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Research Article

Tourism Innovation in the Adriatic-Ionian Region: Questioning the Understanding of Innovation

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Keywords

innovation,
tourism,
sustainability,
Adriatic-Ionian region

Abstract

Today, tourism as the most important global service industry faces many challenges, which call for innovations. That includes the product (new products and services), process (new ways of delivering tourist services), logistical (new ways of providing products/services to tourists), and market innovations (new marketing methods or market behaviour). To detect the number and types of tourism innovations funded by the EU in the Adriatic-Ionian region (AIR), a desk research approach and a survey was carried out between 2020 and 2022. The purpose of our work was to detect projects fostering innovations in sustainable tourism, analyse their innovation capacity and propose possible policy enhancements. The main research questions were: Firstly, are financial incentives appropriate measures to foster innovations? and secondly what is the role of governance models of the EUSAIR in fostering innovations in sustainable tourism? In total, 88 projects were detected fostering different types of innovations. The results demonstrate an uneven geographical distribution of financial incentives for innovative projects and underline the lack of a clear understanding of the concept of innovation in funded projects and in seconded national administration in the AIR. Additionally, our findings show that financial incentives, although welcome, do not always foster innovations. Rather, an effective governance approach should be in place to tailor the appropriate financial incentives and guide the process. Our work contributes to the development of new guidelines related to growth and innovation in sustainable tourism in the AIR.

Highlights:

- Tourism as the most important global service industry faces many challenges.
- The Adriatic-Ionian region (AIR) is extremely sensitive area to pressures coming from the over tourism.
- The greater need for sustainable tourism put the need to innovate on the tourism agenda.



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1. INTRODUCTION

Tourism is the most important global service industry today. In 2018, outbound travel revenues from international tourism reached USD 1.7 trillion, which accounts for 29% of global service exports and 7% of overall exports of goods and services (UNWTO, 2019). While it contributes significantly to the local economies, it does not come without challenges as it brings numerous negative effects (e.g., overtourism and undertourism, climate change, seasonality, loss of identity and authenticity, labour force shortage, excessive use of resources, stereotyping, material damages, unequal treatment of guests, etc.). There is a pronounced need for sustainable tourism development reducing its negative effects on the society and environment as well as maximizing the positive ones on the local community. Traditional local communities are strongly affected by the unsustainable tourism activities (Cuadrado-Ciuraneta and Dura-Guimera, 2018). This is ever more evident after the effects of COVID-19 pandemic, which brought tectonic disturbances to the global tourism industry. This affects destinations which need to respond to new context and needs of a dynamic and changing market (Minguez, 2022). In this light, there is an ever-growing need for innovation, which can play a significant role in ensuring competitiveness and attractiveness of destinations, bring new ideas in the offer of services and content, optimize the use of resources, help in overcoming labour force shortages, impact tourist behaviour, etc.

Innovation is defined as a new or significantly improved product or process (or a combination thereof) that differs significantly from previous products or processes and is available to potential users (product) or brought into use (process) (OECD/Eurostat, 2018). It involves creativity, but not every creative output can be called innovation. To do so, the innovation must be replicable at an acceptable cost, meeting specific needs. If it is not replicable, one may not use it for meeting a specific need, and it is then called an invention, remaining at the level of a patent or prototype. Innovations are usual in the industrial sector, while, until recently, service industries, including tourism have not bothered much with innovating. A greater need for sustainable tourism, however, puts the need to innovate on the tourism agenda. Today, innovations in tourism most often include product innovations (new products and services), process innovations (new ways of delivering tourist services), logistical innovations (new ways of providing products/services to tourists), and market innovations (new marketing methods or market behaviour). Often, new technologies are used for fostering innovations so the hospitality industry today benefits from the use of smartphones instead of keys, offering mobile self-check-in, uses robots instead of receptionists or servers, and offers individual services based on Internet of Things (IoT) such as lighting and TV voice-activated systems or personal recommendations for other activities; transport services use electronic luggage tags and offer boarding passes on smartphones; catering industry offers menus on tablets or on QR codes; while city tours can be done via augmented or virtual reality. While technology is developing fast and offers several possibilities for innovation, not every technological solution is innovative. Still, research studies point out to the fact that most innovations in tourism are related to the use of information technologies (IT) as well as of virtual reality (Rauscher et al., 2020).

The European Union is very much in favour of innovations, offering different financial instruments to foster innovative development in different fields. The analysis of innovation at the EU level in 2020 shows that it is continuously increasing, and globally, the EU is overtaking the US, China, Brazil, Russia, South Africa, and India for the second time, but lags behind South Korea, Australia and Japan (European Commission, 2020). Adriatic-Ionian region (AIR), however, scores much lower on the innovation scoreboard comparing to the Central Europe, but higher than Bulgaria, Romania, and parts of Poland. Although there are differences between countries in this region, overall, the region is not among the innovation leaders. Financial incentives in general seem to foster innovations. This was confirmed in a study by Gibbs et al. (2017): financial rewards in the business environment result in lower quantity but better quality of innovative ideas. The same study also found that group authorship of an idea was more likely to be accepted for implementation. Along this line, available EU funds granted to projects consisting of diverse team members seem like good grounds for stimulating innovations. On the other hand, the study also showed that, in order to avoid mediocre ideas, the rewards need to be specifically tailored.

Another study (Xu et al., 2020) confirms that incentives having direct impact on employees' salaries notably positively affect the relationship between innovation investment and financial sustainability. This can be very useful for justification of the EU funds invested in fostering innovations through the EU programmes.

When it comes to tourism, the EU activities have been primarily focused on the digital transformation of the tourism sector in the EU, which is, alongside green transformation also the case in the current financial period, i.e., 2021-2027. Therefore, digital innovations will again greatly benefit from the available funds.

Financial incentives, however, are not the only factor fostering innovations. Governance is found to be an important factor for innovation generation (Kern Pipan et al., 2012) since “slow institutions and lengthy decision-making processes involve less innovative and less degree of competitiveness” (Moré et al., 2018). These were the starting points of this research.

This article focuses on the analysis of innovations in sustainable tourism in the Adriatic-Ionian Region funded under the EU Strategy for the Adriatic and Ionian Region (EUSAIR). The research was a part of the project Monitoring and Evaluation of the European Strategy of Adriatic-Ionian Region (EUSAIR) (EU Strategy for the Adriatic and Ionian Region (EUSAIR), Interreg Adriatic-Ionian, EUSAIR Facility Point, 2022) in which a specific line of research was dedicated to innovations in sustainable tourism. The purpose of the research carried out was to, based on the relevant scientific and expert literature on innovation and sustainable tourism, stress the relevance of the innovation for future tourism development in the EUSAIR countries, and to detect projects fostering innovations in sustainable tourism, analyse their innovation capacity and propose possible policy enhancements. As mentioned before, although the EU scores relatively high in innovations in the global context, and although innovations are increasing (European Commission, 2020), this is not the case in the entire territory of the EU, where Adriatic-Ionian region is lagging behind. The goal of the research, therefore, was to find out if the EU funds invested in the projects focusing on innovations in sustainable tourism were justified, resulting in innovative solutions. Two research questions were proposed: 1. Are financial incentives appropriate measure to foster innovations?, and 2. What is the role of governance model of the EUSAIR in fostering innovations in sustainable tourism?

