they are competitors in the market for the commercialization of their own products or services.

The new dynamics of the current scenario dictate the necessity to exploit strategies of co-competition (competition + cooperation) (Nalebuff et al., 1996, Brandenburger and Nalebuff, 2011; Tsai, 2002; Bengtsson and Kock, 2000) that consider the cooperation with other players even if competitors in order to favour processes of enlargement and strengthening of their bundle of resources. If this co-competition dynamic is correctly implemented, the region creates a tourism offer that is difficult to imitate for competitors. The importance of collaboration in the tourism sector and in its related industries resides in the fact that it supports the firm’s process of creating, building and maintaining competitive advantage, since it is possible to participate in the process of knowledge sharing with the benefit of the overall involved parties (Du Plessis, 2007; Della Corte et al., 2021). Moreover, the collaboration initiatives allow the firms to codify tourists’ needs, suggestions and complaints (Della Corte and Aria, 2016; Della Corte, 2013) and to address organizations efforts in the light of new issues and perspectives expressed by the customers as well as by other actors with which the

firms interact. Consistent with the literature review on RIS, Figure 1 proposes the conceptual model related to the relationships, key components, mechanisms and outcomes of RIS.

These aspects are intertwined with both closed and open innovation approach, reflecting the evolving nature of how relationships are generated and developed over time.

With specific reference to the relationships that can be established among the different stakeholders involved in the RIS, the “Matrix of Regional Innovation System” has been depicted (see Figure 2). By representing innovation capacity of the stakeholders involved and the Region’s resource endowment, it simplifies the study of regional dynamics, highlighting patterns, trends, and areas for intervention. This approach enhances the understanding of innovation systems, aids policymakers in targeting resources more effectively, and facilitates the communication of research findings. Accordingly, the matrix contextualizes innovation based on resource availability, providing a clear and informative perspective on RIS. In detail, “dual dilemma” regions are characterized by low innovation capacity and low resource endowment. These regions are in a disadvantaged situation and may require targeted interventions to improve their position, such as access to funds for innovation, fostering collaboration and attract foreign investment.

The upper right quadrant includes “innovation lag” regions, which have significant resource endowments but relatively low innovation capacity. Hence, these can heavily invest in research and development, but may not be able to effectively transform these resources into innovative outcomes. This situation requires more attention to building local innovation capacity, supporting the creation of knowledge networks, the implementation of exchange and knowledge transfer programs, and develop sector-specific HR training programs. “Creative” regions demonstrate significant innovation capacity but have limited resources. These regions can be regarded as challengers in innovation because these operate to achieve high levels of innovation despite resource constraints. These could rely on collaborative strategies to minimize risks and exploit common resources, innovation networks, and support open-source research initiatives that enable free access and knowledge sharing. Finally, “regional innovation systems”, located in the the upper right quadrant are generally leaders in innovation and have significant resources available to support their innovative efforts. These are characterised by positive public image, a diversified economy, significant investment in research and development, and good collaboration among companies, local institutions, and government. At the same time, these regions can guarantee multilevel outcomes following both top-down or bottom-up approaches and reaching out to the local community.

3. Research design and context

3.1. Methodology

The paper focuses on the Campania region to examine and discuss the RIS and the relational dynamics within the tourism sector. To this purpose, the study performs an exploratory qualitative investigation employing a single case study approach, following the methodology proposed by Eisenhardt (1989) and Yin (1994). Data collection has been conducted through various means, including the examination of documentary evidence, conducting semi-structured interviews, and engaging in participant observations. These multiple data sources facilitate a comprehensive understanding of the organization in its specific operational context, allowing for an exploration of both processes and the perspectives of key stakeholders (Yin, 2009). This approach is particularly useful when the study requires a detailed understanding of the phenomenon under investigation (Darke et al., 1998). Data have been collected between December 2022 and April 2023. The risk of interpretation bias of data from multiple sources has been mitigated by triangulation process (Jentoft and Olsen, 2019). The quantity of semi-structured interviews conducted (as presented in Table 1) was guided by the principle of theoretical saturation, as proposed by Tucker

