

**SMART SPECIALIZATION STRATEGY AND TOURISM TOWARDS
AN INNOVATION-DRIVEN GROWTH AND ENTREPRENEURIAL
DISCOVERY**

**PAMETNA STRATEGIJA SPECIJALIZACIJE I TURIZAM PREMA
RASTU VOĐENOM INOVACIJAMA I PROCESA PREDUZETNIČKOG
OTKRIVANJA**

Pregledni znanstveni članak

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Abstract

The main purpose of this paper is to theoretically discuss a relatively new, multi-dimensional concept of smart specialization strategies (S3). Data from Scopus and Web of Science shape the literature review, including articles, OECD and European Commission (EC) report. The paper focuses on innovation, smart competitive advantage, and tourism destinations, using three distinct cases of Slovakia, Etna and Apulia (Italy). Finally, the paper concludes with recommendations, limitations and future avenues with important implication for both theory and practice.

Key words: smart specialization strategies, innovation-driven growth, knowledge-sharing, tourism sector, EU policy, entrepreneurial discovery.

Sažetak

Glavna svrha ovog rada je teorijska rasprava o relativno novom, višedimenzionalnom konceptu, pod nazivom strategija pametne specijalizacije. Podaci iz baza Scopus i Web of Science oblikuju izabranu literaturu, uključujući članke, te izvještaje OECD-a i Europske komisije. Rad se fokusira na inovaciju, pametnu konkurentsku prednost i turističke destinacije, koristeći tri različita slučaja: Slovačka, Etna i Apulija (Italija). Konačno, rad se zaključuje preporukama, ograničenjima i budućim koracima koji imaju značajan utjecaj na teoriju i praksu.

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Ključne riječi: strategija pametne specijalizacije, inovacijski rast, razmjena znanja, turistički sektor, politika EU, poduzetničko otkriće.

1. INTRODUCTION

Features such as smart, sustainable and inclusive make part of what is known as smart specialization which was introduced by European Commission in 2008 (Asheim, Grillitsch, & Trippl, 2017; Fellnhofer, 2017, 2018; Brennan & Rakhmatullin, 2017). It may be defined as a strategic proposal of industrial policies for not only regional but national economic growth and development, characterized by promoting innovative development and diversified specialization. The financial crisis in 2008 reflected the unsustainable social, political and economic developments which in turn demonstrated how EU member countries are dependent and connected to each other. That was the point when the European 2020 agenda was proposed in order to ensure innovation-driven growth for solving these issues and creating better job opportunities in the upcoming future (Carayannis & Rakhmatullin, 2014). Following the failure of European Union's research and development (R&D)-oriented policy by Lisbon Declaration in 2000, where 3% of GDP would be granted to R&D, making the European Union the most competitive region on a global scale, there was a need to introduce new kind of strategies (Asheim, Grillitsch, & Trippl, 2017; Paliokaitė, Martinaitis, & Reimeris, 2015). Having this said, smart specialization strategies (S3) are not only characterized by the term "specialized", but with the feature of being diversified. This means that countries tend to screen all industrial fields which are providing them or may provide them with competitive advantage, followed by the attempt to specialize in those areas and making themselves distinct in comparison to other countries or regions (Asheim, Grillitsch, & Trippl, 2017; Reid & Maroulis, 2017). Every country or region has a chance to modify and differentiate their economies by relying on their strengths and potential, by taking the most out of knowledge-oriented development and growth (Asheim, Grillitsch, & Trippl, 2017). These potential areas should be located by entrepreneurial discovery, where entrepreneur in this context is not one subject, but all actors such as companies, academic institutions, public agencies and government involved in finding out existing and potential competitive areas (Asheim, Grillitsch, & Trippl, 2017; Paliokaitė, Martinaitis, & Reimeris, 2015; Reid & Maroulis, 2017).

In other words, smart specialization with the main focus on research and innovation policies, aims to encourage cooperation between the regional and national authorities who are responsible for creation and application of the innovation policies and inclusion of all relevant stakeholders into the

process (companies, universities, R&D centers, society) (Brennan & Rakhmatullin, 2017). Since the concept of smart specialization in terms of innovative strategies is a relatively new field in the literature, our review aims to identify important points in conceptual aspects found in the articles, addressing the most used methodological procedures, summarizing the most important ideas and discussing the outcomes (McCann & Ortega-Argilés, 2014b). Therefore, this paper orientates itself toward theorizing the concept of S3 in tourism sector, its implementation in different countries and regions and call for a need to reinforce the area of exploration (Nolan & Garavan, 2015). Besides articles extracted from online databases, two reports were used, one developed by OECD Secretariat and national experts in 2013 and one by European Commission (EC) in 2010, which clearly and systematically outline the key findings on this particular matter (OECD, 2013; EC, 2010).