The article is structured as follows: the introduction encompassing main definitions and geographical scope of the EUSAIR; the second section brings definition of innovation, explanation of European Innovation Scoreboard (EIS) as a relevant performance indicator, and recent literature review. Then follows explanation of research methodology, research results and the discussion, where the research results are explained in a theoretical context. Conclusions offer guidelines for growth and improvements in the development of innovation related to sustainable tourism development in the Adriatic-Ionian Region (AIR).

2. EUSAIR AND INNOVATION

The Adriatic and Ionian Seas basin defines a functional area of the macro-region based on the European Union Strategy for the Adriatic-Ionian Region (EUSAIR). Marine, coastal, and terrestrial areas act as interconnected systems within the Strategy, with over 70 million people living in the area. The EUSAIR covers ten countries - Albania, Bosnia and Herzegovina, Croatia, Greece, Italy, Montenegro, Northern Macedonia, San Marino, Slovenia, and Serbia. Since San Marino became the 10th participating country in the EUSAIR only on 14 February 2022, it was not included in this research. The map of the EUSAIR participating countries is shown in Figure 1.

Countries in the region aim at developing all-year-round tourism with the emphasis on sustainable tourism which is in line with the Pillar 4 of the Strategy - Sustainable Tourism. The focus of this Pillar is the development of sustainable and responsible tourism in the region by fostering innovative and quality tourism products and services (IRMO, 2021).

The literature review shows that there is a range of research and professional works related to innovations in tourism. An all-encompassing overview of the relevant literature is provided in the paper “Tourism and innovation: a literature review” (Işık et al., 2019). The authors conclude that innovations are indispensable for further tourism development, but that the majority of innovations in tourism are initiated by manufacturing industry and that there is plenty of room for experience research resulting from innovations. Other researchers also point out to the fact that there are significant potentials for innovations in technologies by which tourism contributes to the preservation of environment and climate (Işık et al., 2017). These issues, however, were not addressed within the EUSAIR strategy. Research of these topics were carried out in China on the example of the impact of technological innovations on

the tourism development in the area of the Yangtze River delta. By using panel regression model, it was proved that those innovations had significantly contributed to the tourism development in the way that they improved efficiency, and raised brand awareness, helped tourists to plan their travels, or gained memorable experience (Gan et al., 2022). Besides these forms of innovations in tourism, scientific researches also point out to good practices of digitization of services in cultural sector, i.e., museums, that contribute to the accessibility of tourism services as well as to the sustainability of tourism (Guo et al., 2021). There are also examples of good practices of innovations in agritourism that positively influence competitiveness of agricultural economy as well as all local and regional stakeholders such as tourism organizations, local and regional self-government, farms, industry associations, and local population (Roman et al., 2020). Special example are social innovations in tourism. One develops new ideas that can bring solutions to social problems and create a social impact with innovative approaches (Zengin et al., 2021). The examples of such innovations in tourism are "Green hotels" or widely popular "from farm to fork" approach in tourism supply chains (Zengin et al., 2021). Also, there are, e.g., in Finland innovative methods in cooperative, collaborative processes connecting local needs and creating a new social value of the destination towards holistic, multi sectoral tourism development (Partanen and Sarkki, 2021). Innovations in tourism are also found in managerial knowledge and skills in the phase of operationalization and organization but also in elaboration development strategies and plans (Giotis and Papadionysiou, 2022), which can to a considerable extent contribute to the efficiency of business. Furthermore, researches point out to the need of investment into innovations in tourism concerning the economics of experience and behaviour culture of consumers as well as knowledge sharing (Işık et al., 2021). More recent findings of a similar research on the topic of tourism and innovations, i.e., a bibliometric review of findings (Işık et al., 2022), show further growth of research papers and citations in this field. One of the breakthroughs enabled by innovations in tourism concerns the personalization of tourism services and the related visitors' typology. Namely, tourists today increasingly seek a high level of security and quality where innovations play a key role (Gkoulgkoutsika et al., 2022). Some authors are going even further pointing to the impact of COVID-19 pandemic to necessary shift towards the innovations related to sustainability and use of new technologies that significantly contribute to the quality of tourism offer and are a competitive advantage on the tourism services market (Işık et al., 2022). Innovations in tourism are not only development opportunities but are also a challenge, i.e., potential risk for entrepreneurs. One of the possible solutions of this problem is strengthening of the cooperation of entrepreneurs with scientific sector as well as with public authorities in reducing the threats (Williams et al., 2020). Although there is an abundance of scientific literature on innovations in tourism, there are very little research breakthrough concerning monitoring and evaluation of interventions in that field. In general, innovations analyses on the EU level show that the European innovation impacts continuously grow (12.5% on average since 2014) and that the cohesion gap on the EU level is decreasing as countries lagging behind increase their innovation performance more rapidly. It is measured by the European Innovation Scoreboard (EIS), a statistical report providing a comparative analysis of innovation performance in the EU countries, other European countries, and regional neighbours. The Nordic countries are by far innovation leaders, while countries notably improving their innovation index are Cyprus, Estonia, Greece, Italy, and Lithuania. This is significant for the Adriatic-Ionian Region as Greece and Italy are among those countries. However, the overall innovation index of other EUSAIR countries is much lower, negatively impacting the innovation score of the AIR (EIS-RIS, 2021).

When it comes to the AIR countries, although Greece is improving at a fast pace, its innovation index is still below 100 (Switzerland scores over 160 as the country with the highest index in 2021). Only Italy and Slovenia score more than 100, while other AIR countries have much lower index (see Table 1).

The European Innovation Scoreboard groups countries according to their innovation performance into the following categories: innovation leaders, strong innovators, moderate innovators and emerging innovators. Greece, Italy and Slovenia are ranked as moderate innovators, while Bosnia and Herzegovina, Croatia, Montenegro, North Macedonia and Serbia as emerging ones. The data for Albania are not available.

Innovation impacts are measured according to 32 indicators classified into 12 categories: Human Resources, Attractive Research Systems, Digitalization, Finance and Support, Investing in Companies, Using Information Technologies, Innovators, Connectivity, Intellectual Property, Employment Impacts, Sales Impacts and Environmental Sustainability. No specific indicator is related to tourism but categories are large enough to accommodate also this sector. However, it was not possible to measure innovation performance in the tourism industry specifically. Therefore, this overview rather shows the

standing of the country in general. The analysis showed that, although, overall, ranked rather low in the European context, the AIR countries do perform somewhat better on specific indicators. Thus, e.g., Bosnia and Herzegovina's best rated indicator is the Product Innovator (147.1), Greece rates high with Sales Effects (220.1), Italy rates high in the Resource Productivity (in the category of Environmental Sustainability) (196.1), and Serbia rates high in the Expenditure on innovation not related to R&D (in the category of Investments in companies) (206.1).