OPEN INNOVATION	C o o p e r a t i o n	Innovative regional system	Regional institutions Tourism firms External partners Local community	Incubators and accelerators Regulation and policy Education and training Hospitality-specific research centers Funding competitions	Improved regional public image Community empowerment Regional connectivity
		Innovative actions	Tourism firms External partners Local community	Innovation mentoring Cross-sector partnership Innovation consortia Innovative projects showcases Local schools' involvement	Community engagement Community wellbeing Cultural exchange Economic diversification Innovation spillovers
		Knowledge transfer	Tourism firms External partners	Collaborative research initiatives Market access support HR training programs	Long-term partnerships Market expansion Enhanced R&D activities
CLOSED INNOVATION		Collaboration	Tourism firms	Networking Risk sharing Resource sharing	Increased competitiveness Diversification of tourism offerings Competitive advantage
		Competition	Single tourism firm	R&D activities	Better performance
		RELATIONSHIPS	KEY COMPONENTS	MECHANISMS	OUTCOMES

Figure 1. Conceptual model. Source: own elaboration.

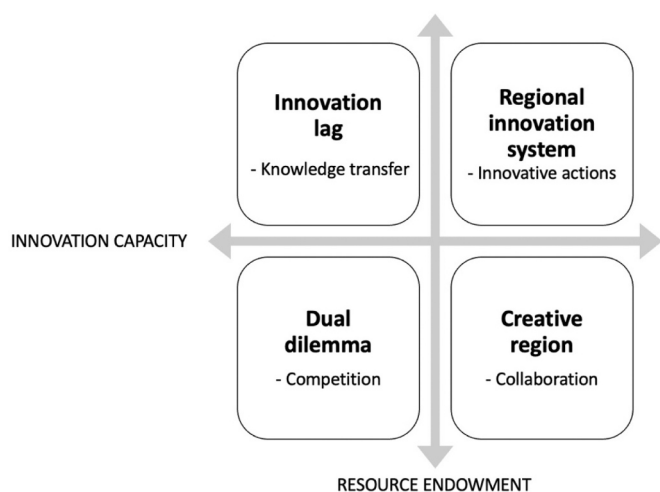


Figure 2. Matrix of Regional Innovation System. Source: own elaboration.

Table 1 The interviews.

Interviewees	Sector	Label	Total time
CEO	Entrepreneurial world	E1	1 h
CEO	Entrepreneurial world	E2	2 h
General Manager	Entrepreneurial world	E3	2 h
Managing Director	Entrepreneurial world	E4	1 h
Local resident	Local community	C1	1 h
Neighbourhood association member	Local community	C2	2 h
Local reporter	Local community	C3	2 h
Spokesman on regional tourism	Regional institution	R1	1 h
Regional and regulatory expert	Regional institution	R2	1 h
Tourism industry association member	Regional institution	R3	1 h

(2021). In determining the appropriate number of interviewees, we took into account our familiarity with the research context, drawing insights from Morse’s (2020) recommendations. We considered various factors,

including the quality of the information sources involved, the study’s scope, the complexity of the subject matter, the richness of insights obtained from participants, and the significance of any emerging auxiliary data. The interviews have been structured around specific topics, with the objective of gaining a comprehensive understanding of the main opportunities and challenges within the context of the Campania RIS. The discussions focused particularly on capturing interviewees’ perceptions of how they navigated the complex interplay of different logics in this context. This included their perspectives on the relationships between the RIS, the tourism sector, and the local community. Throughout the interviews, we placed significant emphasis on uncovering insights into the internal dynamics of the regional innovation system. We aimed to understand how various logics were reconciled at regional level, also to explore the evolving practices and management tools employed by various stakeholders over time. The process of data interpretation involved a multi-step approach, which included the thorough review of interview recordings and interview/observation notes, all while taking into account the suggested theoretical framework. Emerging issues were systematically categorized to establish conceptual boundaries that aligned with the chosen theoretical framework. We engaged in multiple iterations of material examination, which aided in the detailed portrayal of the phenomena under investigation, complete with illustrative quotes and concrete examples.