2. DISCUSSION

The smart specialization represents a framework for both national and regional economic policies aiming to boost domestic capacities and creating comparative advantages by enhancing one's productive assets leading to innovation-oriented growth, and this strategic proposal is already part of the EU 2020 agenda (Fellnhöfer, 2018; Paliokaitė, Martinaitis, & Reimeris, 2015; EC, 2010; Foray, 2014). In other words, European countries and regions have to develop their own R&D strategies by concentrating their endeavor and resources toward aspiring, but realistic priority domains in order to be economical, socially and environmentally sustainable on a global level (Carayannis & Rakhmatullin, 2014).

Many authors argue that implementation of S3, which is based on knowledge, innovation and entrepreneurial discovery, aims at recreating countries' economic system in order to become competitive on a global scale (Paliokaitė, Martinaitis, & Reimeris, 2015). At first, entrepreneurial discovery includes different actors such as companies, academic institution, R&D centers, suppliers etc., and it includes holistic approach of these efforts to together discover, create and deliver innovative domains of a region or a country in order to succeed given its unique capacities and productive assets (Reid & Maroulis, 2017). Therefore, one can say that innovation is an essential factor encouraging economic diversification, mainly because competitiveness which relies on innovation addressing the right sustainable strategies is important for both developed and developing regions (Asheim, Grillitsch, & Trippel, 2017). Furthermore, Foray (2017) explains several steps involved in the process of entrepreneurial discovery, encompassing inspection which involves knowledge combination required to identify

region's economic potentials, where this combination of knowledge represents a starting point for interactivity between government and different stakeholders. The next step involves designing the action schemes, and finally, government approval and contribution to these activities. Basically, S3 guides the government toward specific domains that need to find a smart manner to specialize. According to Foray (2017), S3 has two main dimensions: shaping potentials in only several strategic areas and leading structural changes. This means that S3 refers to both structural changes and the creation of local capacities or potentials to operate these changes.

European Commission's Regional Policy Directorate is using S3 as a strategic planning instrument for the European Structural and Investment Fund (ESIF) for 2014-2020 agenda where around 40 billion euros is saved to invest in R&D; however the fund varies from 4.5% for Romania to 34% to the Netherlands (Reid & Maroulis, 2017). Having this said, S3 is a prerequisite for using the European Regional Development Fund (ERDF) in the funding time frame of 2014-2020 (Carayannis & Rakhmatullin, 2014). Application of S3 requires acquisition an innovation platform in order to create a framework where different subjects coordinate and contribute to the innovation cycle, including financial, technological, productive, and market capabilities (Komminos, Musyck, & Reid, 2014). However, in practice, the government is responsible for creation and implementation of policy tools for reaching the goal of regional or national innovation platform, where in case of large countries; regional smart specialization policies have to consider these national primary issues.

When discussing smart specialization, it is unavoidable to mention the concept of Triple Helix (TH) which according to the literature, consists of three main actors; Universities, Government and Industry. These actors which support interaction between each other for building R&D strategies are characterized by three institutional areas: R&D (science) fields in universities, industry, and government, as well as artistic and cultural research and development activities, that can be found in the universities which reflect both arts and sciences; non-R&D institutions (design, production, marketing, technology, progressive change, knowledge-development, dealing with new users, accessing patents and licenses and similar); and hybrid institutions (both R&D and non-R&D, such as "interdisciplinary research centers, industry-university research consortia, translational research institutes, technology transfer offices in universities, firms and government research labs; business support institutions (science parks, business/technology incubators); financial support institutions for new technology-based firms (public and private venture capital firms, angel networks, seed capital funds etc." (Carayannis & Rakhmatullin, 2014, p.4). Having this explained, we conclude that Triple Helix represents a strategy

for regional growth and support for the knowledge-based economy, engaging governments, academic institutions, and industries in order to accelerate innovation processes (Poppen & Decker, 2018; Carayannis & Rakhmatullin, 2014). However, recent literature proposes a new concept of Quadruple Helix (QH) that orientates completely to innovation and collaboration, and it adds the fourth actor, which is a society (Carayannis & Rakhmatullin, 2014; OECD, 2013). This further extends to the concept of Quintuple Helix that adds the environment as an important pillar for both top-down practices and bottom-up creativities, which further assist in knowledge and innovation sharing. In this context, citizens will have the ability to drive and propose innovation processes by connecting themselves with stakeholders in education institutions, government, and industries. In this context, citizens will have the ability to drive and propose innovation processes by connecting themselves with stakeholders in education institutions, government, and industries. The main role of these three actors would be supporting the citizens during the innovation process with necessary instruments, skills, and knowledge, which in turn awards them with the exploitation of the citizens' already resolved innovation (Carayannis & Rakhmatullin, 2014). This kind of collaboration may support the process of entrepreneurial discovery.