Figure 1. Map of the EUSAIR participating countries



Source: authors' elaboration

Table 1. Innovation index of EUSAIR countries for 2021

Country	Innovation Index
Albania	N/A
Bosnia and Herzegovina	38.97
Montenegro	53.74
Greece	88.49
Croatia	78.22
Italy	108.08
North Macedonia	47.10
Slovenia	100.49
Serbia	74.52

Source: authors' elaboration based on the publicly available data provided by the European and Regional Innovation Scoreboards 2021, EIS-RIS 2021 (<https://ec.europa.eu/research-and-innovation/en/statistics/performance-indicators/european-innovation-scoreboard/eis>)

Thus, the analysis showed that the EU member states in the AIR have greater innovation performance than the non-member states in the region. Croatia, although leading in the category of emerging innovators, still performs insufficiently to be categorized as a moderate innovator. In the 2014-2021 period, Italy and Greece improved their innovation performance by over 25%, showing considerable progress. However, non-member states from the AIR significantly lag behind and perform practically the lowest on the European level.

The analysis based on the Regional Innovation Scoreboard (RIS) for 2021, which evaluates the innovation performance of European regions, is also available but for a limited number of indicators and countries. Countries, and their respective regions from the AIR are Croatia, Greece, Italy, Slovenia, and Serbia. The available data show regional differences in innovation performance within individual countries. Thus, e.g., regions of the country's capital city, as in the case of Croatia and Greece score much higher than the regions which are the biggest generator of tourism traffic (the Adriatic Croatia region and the Notio Aigaio region respectively). Emilia-Romagna, as a strong industrial centre, is the region with the greatest innovation capacity in Italy, while Calabria and Sicily score the lowest on innovation performance scale. Both in Slovenia and Serbia, again the greatest innovation capacities are related to the regions of the capital city. Tables 2 and 3 show data on innovation performance by region for each year as well as annual increase in the 2014-2021 period respectively. It is evident that the regions with the highest innovation performance per year also show the highest increase in innovation capacity in the 2014-2021 period. All regions grow in innovation performance, and the innovation gap between the weakest and the most innovation-capacitated regions diminishes (IRMO, 2021).

Table 2. Innovation effects of the EUSAIR countries/regions of the EU Member States by region and by individual year

		Innovation index (same year)							
		2014	2015	2016	2017	2018	2019	2020	2021
EU27	EU27	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
HR	Croatia								
HR02	Pannonian Croatia	69.8	67.7	70.0	67.7	71.6	69.3	71.3	80.8
HR03	Adriatic Croatia	48.9	48.2	47.9	50.5	50.2	49.3	52.9	62.6
HR05	City of Zagreb	72.9	70.7	73.0	70.8	74.6	73.2	75.3	86.1
HR06	Northern Croatia	74.7	72.6	74.8	72.2	75.9	73.9	75.9	83.7
EL	Greece								
EL3	Attiki	72.5	74.7	74.6	74.5	74.9	81.7	84.1	86.9
EL41	Voreio Aigaio	46.6	48.3	47.5	50.8	51.0	58.5	56.1	63.4
EL42	Notio Aigaio	39.1	41.2	44.1	41.0	38.4	38.2	36.5	47.6
EL43	conceal	69.4	73.1	73.7	76.3	77.9	83.7	85.1	82.1
EL51	Anatoliki Makedonia, Thraki	41.9	41.6	41.1	46.2	50.1	57.7	55.4	56.4
EL52	Kentriki Makedonia	59.4	61.2	61.8	61.5	62.7	73.1	77.2	77.8
EL53	Dytiki Makedonia	44.7	50.1	45.1	51.2	51.1	57.4	55.3	49.5
EL54	Ipeiros	45.6	48.8	49.4	54.4	50.8	62.1	65.6	71.0
EL61	Thessalia	54.6	53.6	56.4	55.1	52.6	64.2	67.6	74.4
EL62	Ionia Nisia	33.5	35.1	42.7	47.0	46.7	56.8	57.1	60.2
EL63	Dytiki Ellada	58.6	59	60.5	62.3	61.4	71.4	69.7	71.8
EL64	Stereia Ellada	57	59.4	56.2	50.6	51.4	57.3	58.8	62.6
EL65	Peloponnisos	45.6	47.1	45.7	47.7	45.7	55.4	57.1	59
Italian	Italia								
ITC4	Lombardia	89.6	92.5	92.7	90.3	90.9	93.9	96.1	102.3
ITH1	Provincia Autonoma Bolzano/Bozen	85.1	87.8	86.7	83.6	84	83.7	87.9	94.8
ITH2	Provincia Autonoma Trento	93.2	93.8	96.2	95	99.3	98.2	99.5	107.1
ITH3	Veneto	89	92.7	92.7	89	89.9	92	93.9	0 102
ITH4	Friuli-Venezia Giulia	97.4	99.8	100.3	97	96.9	100.2	01.8	106.6
ITH5	Emilia-Romagna	91.5	93.4	94.1	92.4	94.7	99.4	101.1	109.4
ITI2	Umbria	84.3	87.2	87.1	87.2	89.1	87.8	91.7	98.8
ITI3	Marche	77.4	79.5	80.6	80.4	80.9	87.0	89.5	90.6
ITF1	Abruzzo	74.6	74.2	73.8	72.7	74.1	78.2	80.4	84.7

ITF2	Molise	68.7	69.9	70.9	71.1	70.8	71.1	73.2	82.9
ITF4	Puglia	63.6	66.4	67.6	63.4	63.7	67.3	71.1	74.1
ITF5	Basilicata	61.4	62.9	64.7	64.8	64.9	69.5	71.9	79.7
ITF6	Calabria	58.2	59.4	60.2	63.4	63.5	61.5	62.8	68.2
ITG1	Sicilia	58.7	61.4	62.2	58.7	59.4	64.8	66.1	70.3
SI	Slovenia								
SI03	Vzhodna Slovenija	87.1	88.1	88.3	87.9	84.1	78.5	74.1	79.8
SI04	Zahodna Slovenija	106.9	108.1	106.6	107.8	107.3	100.7	93.9	98.1
RS :	Serbia								
RS11	Belgrade Region	65.8	69.3	71.3	71.4	68.1	67.4	70.1	80.2
RS12	Region of Vojvodina	56.7	58.4	59.1	55.7	55.0	55.7	55.7	58.2
RS21	Region of Šumadija and West Serbia	50.2	50.1	50.8	48.5	45.6	45.4	46.4	52.9
RS22	South and East Serbia Region	45.3	46.1	47.1	47.4	44.5	40.8	40.9	53.6

Source: authors' elaboration based on the publicly available data provided by the European and Regional Innovation Scoreboards 2021, EIS-RIS 2021 (<https://ec.europa.eu/research-and-innovation/en/statistics/performance-indicators/european-innovation-scoreboard/eis>)

Table 3. Innovation effects of the EUSAIR countries/regions of the EU Member States by regions with an increase in the period 2014-2021