3.2. Research context: the case of Campania region

The Campania region, located in southern Italy, boasts a rich cultural heritage, amazing landscapes and historical treasures that have attracted travellers from all over the world for centuries (Pinto et al., 2020; Sisto et al., 2022). Nevertheless, in the face of a rapidly changing world in which travelers seek unique experiences, sustainable practices, and seamless interactions, the need for innovation in the regional tourism sector is a priority. Furthermore, with ESG considerations at its core, ensuring that economic, social, and environmental dimensions are harmoniously integrated into every aspect of the tourism experience is crucial. Systemic challenges often impede the continuous exchange of knowledge and technical innovations between companies, academic and industrial research spheres (Zollo et al., 2011). This observation strongly resonates with the current situation in the Campania Region, which is experiencing an urgent need for innovation. In pursuit of innovation, the Campania Region has implemented a multifaceted approach aimed at enhancing its economic and technological landscape. Recently, the Region embraced open innovation principles aimed at unlocking the innovation potential of start-ups and small and medium-sized

enterprises (SMEs) to drive development and enhance competitiveness (Open Innovation Campania, 2022). This initiative represents a paradigm shift, enabling companies to bolster their competitive positioning by not only relying on internal resources but also exploiting tools, competences and expertise generated by external partners such as universities, research centres, start-ups, SMEs, incubators, and innovators. It underscores the significance of leveraging the collective wisdom and resources of multiple stakeholders to create a thriving innovation ecosystem that benefits all. Moreover, the Campania Region (see Figure 3) considers the promotion and development of tourism as a priority objective for the development of the territory and recognizes the contribution of tourism for the civil, cultural, social and moral growth of local community, visitors and tourists. Firms operating in the tourism sectors as well as policy makers, at both regional and city level, support the digital transition of Campania, in the modernization of the public administration, in the communication infrastructures and in the efficiency of production system. The regional institutions are working to ensure the coverage of the whole territory with ultra-broadband networks, improve the competitiveness of industrial chains and facilitate the internationalisation of businesses. In accordance with Ponsiglione et al. (2017), the actors of Campania Regional Innovation System can be classified in different categories: explorers, exploiters, governor, and catalyst. The exploiters are SMEs or big companies operating in tourism industry that need *stimula* from the external environment for the generation of innovation. Hence, these are those who exploit resources, knowledge, competencies, and the values of the partners of the regional system. Explorers are Universities and other research bodies that bring specific knowledge to the referring system. Catalysts are Chambers of Commerce, scientific and technological parks, and incubators. As regards the governing actors, Campania Region shows a clear gap in this direction. Indeed, the issue of governance remains open with clear efforts in that direction. Finally, contributors are the local community,

visitors, tourists and other actors that, according to an open innovation logic, can create value in terms of innovation. This classification provides insight into the intricate dynamics of Campania's innovation ecosystem. The roles of various actors, from resource-exploiting companies to research institutions and facilitating catalysts, shape the innovation environment. The success of any innovative ideas lies in the collaboration between stakeholders, from government bodies and educational institutions to local businesses and entrepreneurs. Campania's innovation ecosystem offers a unique opportunity for these players to come together and harness the region's potential for growth. By addressing government gaps and fostering a conducive environment for research, development, and implementation of cutting-edge ideas, the region can position itself as a frontrunner in shaping the future of tourism.

Inspired by the international Zero Waste movements (Zaman, 2015) and born from the vision of Antonino Esposito (Project Manager), the "Hotel Rifiuti Zero" (Zero Waste Hotel - ZWH) project aims to catalyse innovation within hospitality industry (www.hotelrifiutizero.it). The idea of zero waste can be understood as a deliberate attempt to create a system for resources that involves methods to optimize recycling, decrease waste generation, and simplify consumption (Connett, 2013). This involves transforming consumption patterns to ensure that resources can either be recycled or repurposed, thereby minimizing the environmental repercussions of disposal (Lehmann and Zaman, 2013). The ZWH initiative goes beyond hotels and restaurants, encompassing a wide array of accommodation facilities, commercial enterprises, beach resorts, and more. Fundamentally, the initiative aims to advance both education and ecological responsibility in the context of tourism, converting the concept of sustainable development from an abstract objective into a practical and achievable reality. In Campania, more specifically in the Amalfi Coast, ZWH strategy is implemented through "Zero Waste Amalfi Coast" project, promoted in collaboration with the



Figure 3. Campania Region.