In this study, we are going to orientate more to the interconnection between innovation, smart competitive advantage, and touristic destinations, mainly because the tourism sector presents a crucial building block for many regional, national, but global economies as well. Its potential is growing steadily and provides a variety of job opportunities, ventures, and major sources of income. Due to increasing IT and social media trends, tourism is turning to knowledge-intensive industrial sector (Zhang, Song, & Huang, 2009). One way towards regional or country's sustainable economic development through the process of innovation is a touristic destination. Innovation itself is generally viewed as an essential basis for developing and supporting competitive advantage. In the same way, companies invest in innovation to achieve competitive advantage, spatial segments such as regions or cities try to achieve sustainability and competitiveness applying innovation before their rivals (Borseková, Vaňová, & Vitálišová, 2017). Well-established theory on competitive advantage distinguishes two main tactics: a market-oriented approach based on the external factors, conditions and opportunities of the present market and competitive advantage based on internal resources (Kotler 1992; Porter 1998).

In the case of Slovakian spatial development, authors rather discuss the value network approach, which mediates between the two mentioned above (Barney, 1997). It encompasses contemporary tactics toward sustainable spatial development, such as marketing places, strategic marketing planning, and smart specialization, where developing competitive advantage focuses

on placing the subjects in these value networks (Borseková, Vaňová, & Vitálišová, 2017). Therefore, marketing places are extremely important for smart tourism as it aims to attract tourists, citizens, entrepreneurs, and investors, it involves strategic market planning and screening the areas that have high potential in bringing innovativeness, differentiation and smart competitive advantage (Borseková, Vaňová, & Vitálišová, 2017).

Here, academics discuss sustainable spatial development where cities, regions or countries could have benefit from their original assets like knowledge, technology, ventures, accessibility, sustainability and culture in case of Slovakia (Caragliu, Bo, & Nijkamp, 2011; Borseková, Vaňová, & Vitálišová, 2017). The main idea is centered upon the idea of innovation, which can be defined as designing new, different ideas and utilizing them, which in turn leads to competitive advantage (Knight, 1967). Besides innovation, elements such as skillful workforce, social networks and institutional structures, cultural assets, knowledge, and infrastructure have a significant influence on the creation of competitive advantage (Castro, Delgado-Verde, Navas-López, & Cruz-González, 2013). The research included combination of Delphi method and structured interviews with experts groups from all eight self-governed Slovakian regions. Expert opinion indicated that in order to build a competitive advantage, the most important factors are human capital, knowledge, and in the third place innovation (Borseková, Vaňová, & Vitálišová, 2017). Although Slovakia is not using its full potential in a smart manner, authors found out that introducing innovation in the context of spatial development could fulfill this gap, since study results showed that the country can build its competitive advantage based on historical and cultural sites (folk traditions and habits, castles, folk music and traditional gastronomy), location, natural potential and water resources and be able to achieve 2020 EU aim, attract tourists, investors, enterprises, especially SMEs and boost employment levels. Regarding the historical and cultural aspects, UNESCO sites are listed as drivers of competitive advantage. Furthermore, Slovakia has one of the most beautiful caves in Europe, one of which is the Aragonite Cave. Next unique feature is a forest complex with a variety of plant and animal species, followed by rich water sources. The regions with thermal and mud springs and aqua parks are a good way to heal different illnesses as well. However, these reports are rather potential than applied in a practice. According to the reports, Slovakia lacks innovation performance and R&D efforts; hence Slovakian authorities shifted the focus toward private companies and high educational institutions (SMEs and HEIs) especially toward innovation capital (IC) (Wiedenhofer, Friedl, Billy, & Olejarova, 2017). In other words, they try to follow example of Austrian and German strategies, where innovation capital report (ICR) serves as a strategic framework for creating

knowledge economy for the smart specialization context where the most important performance indicators for intangible knowledge elements are outlined (Wiedenhofer, Friedl, Billy, & Olejarova, 2017).