		Innovation index (starting year 2014)							
		2014	2015	2016	2017	2018	2019	2020	2021
EU27	EU27	100.0	101.2	102.2	103.5	104.7	109.4	111.4	114.8
HR	Croatia								
HR02	Pannonian Croatia	69.8	68.5	71.5	70.1	74.9	75.9	79.5	92.7
HR03	Adriatic Croatia	48.9	48.8	48.9	52.3	52.6	54.0	58.9	71.9
HR05	City of Zagreb	72.9	71.5	74.5	73.3	78.2	80.1	83.9	98.9
HR06	Northern Croatia	74.7	73.4	76.4	74.7	79.5	80.8	84.6	96.1
EL	Greece								
EL3	Attiki	72.5	75.6	76.2	77.1	78.5	89.4	93.7	99.7
EL41	Voreio Aigaio	46.6	48.8	48.6	52.6	53.4	64.0	62.5	72.8
EL42	Notio Aigaio	39.1	41.7	45.1	42.4	40.2	41.8	40.7	54.7
EL43	conceal	69.4	73.9	75.3	79	81.5	91.6	94.9	94.3
EL51	Anatoliki Makedonia, Thraki	41.9	42.1	42.0	47.9	52.4	63.1	61.7	64.7
EL52	Kentriki Makedonia	59.4	61.9	63.2	63.6	65.6	79.9	86	89.4
EL53	Dytiki Makedonia	44.7	50.6	46	52.9	53.5	62.8	61.6	56.8
EL54	Ipeiros	45.6	49.3	50.4	56.3	53.2	68	73.1	81.6
EL61	Thessalia	54.6	54.3	57.6	57	55.1	70.2	75.3	85.4
EL62	Ionia Nisia	33.5	35.5	43.6	48.7	48.9	62.1	63.7	69.1
EL63	Dytiki Ellada	58.6	59.7	61.9	64.5	64.4	78.2	77.7	82.4
EL64	Stereia Ellada	57	60.1	57.4	52.4	53.8	62.7	65.5	71.9
EL65	Peloponnisos	45.6	47.6	46.7	49.4	47.9	60.6	63.6	67.8
Italian	Italy								
ITC4	Lombardia	89.6	93.6	94.7	93.5	95.2	102.7	107.1	117.5
ITH1	Provincia Autonoma Bolzano/Bozen	85.1	88.9	88.6	86.5	88	91.6	98	108.9
ITH2	Provincia Autonoma Trento	93.2	94.9	98.3	98.3	104	107.4	110.9	123.0
ITH3	Veneto	89	93.8	94.7	92.1	94.1	100.6	104.6	118
ITH4	Friuli-Venezia Giulia	97.4	101	102.4	100.4	101.5	109.6	113.4	122.5
ITH5	Emilia-Romagna	91.5	94.5	96.1	95.7	99.1	108.7	112.6	125.7
ITI2	Umbria	84.3	88.2	88.9	90.2	93.3	96.0	102.2	113.4
ITI3	(marche).	77.4	80.4	82.3	83.2	84.7	95.2	99.8	104
ITF1	Abruzzo	74.6	75.0	75.4	75.2	77.6	85.6	89.6	97.3
ITF2	Molise	68.7	70.7	72.5	73.6	74.1	77.8	81.6	95.2
ITF4	Puglia	63.6	67.2	69	65.6	66.7	73.6	79.2	85.1
ITF5	Basilicata	61.4	63.6	66.1	67	68	76.1	80.1	91.6
ITF6	Calabria	58.2	60.1	61.5	65.6	66.5	67.3	69.9	78.3
ITG1	Sicilia	58.7	62.1	63.5	60.7	62.3	70.9	73.7	80.7

SI	Slovenia								
SI03	Vzhodna Slovenija	87.1	89.1	90.2	91	88.1	85.9	82.6	91.6
SI04	Zahodna Slovenija	106.9	109.4	108.9	111.5	112.3	110.1	104.6	112.7
RS :	Serbia								
RS11	Belgrade Region		70.1	72.9	73.9	71.3	73.8	78.1	92.1
RS12	Region of Vojvodina	56.7	59.1	60.4	57.6	57.6	60.9	62.1	66.8
RS21	Region of Šumadija and West Serbia	50.2	50.7	51.9	50.2	47.7	49.7	51.7	60.8
RS22	South and East Serbia Region	45.3	46.6	48.1	49	46.6	44.6	45.6	61.5

Source: authors' elaboration based on the publicly available data provided by the European and Regional Innovation Scoreboards 2021, EIS-RIS 2021 (<https://ec.europa.eu/research-and-innovation/en/statistics/performance-indicators/european-innovation-scoreboard/eis>)

3. METHODOLOGY

The research was performed throughout 2020-2022 by means of mixed methodology, in two phases. The European Council endorsed the EU Strategy for the Adriatic and Ionian Region (EUSAIR) in 2014 in order to add value to the cooperation dimension of cohesion policy. There are four Pillars of the Strategy: Blue Growth, Connecting the Region, Environmental Quality and Sustainable Tourism. Pillar 4 – Sustainable tourism aims to contribute to smart growth through stimulation of competitiveness in the tourism sector of the Adriatic Ionian Region. It also aims to contribute to sustainable and inclusive growth through the promotion of resource-efficient, responsible, and high-quality tourism with new, better and more long-term jobs and to consolidation of the Adriatic-Ionian Region's profile as a sustainable and high-quality destination. Additionally, in its strategy papers, the EUSAIR macro-regional strategy is strongly committed to the development of sustainable tourism and the development of innovations for sustainable tourism. To achieve these objectives, Pillar 4 focuses on two topics: Topic 1 – Diversified tourism offer (products and services); and Topic 2 – Sustainable and responsible tourism management (innovation and quality).

In order to analyze EUSAIR innovation capabilities related to sustainable tourism quantitative and qualitative methodology was applied. The literature review was used to offer a background to the research. In the analysis of innovativeness European Innovation Scoreboard (EIS) indicator was used providing background data for comparative analysis of innovation performance in the EUSAIR countries. The EIS provides a comparative analysis of innovation performance in the EU countries. It assesses the relative strengths and weaknesses of national innovation systems and helps countries to identify areas they need to address. Indicators for measuring innovation performance are classified into, previously mentioned, 12 categories: Human Resources, Attractive Research Systems, Digitization, Finance and Support, Investment in Companies, Use of Information Technology, Innovators, Connectivity, Intellectual Property, Employment Performance, Sales Performance and Environmental Sustainability, and there is a total of 32 indicators in those 12 categories. According to the results of the analysis of innovation effects, countries are classified into four performance groups: innovation leaders, strong innovators, moderate innovators, and emerging innovators.

This enabled an overview of the EUSAIR and its countries' innovation scoreboard as to clearly identify the Adriatic-Ionian region's innovation performance on the European scale. Then, in the first research phase, desk research method was applied for the analysis of the projects funded within different EU programmes to identify projects which claim to offer innovative outputs. Out of 313 projects on the topic of sustainable tourism funded from different EU programmes in the AIR, 88 of them were detected (based on wording related to innovation), which were funded based on their innovative capacity applied in the respective calls. Summaries of these projects were further analysed by means of desk research. Although in-depth analysis of the projects was planned, it was not possible due to the fact that a number of projects were still on-going and their final outputs were not available, as well as due to the poor responsiveness of the project partners involved. This is the reason why project summaries were analysed instead. The claimed innovations were grouped in the following four categories: 1. innovations in the management of tourist destinations; 2. innovations in business models and sustainable tourism products; 3. innovations in market positioning and promotion of sustainable tourism; and 4. fostering multiple types of innovations. Besides that, the invested budget analysis and geographical distribution of the funded projects were researched by detecting the frequency of countries' project participation in the analysed projects and by listing the countries having the role of the lead partner. The goal of this

research phase was to categorize innovations and to check their innovative nature by putting them in relation to the Oslo Manual definition of innovation (OECD/Eurostat, 2018), and thus responding to the first research question.