Amalfi Coast Tourism District. This organization, officially recognized in 2014 by the Ministry of Cultural Heritage and Activities and Tourism (MiBACT), operates in collaboration with public and private players. Its mission is to foster a sustainable and well-organized development of the tourist destination, encompassing not only the local tourism economy, but also seeking to improve the local inhabitants' quality of life. It achieves these goals by promoting sustainable and innovative practices and initiatives, such as ZWH, and introducing novel services tailored to their needs, with a particular focus on residents in inland regions, frequently marginalized in sustainable development strategies. It is worth noting that this project extends its influence on the Campania region, with particular emphasis on the Amalfi Coast, a UNESCO World Heritage Site since 1997 (Festa et al., 2020). It is one of Italy's most enchanting locations which extends between the Gulf of Naples and the Gulf of Salerno, and it is renowned for the captivating combination of breath-taking scenery and coastal views. The towns along the Coast exhibit a diverse tapestry; each possesses its own distinct traditions and attributes that render it exceptional. All of them share a common thread of architectural treasures steeped in historical and cultural significance (Casillo et al., 2021). The captivating mountainous topography is a highlight, characterized by terraced levels typically utilized for cultivation on the elevated landscape. Nevertheless, this configuration presents challenges in terms of accessibility across the region, given that a solitary winding road serves as the sole route to access the coastline enveloped by these terraced formations (Palazzo et al., 2021). Regarding the image associated with the destination, the Amalfi Coast holds a distinguished position and a well-known tourist brand that is gradually progressing towards a mature stage, by a consistent and steady rise in the number of visitors (Metallo et al., 2012). However, this evolution is characterized by an overflow of tourists during peak seasons, leading to instances where the harmonious balance between environmental sustainability and meeting the preferences of host community and tourists seeking an experience rooted in quality, tradition and heritage is repeatedly compromised (Palazzo et al., 2021). This matter stands as a primary source of disruption and discomfort, thereby generating an unsustainable level of tourism pressure that exerts adverse impacts on the environment (Pinto et al., 2020). In response to these challenges, the project primarily aims at cultivating ecologically virtuous behaviours while simultaneously making tangible strides in reducing the environmental impact associated with tourism resource consumption. The central objective is to deeply transform the hospitality sector, which inherently thrives on the beauty and unique attributes of its surroundings, into a symbol of sustainability, respect, and preservation (Ivona et al., 2021; Srisathan et al., 2023). This innovative form of tourism embraces sustainability as a core value, diverging from the homogenizing trends of globalization and the often-sterile standards of an overemphasized service quality. Indeed, it rekindles the authentic spirit of hospitality, embracing human connection and addressing fundamental needs. Previous studies examined the relationship between hospitality firms' strategies for implementing environmental processes and the management of service quality practices. In this regard, the literature points out that environmental practices have a positive influence on several development factors, such as purchase decision making, customer loyalty and satisfaction, willingness to pay a higher price and occupation (Oliveras-Villanueva et al., 2020). The ZWH project's scope extends to economic considerations as well. The underlying concept involves collaborating with local administrations to revise waste management fees based on the volume of waste generated and the quality of recycling efforts. For businesses involved in the network, the strategy encompasses a series of steps, outlined through operational guidelines, aimed at implementing concrete waste reduction and elimination policies. The strategy to shift the hotel's linear operational model to a circular economy (Vargas-Sánchez, 2018) is focused on prolonging the usefulness of discarded materials by repurposing them into valuable resources, either as substitute raw materials or through recycling, for the creation of new products (Dileep, 2007). Along with

the policy reforms addressed to reduce the negative impacts on the environment (Tanova and Bayighomog, 2022), the role of employees in facilitating a successful shift towards sustainability cannot be understated (Siyambalapitiya et al., 2018). Indeed, human resource management (HRM) is recognized as the means by which employees, whether individually or collectively, cultivate mindsets and exhibit actions that harmonize with organizational objectives. As environmental concerns have been integrated with these strategies, green HRM has emerged as both a practical instrument for professionals and a subject of scholarly inquiry (Tanova and Bayighomog, 2022). In line with this perspective, the ZWH project adopts a training paradigm that takes into account the evolving perspectives of tourists and entrepreneurs. Strengthened by in-depth initiative monitoring, this approach can initiate a transformation in values and priorities. This, in turn, is accompanied by measurable resource consumption reduction, serving as a significant incentive that complements the broader environmental goals. The expected objectives from the proper implementation of the ZWH project's guidelines are reduction of waste production, increase in waste sorting rates, enhancement of the green reputation, decrease in water and energy consumption, and improvement in air quality.