Additionally, Vecchio & Passiante, (2017) refer to a term smart tourism as a collaboration and knowledge-support flow between touristic sites and all stakeholders involved. This is rather a case of an Italian touristic site of Apulia which is featured with unique cultural, natural and UNESCO heritage sites, such as Ionic and Adriatic sea, beaches, marine reserves, rural areas, ancient olive trees, and rich agro-food inheritance, but with low levels of technological innovation, entrepreneurship, and knowledge-sharing. The first proposal toward smart specialization of the Apulia tourism is promoting regional ecosystem by raising awareness which can be done by the involvement of local universities and research centers with expertise in tourism. Authors especially stress the importance of marketing promotion and creation of Apulia brand. Moreover, research centers and firms can support tourism supply chains, followed by implementing intelligent systems to deliver more customized tourist experience. Finally, the involvement of micro-companies and political agenda would accelerate smart specialization of Apulia tourism destination.

What most researchers focus on is engaging local entrepreneurship with the specific touristic site to be able to exercise the Regional Innovation Strategy for Smart Specialization (RIS3), which further leads to sustainable and knowledge-intense regional or national development. Here, we can also mention the concept of smart cities, as a potential tourist destination, which refers to government capabilities of using information technologies to assist in sustainable economic growth and city resident's wellbeing, innovativeness and creativity (Capdevila & Zarlenga, 2015). Technology development and infrastructure (city academic institutions, health, transportation, government, utilities etc.) are presumptions for creating a smart city, and by investing in being "smart", city's authorities attract gifted individuals, entrepreneurs, creation of academic institutions and research centers, which in turn contribute to sharing knowledge and innovation solutions, assist in entrepreneurial discovery and sustainable growth. However, Bella, Petino, & Scrofani (2019) claim that since metropolitan areas are the focal point of discussion among public and academics and are perceived to be the origin of innovation, creativity, and entrepreneurial ideas, there is a need to reduce the territorial disproportions and also focus on peripheral or rural areas that may serve well toward sustainable regional growth. In this case, we rather talk about innovation-driven growth of Sicilian Etna region.

The events including migration, economic weakening, public withdrawals, failure to efficiently exploit EU funds for sustainable development made this territory more problematic and stagnant. However,

since 2013, this region decided to focus on their distinctive features in order to follow smart and sustainable development, which is, besides collaboration with urban areas, focus on agro-food, smart cities, cultural heritage, and tourism. More specifically, this process includes: “(i) the cluster of the Etna DOC wine farms and their consortia entities; (ii) a formal business network, called Etna-Re, involving a number of firms operating across different sectors; (iii) a local network of neo-rural and social farms” (Bella, Petino, & Scrofani, 2019, p.8).

Statistical analysis in combination with entrepreneurial activity analysis based on data available on websites and scientific papers indicated a number of important steps focused on improving knowledge sharing and collaboration between local stakeholders, and promoting the growth of Etna tourism by providing exceptional tourist offer, such as local traditional food and unique products like Etna cherries, prickly pear, pistachios and oil, wine, hiking, accommodation and ecological building, as well with the collaboration with business consulting company “Le Mude” that created strong marketing campaign and promoted workshops, events focused on technological innovation like social media, digital marketing, strategies 2.0 and destination management. These steps also assisted in promoting a new concept of neo-rural farming, bio-architectural accommodation, organic agriculture, eco-therapy, eco-activities and education, and similar. Besides this, Etna Wine Train concept was introduced, taking tourists to enjoy cultural wine heritage and the unique territorial characteristics.

Applying S3 has its downturns such as lack of trust in local or national authorities or introducing the strategies in the periods of economic crisis and in less developed countries (Komninos, Musyck, & Reid, 2014). However, potential benefits are coming from the creation of spill-over effects, cooperation with different stakeholders and innovation, impeding the sectorial borderlines when it comes to tourism and providing the platform for diversification and making the best utilization of territorial capital, knowledge flow, technology to meet societal demands (Bella, Petino, & Scrofani, 2019). In other words, smart specialization may effectuate tourism diversification, which further leads toward smart, sustainable and innovative growth.

3. CONCLUSION

As already mentioned, idea behind S3 is that regions and countries should nurture their potential domains and innovation sources in order to ensure a competitive advantage, and that there is need to ensure knowledge distribution between major actors and grasp the benefits of economies of scale to completely exploit the advantages of S3 (Novosak, Hajek,

Zahradnik, & Nekolova, 2013; Wiedenhofer, Friedl, Billy, & Olejarova, 2017; Foray, 2014).