In the second phase, specifically designed online survey was developed in English language for the national coordinators of the EUSAIR. As differentiated from the foreign ministers who are a part of the EUSAIR Governing Board with political function, national coordinators are formally appointed senior officials from the national administration in the EUSAIR countries responsible for operational implementation of the EUSAIR. National coordinators are usually a part of the EUSAIR governance and management structure, but without possibility of direct project financing. However, their task is to promote and encourage activities related to the EUSAIR priorities in their countries. The aim of research was to detect their knowledge of the situation related to innovations in sustainable tourism at the national, macro-regional or the EU level as well as their opinions/attitudes related to certain challenges. The survey was conducted throughout January 2022 with the response rate of 45% (19 answers out of 42 respondents). This research phase should get reply to the second research question and check the role of the EUSAIR governance model in fostering innovations. The survey was anonymous but asked for the indication of the country. It consisted of 22 mostly closed-type questions; only 2 questions required an open answer. 13 of the closed-type questions were the yes/no/(I don't know) questions, and the rest of them were multiple-choice. Basically, 12 questions tested the participants' knowledge and 8 of them tested their opinion. However, some of them were covert questions, testing their knowledge although asking for their opinion.

4. DISCUSSION AND RESULTS

Recent tourism literature abounds with the analyses of sustainability and the innovative solutions for sustainable tourism. Still, from the example of monitoring and evaluation of thematic Pillar 4 - Sustainable tourism, it is visible that innovations in tourism are mentioned in the smaller part of the project and that real outcomes of these intentions are not visible and measurable. Since the research results are mostly related to the classical manufacturing industry, it is important to additionally point out to this theoretical research gap and stress the necessity of operationalisation of innovations in tourism in real development breakthroughs to achieve sustainable tourism in the future. Results are presented following the research methodology. The first phase of the research, with the introductory analysis of the relevant scientific and professional literature related to the innovations in sustainable tourism are focused on the analysis of the projects funded within different EU programmes to identify projects claiming to offer innovative outputs. 313 projects funded from different EU programmes in the AIR on the topic of sustainable tourism were analysed as to detect those claiming some type of innovations. 88 of them were detected based on wording related to innovation and then categorized in the following groups (see Figure 2):

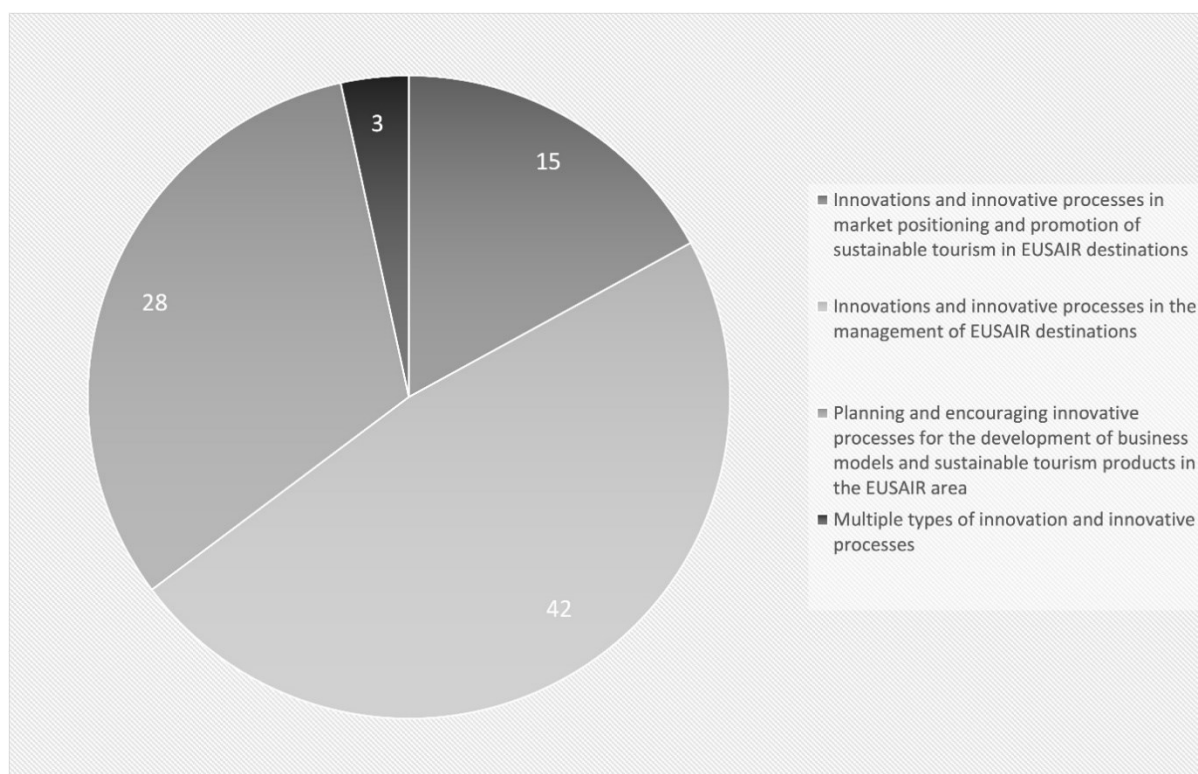
1. innovations in the management of tourist destinations – 42 projects;
2. innovations in business models and sustainable tourism products – 28 projects;
3. innovations in market positioning and promotion of sustainable tourism – 15 projects;
4. multiple types of innovations – 3 projects.

These categories were further subdivided into the following sub-categories:

1. innovations in the management of tourist destinations:
 - a) planning and encouraging the content of destinations or innovations in sustainable use, evaluation, presentation, and interpretation of natural and cultural attractions – 7 projects,
 - b) infrastructure contents of destinations – innovations in accommodation, catering, transport, information content, new technologies in application – 17 projects,
 - c) supporting content of destinations and innovations in activities in destinations – 13 projects,
 - d) innovations in relations with the local community through participatory and interactive models of cooperation – 5 projects;
2. innovations in business models and sustainable tourism products:
 - a) innovations in the field of entrepreneurial initiatives and enterprise development – 3 projects,
 - b) innovations in the field of product development – 22 projects,
 - c) technological support for business models – 2 projects,

- d) education for tourism – 1 project;
- 3. innovations and innovative processes in market positioning and promotion of sustainable tourism:
 - a) innovations in research and access to users – 10 projects,
 - b) new technologies in the function of visibility and promotion – 5 projects;
- 4. multiple types of innovations – 3 projects.