4. Discussion

In line with the conceptual model, the case of Campania Region and, particularly, the inclusion of the ZWH project within the theoretical approach of "Open Innovation" sheds light on a dynamic and interconnected perspective that accentuates its significance. From an entrepreneurial standpoint, the integration of the ZWH project has been a facilitator for collaboration, shifting the focus from a mere competition to collaboration among firms. According to E2, entrepreneurs within the tourism sector have found new avenues for growth and innovation:

"The integration of the shared initiatives in our business policy, such as the ZWH project, are a catalyst for collaboration. These allow to work closely with other businesses, not only within the tourism sector but also with local suppliers and start-ups. For example, we have partnership with local food producers to source fresh, sustainable ingredients, enhancing our offerings and supporting local businesses simultaneously".

Therefore, initiatives that involve several and diverse stakeholders, serve as a compelling force of a transformative shift from a traditional model of closed innovation to a dynamic realm of open innovation on a regional scale. The matter clearly emerges in the words of E4:

"Historically, organizations have often adhered to a closed innovation model, where the primary emphasis is on internal research and development activities to generate innovative solutions within the confines of the firm. However, the limitations of closed innovation became increasingly evident in the last years".

Indeed, the open innovation model assumes that firms should use external ideas and internal pathways to the market while seeking to implement their innovations (Grèzes et al., 2016). As industries increasingly emphasize agility, flexibility and concentration of core competencies, the incorporation of external sources of knowledge and innovation becomes crucial (Szromek et al., 2022). The interviewees R2 and E3 hold the same view on these considerations:

"The regional economy is witnessing a notable transformation. For firms operating in the Region, the integration of external knowledge flow is becoming essential. With stronger global competition, companies are now more inclined to engage in knowledge sharing and cooperation. This new strategic approach is accelerating regional innovation cycles and creating new opportunities, allowing companies to access specialized expertise that might not exist internally".

"Today companies recognize that they can't operate in isolation. They are forming partnerships, collaborating with external players, and engaging in open innovation initiatives. This approach not only fosters creativity but

also accelerates the development of new products and services. It is a response to the challenges posed by a rapidly evolving market in which staying ahead requires a collective effort”.

By embracing open innovation principles, boundaries of individual organizations collapse, unleashing a collaboration spirit that reaches upwards to a regional scale. This shift towards open innovation recognizes that valuable insights, competencies, and innovations are not confined within the walls of any single company but exist as a collective wealth distributed among diverse stakeholders within the Region. In this regard, R1 highlights the potential of Campania region:

“Closed innovation, while valuable in its time, no longer suffices in a rapidly evolving world. This is particularly true especially in regions like Campania, where untapped potential exists in the form of external knowledge, skills, and resources which enrich our regional innovation ecosystem”.

In this vein, open innovation is considered as the new imperative to create and profit from an effective involvement and participation of different actors (Chesbrough, 2003; Qiu et al., 2021). Therefore, the collaboration with external ecosystem requires a dynamic behaviour represented by the degree of openness which instead consists of an attribute of the system. From here the importance of governance mechanisms comes out since in a system network the coordination of the entities is fundamental to guarantee the right interaction, agreement, communication take place to realize a value co-creation outcome. R3 clarifies these issues:

“Governance mechanisms are the backbone of collaborative efforts. They ensure that all entities within the ecosystem coordinate effectively. As local institutions we work in aligning efforts toward shared goals. As a result, we see improved community engagement, economic diversification, and innovation spillovers, which collectively drive our community’s prosperity, growth and wellbeing”.

Innovative actions, realised within collaborative network, such as consortia or other forms of trade associations where diverse stakeholders converge, facilitate the exchange of ideas and resources resulting in collective problem-solving and innovation aimed to cutting-edge solutions and sustainable practices. According to E1, C2 and C1 the outcomes of this kind of network result in a positive impact also on the local community:

“The ZWH project encouraged local businesses to adopt eco-friendly practices, reducing our environmental footprint. Thus, by embracing open innovation logics, we are not only fostering economic growth through collaboration but also ensuring that our local community benefits from green solutions and sustainable practices; the ZWH project is a tangible reality”.

“Residents feel increased opportunities to actively participate in sustainability initiative, creating a stronger sense of community empowerment. This is not just about environmentalism; it’s about nurturing a sense of togetherness and shared purpose”.