To be able to achieve already well known smart, sustainable and inclusive economic growth, it is important to understand how four actors: government, universities, industry and civil society (artists, investors, entrepreneurs) collaborate, share know-how, information, instruments and assist in value co-creation, anticipate upcoming challenges, and opportunities as well (Carayannis & Rakhmatullin, 2014; Vecchio, Elia, Ndou, Secundo, & Specchia, 2017). Government can support these processes as according to Carayannis & Rakhmatullin (2014) by funding the infrastructure, making the decision, creating the plans for R&D, and giving financial support in regard to regional or local innovation policies, supporting all four actors in the QH, especially supporting civil society, elevate awareness of civil innovation domains among all society members, and developing quality standard to maintain regular check-ups. Moreover, lawmaking, communication, and collaboration are also important actions. Besides these steps, the economic system can support value-creation by designing the plans for omitting disproportions and environment issues, followed by academic domains that produce knowledge and can assist in knowledge-sharing among other systems for better performance (Carayannis & Rakhmatullin, 2014).

Accordingly, we conclude that the tourism sector plays an important role in the sustainable spatial development of regional, national and also a global economy. It focuses on relationships and network development between different stakeholders that will contribute to the creation of the smart competitive advantage. Therefore, smart tourism can be explained as a collaboration between tourism destinations and a variety of stakeholders through dynamic platforms, knowledge-oriented communication and decision support system (Buhalis & Amaranggana, 2014). Moreover, recent literature and RIS3 framework suggest variety of procedures that could be implemented to boost innovation in a tourism sector, such as introducing innovative organizational models, local businesses and innovation based on practice, screening realistic policy interventions based on local resources and movement of different stakeholders and knowledge flow (Bella, Petino, & Scrofani, 2019; Capello, 2014; Mccann & Ortega-Argilés, 2014a). Next suggestion is to improve regional collaboration and interconnectivity in order to enhance knowledge diffusion (Bock, 2016). Finally, virtual closeness can assist in the knowledge-sharing between rural and urban areas and reach human capital, mainly by using digital platforms (Bella, Petino, & Scrofani, 2019). Making strong relationships between rural clusters and urban innovative environment can empower knowledge diffusion and collaboration together with technological exploration and exploitation, attracting investors and entrepreneurs, creative and skillful individuals from the close urban

areas, who can successfully facilitate access to different markets (Mayer, Habersetzer, & Meili, 2016; Dematteis, 2009; Naldi, Nilsson, Westlund, & Wixe, 2015). However, to enable such relationships and more importantly, de-peripheralization, local and national authorities are the crucial actors that will facilitate and support these activities across the entire policy network.

Although the majority of studies are empirical, a number of them take conceptual form, discussing different theoretical backgrounds followed by a case study of a country or region, in order to support these assumptions by empirical data. After reviewing each study we came to conclusion that work with the S3 concept is specific matter and each study often takes different methods and mixed approach, usually with combination of primary and secondary data; including expert panels, surveys, statistical analysis, bibliometrics and roadmaps, data analytics, (online) Delphi method, structured interviews and in-depth interviews. Case studies across a variety of European countries and regions were frequent, however. Regarding the case of Slovakia, Delphi method seemed appropriate to use since it involves a group of experts or specialists who are knowledgeable in the area research wants to focus at, and are coming from different geographical locations and competencies (Keeney, Hasson, & Mckenna, 2001). Our three main papers' methodologies are presented in Figure 1.

This paper covers a broad range of relevant issues and trends related to the creation and execution of S3 starting from theoretical background to practical domains; however, a variety of concerns will serve as a guide for further research. The paper is done according to the limited number of documents, mainly articles from only two databases; Scopus and WoS. However, the S3 is a relatively new concept, which can explain such an outcome. Future studies may employ other document sources, and not focus only on EU member countries, but to other world countries and regions as well.

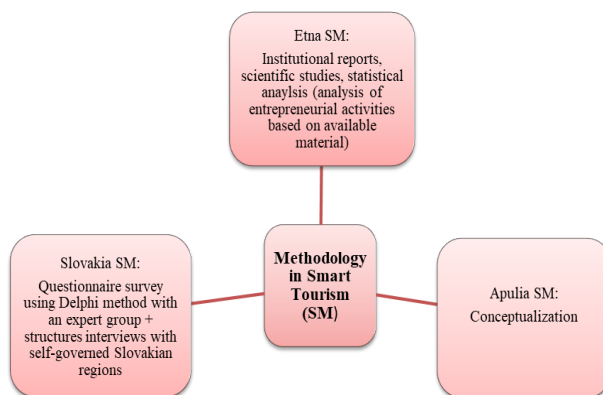


Figure 1. Methodology in SM; Source: Author's elaboration

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