Figure 2. Detected sustainable tourism projects in the AIR by type of innovation



Source: authors' elaboration

Detected sustainable tourism projects claiming innovations in the AIR by categories are shown in Table 4.

Table 4. Detected sustainable tourism projects claiming innovations in the AIR by categories

1. Innovations in the management of tourist destinations:	42 projects
a. planning and encouraging the content of destinations or innovations in sustainable use, evaluation, presentation and interpretation of natural and cultural attractions	7 projects
b. infrastructure contents of destinations – innovations in accommodation, catering, transport, information content, new technologies in application	17 projects
c. supporting content of destinations and innovations in activities in destinations	13 projects
d. innovations in relations with the local community through participatory and interactive models of cooperation	5 projects
2. Innovations in business models and sustainable tourism products:	28 projects
a. innovations in the field of entrepreneurial initiatives and enterprise development	3 projects

b. innovations in the field of product development	22 projects
c. technological support for business models	2 projects
d. education for tourism	1 project
3. Innovations in market positioning and promotion of sustainable tourism:	15 projects
a. innovations in research and access to users	10 projects
b. new technologies in the function of visibility and promotion	5 projects
4. Multiple types of innovations	3 projects

Source: authors' elaboration

The data in Table 4 show that the greatest number of innovations reported is related to product development (22) and innovations in accommodation, catering, transport, information content, new technologies in application (17), while the smallest number of projects deal with innovations in technological support to business models (2) and innovations in education for tourism (1).

Apart from detecting the innovation types, innovative nature of the projects was to be researched through in-depth analysis of the projects. The analysis showed that the available information on the project innovation is rather poor and often insufficient to perform a deeper analysis on innovation. Also, the listed innovations should be questioned as they have little to do with the true nature of innovation as defined by the Oslo Manual definition of innovation (OECD/Eurostat, 2018), although using the wording related to innovations. It turns out that skilful use of wording results in the project approval but has little to do with the definition of innovation. While the exact number of projects whose innovations are questionable cannot be provided as no sufficient information was supplied, it is evident that several innovations could rather correspond to the so called second mover innovations, meaning that they do not bring anything radically new but transfer something into a new context. Also, for a few projects, not even this type of innovation was reported. Apart from this, the analysis of the projects showed a lack of proofs of their replicability.

As for the frequency of countries' project participation in the 88 analysed projects, the analysis showed an uneven geographical distribution of innovative projects within the AIR, with non-EU countries substantially lagging behind. Thus, the countries having the highest frequency of project participation are Croatia (50), Italy (44) and Greece (43), while non-EU countries, except for Albania participate rarely: Montenegro 14 times, Bosnia and Herzegovina 11 times, Serbia 9 and North Macedonia 3 times (see Table 5.).

When it comes to taking over the leading role in the projects, the results of the analysis follow the similar pattern: the EU members are leading – Greece (25), Italy (23), Croatia (17) and Slovenia (15), while non-EU members are lagging behind (see Table 6.).

The analysis of the invested funds showed that the largest budget comes from the Interreg CBC programmes (Table 7). The largest number of projects are funded within the Interreg Slovenia – Croatia Programme (16), followed by Interreg Greece – Albania (14), while the lowest number of projects (2 per each) are to be found in the Interreg Croatia - Bosnia and Herzegovina – Montenegro and Interreg Croatia – Serbia. Accordingly, the largest budget was approved for the projects funded under the Interreg Slovenia – Croatia Programme. This amounts to an average of € 1,117,511.96 per project. The highest average budget per project relates to those funded under the Interreg Italy – Slovenia Programme (€ 2,254,466.1) while the lowest average is calculated for the projects funded under the Interreg Greece – Albania (€ 600,338.18). The results of this analysis are shown in Table 8.

The second phase of the research tested the knowledge and attitudes of the national coordinators of the EUSAIR related to innovations in sustainable tourism at the national, macro-regional or the EU levels. The results of the survey show the majority of respondents' conviction of their familiarity with

innovations in tourism in their respective countries, but only a little more than half of them are certain of their knowledge on innovations in tourism in the AIR. Those who are aware of them, see them as groundbreaking. 10 out of 19 respondents believe that innovation is sufficiently emphasized in the EUSAIR pillars, 7 do not know and 2 disagree. The respondents are not sure if the innovations related to tourism in certain EUSAIR projects funded by the EU programme are clearly described but mostly believe that not all the EUSAIR countries have equal opportunities to develop innovation in tourism (10). Their opinion on the leading innovation countries in EUSAIR are very diverse: Slovenia (9), Italy and Greece (8 each), Croatia (7) and Albania (1). Similarly, the EUSAIR countries which respondents perceive as lagging behind in terms of innovative solutions are North Macedonia (10), Albania and Bosnia and Herzegovina (7), Montenegro (4), and Italy and Serbia (3 each).

Table 5. Frequency of countries' project participation in the projects

Country	Frequency
Croatia	50
Italy	44
Greece	43
Albania	38
Slovenia	34
Montenegro	14
Bosnia and Herzegovina	11
Serbia	9
North Macedonia	3
Other	29

Source: authors' elaboration

Table 6. Countries having the role of the lead partner in the projects containing innovations

Country	LP role
Greece	25
Italy	23
Croatia	17
Slovenia	15
Albania	4
Montenegro	2
Bosnia and Herzegovina	0
Serbia	0
North Macedonia	0
Other	2
Total	88

Source: authors' elaboration

Table 7. Total budgets for the approved projects related to innovations in the AIR

Program	Total budget in €	No. of projects
ADRION	22,349,744.20	16 ¹
OPs & ROPs	35,935,711.29	6
HORIZON 2020	4,908,504.25	2
Interreg CBC	73,127,617.83	58
Interreg MED	20,270,624.20	6
TOTAL	156,610,201.77	88

Source: authors' elaboration

Table 8. Total budgets for the approved projects related to innovations, OPs & ROPs, Interreg CBC

Program	Total budget in €	No. of projects
OPs & ROPs	35,935,711.29	6
OP Competitiveness and cohesion	26,048,533.82	5
Efficient human resources OP	9,887,177.47	1
Interreg CBC	73,127,617.83	58
Interreg Croatia – Bosnia and Herzegovina – Montenegro	3,617,406.53	2
Interreg Croatia – Serbia	2,280,518.90	2
Interreg Greece – Albania	8,404,734.50	14
Interreg Greece – Italy	5,114,189.00	4
Interreg Greece – Republic of North Macedonia	2,139,370.71	3
Interreg Italy – Albania – Montenegro	13,597,812.30	7
Interreg Italy – Croatia	13,329,996.11	7
Interreg Italy – Slovenia	6,763,398.29	3
Interreg Slovenia – Croatia	17,880,191.49	16

Source: authors' elaboration

As the biggest drivers of innovation in their own countries respondents see primarily trends which affect the development of innovative and sustainable tourism (37%), individual creativity (26%) and funding provided by the EU funds (16%). Somewhat less importance is given to the existence of good practice examples (11%), an economic crisis that encourages the development of creativity (5%) or creativity in combination with the EU funds (5%) (Figure 3).