“I believe that drive for a regional innovation has the potential to generate job opportunities by fuelling business growth, which, in turn, improves our overall economic situation. Moreover, open innovation encourages the development of sustainable practices, which is critical for preserving our environment and ensuring a high quality of life. It’s exciting to see Campania evolve into a hub of innovation that will positively impact our community’s future!”.

In conclusion, the fusion of the ZWH project in the broader context of RIS reveals a synergistic multilevel relationship between collaboration, innovation and sustainability. This alignment underscores the project’s potential to be both a beacon of ecological transformation within the tourism industry and a pioneering example of how regional open innovation principles can be operationalized in the RIS setting. In this

regard, we highlight the opinion C3:

“The shift towards collaboration and innovative actions has been nothing short of inspiring. It’s not just about businesses or schools; it’s about our entire community coming together to create something greater than the sum of its parts”.

In Campania, the journey towards open innovation is not just a strategy; it’s a vision for a brighter and more innovative future. It is a process in which entrepreneurs, regional institutions and citizens are collectively pioneering a transformation that promises economic growth, sustainability, and community well-being. Moreover, the region benefits from substantial resource endowment, including public funding and access to funds, which contribute to supporting innovative initiatives and the development of new ventures. Therefore, the study reveals that the Campania region can be considered an innovative regional system (upper-right quadrant). This privileged position in the matrix (see Figure 4) indicates an extraordinary potential for Campania to lead innovation, stimulate economic growth, and establish itself as a successful model within the regional ecosystem. As Campania continues to embrace the principles of open innovation, it positions itself as a dynamic hub of innovation and a model for regions aspiring to foster collaboration and drive progress.

Beyond the findings related to the open innovation approach, our study’s results also emphasize companies’ commitment to environmental sustainability and resource efficiency, both at firm and regional level. Indeed, this innovative approach overcomes the firm level, resulting in the rise of pioneering, sustainable offerings within the tourism industry and other related sectors. These innovations bolster the competitiveness of the whole region and enhance its attractiveness to customers and investors as well. The region’s ability to attract investors and partners from around the world benefits local businesses and promotes international collaboration, leading to the exchange of knowledge and expertise on a global scale. However, this transition requires strong collaboration and synergistic relationships across the entire supply chain. Nevertheless, the success of the RIS also depends on policy-making. Regional authorities and local institutions can draw valuable insights from this transformation to formulate policies that support innovation, entrepreneurship, and collaboration. Public-private partnerships and incentives for innovative initiatives can further accelerate the region’s progress. To exploit the full potential of innovative activities, research and practice must deepen the complexities of supply chain integration, examine logistics, and examine the roles played by various stakeholders in the effective implementation of new strategies. This holistic approach is crucial for advancing regional sustainability,

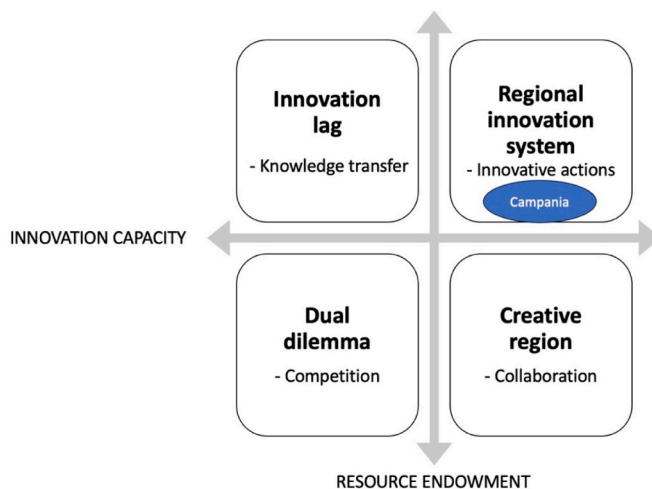


Figure 4. The position of Campania in the matrix of RIS Source: own elaboration.

fostering innovation, and amplifying the positive impacts of collaboration within the region.