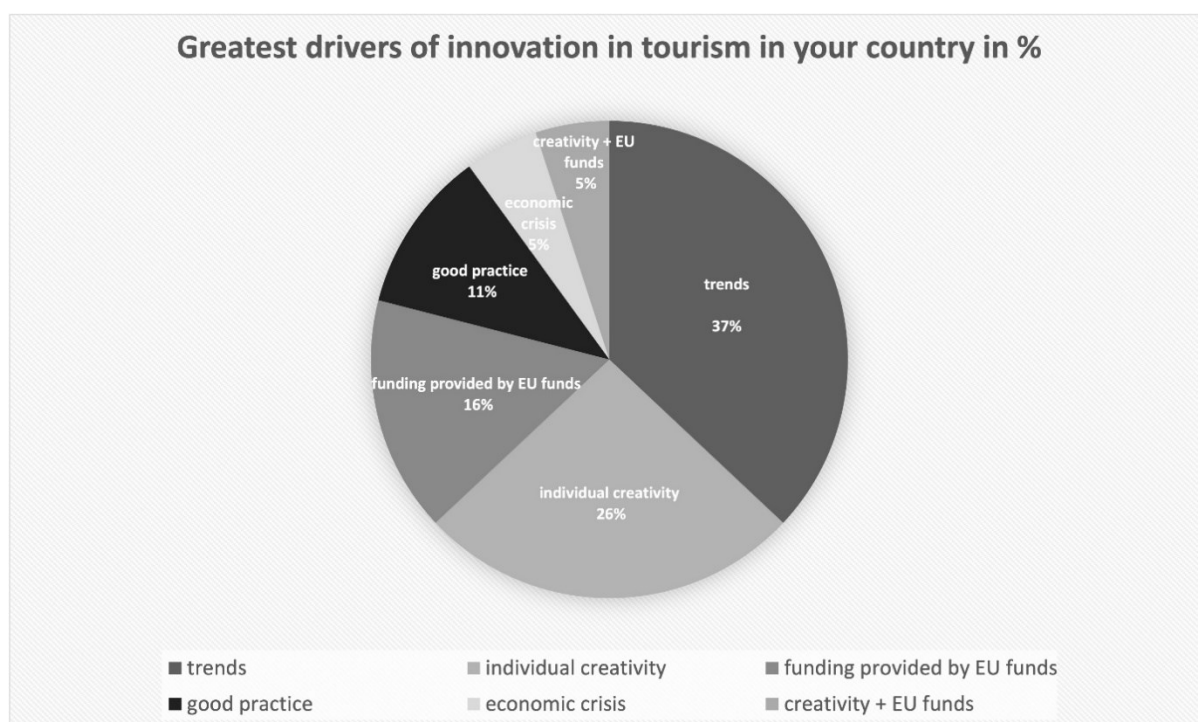
Insufficient knowledge of tourism stakeholders about innovation (11), insufficient cooperation (10) and insufficient funding (10) are seen as the biggest challenges in fostering innovation in tourism in respondents' own countries. In addition, they stress inefficient education (8), excessive reliance on the tourism sector as an economy that allows "easy" earnings and does not foster innovation (7), insufficient public incentives for innovation (6) and reduced tourist numbers due to the pandemic (1).

Regarding their own work, 10 respondents declare that they do not encounter challenges regarding the encouragement of innovative projects, while the remaining 9 of them see the following challenges:

¹ budget for 1 project is missing

- Insufficient knowledge of innovation;
- Digitization, innovative green policies in the field of tourism, and particularly in cultural tourism in relation to the use of smart technologies;
- Determination of relevant criteria in support of innovative projects;
- Different perceptions of innovation by tourism stakeholders resulting in solutions that are not innovative;
- Missing umbrella strategy of tourism development;
- Lack of instruments to stimulate innovation.

Figure 3. Opinion on what drives innovation in tourism in the respective EUSAIR countries



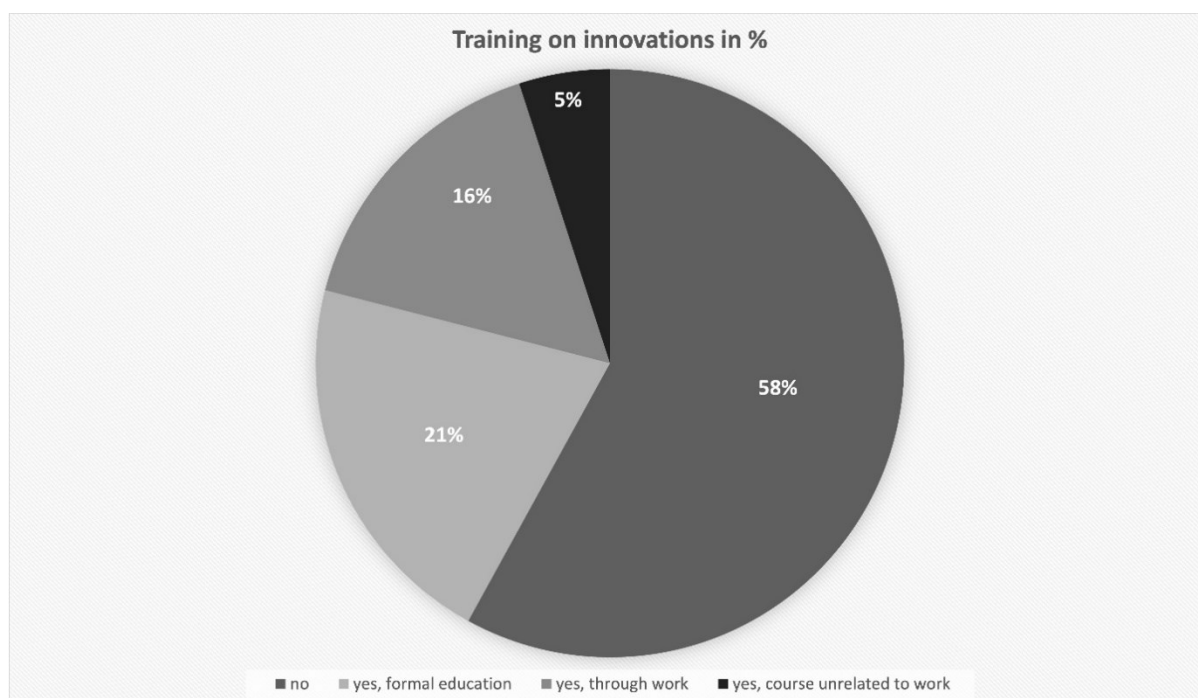
Source: authors' elaboration

Majority of respondents (16) do not have knowledge on good practice examples of innovations in tourism previously developed in the EUSAIR area but mainly agree that the most needed type of innovation in their respective countries is related to innovations in destination management (11), followed by innovations related to the development of business models and products (6) or innovations in market positioning and promotion (2).

They largely agree that private sector is the most successful in developing innovations in tourism in their countries (15). When it comes to digital innovations in tourism, their responses on the needs in this area vary not revealing specific knowledge. They are sure, though that the COVID-19 crisis has affected the development of innovations in tourism in their countries (18).

The respondents show poor familiarity with the "European Innovation Scoreboard" statistical tool (15), as well as with the "European Capital of Innovations Awards" initiative (14). This is also in line with the answers received when asked about possible training on innovation: more than half of the respondents (11) have not received any training, 4 of them have gained some knowledge in their formal education, 3 of them have taken a course in the workplace and 1 course has not been related to work (see Figure 4).

They all agree on the importance of training. However, 2 respondents are not ready to attend course, if available.

Figure 4. Respondents' competence for the topic of innovation

Source: authors' elaboration

5. CONCLUSIONS

The EUSAIR Pillar 4 - Sustainable tourism specific objectives are diversification of the macro-region's tourism products and services along with tackling seasonality of inland, coastal, and maritime tourism demand, improving the quality and innovation of tourism offer and enhancing the sustainable and responsible tourism capacities of the tourism actors across the macro-region. Although there is a significant number of research papers pointing out to the possibility of innovations in tourism, and, particularly, in the field encouraged by the classical manufacture industry and innovative investments into the climate preservation and environment protection, significant breakthroughs in investments and through the projects within the framework of the EUSAIR, have not been achieved in this field. Therefore, there is a need for further intensive investments into innovations in tourism, especially through projects that encourage innovations in the field of experience economy. The desk research results of the first phase show that several different types of innovations are proposed and reported through project proposals. However, despite the challenges encountered in the analysis, the true nature of innovative outputs is questioned. While creativity in development of, e.g., new products and services is often not lacking, the problem is usually seen in terms of their novelty or significant improvement as defined by the Oslo Manual (OECD/Eurostat, 2018). Rather than offering new products/services, the reported innovations offer the already existing types of products/services (e.g., cultural tourism routes, mobile apps) but focusing on another topic. In this line, they could in the best-case scenario be called second mover innovations. However, they seem to fail to prove the translation of these creative ideas/second mover innovations into production, which implies an acceptable cost while meeting specific needs as well as their potential replicability. Thus, they again fail to confirm their innovative nature, as per the Oslo Manual definition. This points to the questionable outputs by which justification of the EU investment into innovative solutions in sustainable tourism could be measured.

To further back that up, the analysis of the invested funds as well as the frequency of countries' participation in the projects was performed. It showed a higher frequency of the EU member states in the AIR participating in the projects and having a leading role while non-EU member states were lagging behind. The exception is Albania, which rather frequently participates in the projects. Substantial funds are invested in fostering innovations through various EU programmes. However, an uneven distribution of the budgets is also noted across the EUSAIR: average budget per project differs between the more

developed countries (e.g., Interreg Italy – Slovenia Programme € 2,254,466.1, and Interreg Greece – Albania € 600,338.18), according to the level of development of individual countries.

Therefore, results of this research phase showed that no ground-breaking innovations were detected in the AIR as a direct result of the investment provided through various EU programmes. Thus, despite available funds, truly innovative solutions are lacking, which is contrary to the theory by Gibbs et al. (2017) on financial rewards fostering quality innovative ideas. Along the same line, although the EU projects are always carried out in partnership, having project partners from different countries and with different backgrounds, the results of the analysis showed to oppose the finding of Gibbs et al. (2017) that the group authorship of the idea facilitates its implementation. As the analysed projects specifically showed the lack of replicability and thus, also their financial sustainability, it is an opposite finding in relation to the study by Xu et al. (2020), which found the positive relationship between financial incentives for innovation and financial sustainability. This offers the answer to the first research question and leads to the conclusion that financial incentives are not necessarily the only measure to foster innovations.

Further on, the results of the second research phase show a relatively low level of EUSAIR national coordinators' knowledge about innovations in tourism in respective countries, both in the EUSAIR area and the EU. This is obvious in the diversity and inconsistency in their responses (e.g., although most respondents claim to be familiar with innovations in tourism, they do not know whether there are good practice examples of innovations in tourism). The lack of knowledge on the topic and state-of-play of innovations in tourism poses a significant challenge for the national EUSAIR coordinators: while they are expected to coordinate projects and network with each other, which should at the same time support the development of innovative solutions in tourism, the coordinators themselves are not trained to do so. Not only they have insufficient knowledge on the true nature of innovations, but they are also unaware of the existing statistical tools and the EU initiatives they could use in their daily operations thus incentivizing possible changes within the governance of the whole EUSAIR macro-regional strategy. Kern Pipan et al. (2012) claim that governance is an important factor for innovation generation, while Moré et al. (2018) back this up by saying that efficient institutions and efficient decision-making result in higher degree of competitiveness. This research found that the AIR scores are low on the European Innovation Scoreboard. At the same time, the national coordinators of the EUSAIR lack not only appropriate knowledge but also appropriate instruments to stimulate innovation. Thus, the appropriate role of the governance model of the EUSAIR in fostering innovations in sustainable tourism is missing since macro-regional strategy decision-making is done without true grassroots support. Besides, the relevant criteria in support of innovative projects seem not to be well defined as the funded projects claiming to bring innovative solutions in sustainable tourism fail to do so. It seems that they are approved based on the skilful use of wording related to innovations and less on their true potential to generate innovations. In this way, in order to answer the second research question, a more operational governance model of the EUSAIR in fostering innovations in sustainable tourism should be put forward with sound criteria empowering national coordinators to have a more active role in it. However, they should have the necessary prior education on the innovations in sustainable tourism. This is in line with the study by Gibbs et al. (2017) who found that specifically tailored financial incentives result with innovative ideas. Hernández Esquivel et al. (2021) claim similar in their research through a series of reports and scientific works on the topic of sustainable tourism and innovations, which mainly point out to a need for additional education and competences strengthening all the stakeholders in these topics in order to enable innovations in tourism. Otherwise, we can expect only mediocre innovative solutions without true justification of the funds invested.

To conclude, financial support for fostering innovations is welcome but its efficiency is questionable assuming it is taken as the only measure to foster innovations. Therefore, it should be accompanied by appropriate governance models with the obligatory monitoring and assessment of the results obtained. Apart from the mentioned, clear criteria for fostering innovative projects and greater empowerment of the national coordinators' role, and stronger stimulation of the areas lagging behind might also affect the development of innovations in sustainable tourism. This does not necessarily mean financial incentives, but rather starting the training and education on innovations and sustainable tourism. Further on, although the study did not explore the relationship between tourism and innovation, it opened a new potential avenue since results, among other, lead to a possible conclusion that tourism, in fact, hampers the development of innovation as it yields relatively stable revenues. In this sense, it can be interpreted that there is less need for innovation because tourism (still) provides a satisfactory standard of living. The COVID-19 crisis has had a significant impact on the decline in tourism traffic, so future innovation

impact analyses can be expected to show greater innovation needs in these areas. Therefore, future research may focus on detecting whether innovations in tourism are at the same level with reported innovations in some other fields (e.g. environment, transport, blue economy in other EUSAIR Pillars).

The already mentioned research limitations (only funded project summaries included in the analysis in Phase 1 and a relatively low response rate to the survey in Phase 2) are again pointed out as future studies may try to solve them. Thus, a more in-depth analysis of the completed projects should be done for possible detection of innovative outcomes of the projects which are now completed.

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