5. Conclusion

5.1. Theoretical implications

Our study primarily serves as a valuable exploration and analysis of RIS, offering insights and methodologies that can be adapted and applied to other regions. While our findings may not be directly transferable due to the adoption of a single case study, our frameworks and analytical methods can provide valuable guidance for studying and addressing the unique innovation dynamics of various regions. From a theoretical point of view, the cooperative-competitive dynamic related to the RIS not only fosters a more robust innovation ecosystem, but also encourages knowledge sharing and resource pooling. In this environment, companies can leverage the strengths of their regional peers while harnessing the power of open innovation to drive collective progress, ultimately fuelling regional competitiveness and sustainable growth. This vision requires the adoption of open innovation in the tourism industry, that explains the transition from closed systems to open systems and that has changed firms' strategic paths, more and more based on relationships with other companies in the context of creative management, through the development of common ideas, strategies and policies in processes and services implementation, such as ZWH project. Through active engagement in initiatives promoting waste reduction, recycling, and sustainability, firms can mitigate their environmental footprint and cultivate the region's reputation as a sustainable tourist destination. The merge of collaboration, innovation, and sustainability has several implications for regions facing similar challenges and opportunities, offering them a roadmap to build resilient innovation ecosystems that drive economic prosperity, environmental responsibility, and community welfare. Theoretical implications extend to the development of innovation policies at regional levels. By analysing the cooperative nature of innovation within RIS, scholars and policymakers can refine and design policies that promote inter-firm cooperation, knowledge sharing, and resource utilization as key drivers of innovation and economic growth.

5.2. Practical implications

The present study allows to verify the existence of a possible interaction between resources and competences both at single firm level and regional level through the lens of RIS. Furthermore, the concomitant use of the relational view and stakeholder management theory, allow to verify the different perspectives and the results deriving from them. From a managerial point of view, globalization has brought to the necessity of the philosophy "think globally and act locally". This has led policies makers, firms, local community and other actors to redesign the geographic boundaries and to find a strategic concept, such as the one of RIS, that encloses the typicity of regional identity and the resources, including competence, able to stimulate the generation of innovation in terms of experiential innovation, regional innovation and sustainable innovation. While this study underscores the transformative potential of open innovation within regional systems, it also offers actionable insights for businesses and regional authorities. For businesses in the tourism sector, adopting open innovation principles can be operationalized through strategic partnerships and collaboration. They should actively seek out opportunities for collaboration, whether it's with other tourism businesses, local suppliers, or start-ups, as demonstrated in the ZWH project. This collaborative approach can not only drive innovation but also enhance the sustainability and competitiveness of their offerings. Regional authorities and policymakers should consider the importance of governance mechanisms that facilitate effective coordination among diverse stakeholders within the ecosystem. These mechanisms can range from regulatory frameworks to incentives for

collaborative initiatives. For the local community, the adoption of open innovation logics by businesses can have positive implications, not just environmentally but also in terms of community empowerment and job opportunities. Residents should be encouraged to actively participate in sustainability initiatives, nurturing a sense of togetherness and shared purpose. Therefore, the research goes further the specific case study to offer theoretical insights that advance the understanding of RIS. These insights encompass the dynamics of collaboration, the reshaping of strategic pathways, the resilience of innovation ecosystems, cross-industry knowledge exchange, and policy development. Researchers and policymakers can draw upon these theoretical foundations to enrich their studies and promote the growth and adaptability of regional innovation systems.

5.3. Limitations and future directions

Notwithstanding the theoretical and practical implications touched upon above, a caveat on limitations and future research hints is of fundamental importance. Indeed, it is important to consider that the insights derived from the case study are not replicable in any kind of setting, as they are not dependent on any regional policies, but involve entrepreneurs' personal traits. Consequently, regarding the applicability of the findings to regions with differing characteristics, we acknowledge that there are inherent limitations to generalizing our results universally. We also recognize that each region has its own distinct ecosystem and challenges, which may not perfectly align with Campania. Further research should be addressed to the examination of consumer behaviour and perception. Some opened questions remain unsolved, thus, paving the way to future research avenues: How do guests respond to hotels' circular initiatives? Do they value products created from repurposed materials, and how does this affect their choice of accommodation? Investigating consumer attitudes and preferences in the optic of RIS, can provide valuable insights for all firms involved in the ecosystem.

Ethical Statement/Approval

No applicable because the study does not include research involving animal or human subjects.

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CRediT authorship contribution statement

Simone Luongo: Conceptualization, Methodology, Validation, Formal analysis, Investigation, Data curation, Writing - original draft, Writing - review & editing, Visualization. **Fabiana Sepe:** Conceptualization, Validation, Investigation, Data curation, Writing - review and editing, Visualization, Supervision. **Giovanna Del Gaudio:** Conceptualization, Writing - review & editing, Project administration.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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