

# Transformative smart rural tourism in adversity of the COVID-19 pandemic and beyond

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**Abstract:** The coronavirus pandemic has reinforced the need for sustainable, smart tourism and local travel, with rural destinations gaining in their popularity and leading to increased potential of smart rural tourism. However, these processes need adjustments to the current trends, incorporating new transformative business concepts and marketing approaches. In this paper we provide real life examples of new marketing approaches, together with new business models within the context of the use of new digital technologies. Via hermeneutic research approach, consisting of the secondary analysis of the addressed subject of smart rural tourism in adversity of the COVID-19 and 6 semi-structured interviews, the importance of technology is underscored in transforming rural tourism to smart rural tourist destinations. The respondents in the interview section were chosen based on their direct involvement in the presented examples and geographical location, i.e. France, Slovenia and Spain, where presented research examples were developed, concretely within European programmes, i.e. Interreg, Horizon and Rural Development Programme (RDP). Interviews were taking place between 2022 and 2023 in person, email or via Zoom. This two-phased study demonstrates that technology is important in transforming rural tourism to smart tourist destinations and that it ushers new approaches that seem particularly useful in applying to rural areas, creating a rural digital innovation ecosystem, which acts as a heuristic rural tourist model that fosters new types of tourism, i.e. smart rural tourism.

**Keywords:** rural tourism; rural digital innovation ecosystem; smart and sustainable tourist destinations; sustainable development; digital technologies; marketing promotion; heuristic rural tourism model

## 1. Introduction

The COVID-19 pandemic strongly affected the tourism sector. As reported by Eurostat, in 2020 compared with 2019, 1.5 billion fewer nights (–52%) were spent in EU tourist accommodation (Nights spent at tourist accommodation establishments) and there was an 87% decline in international tourist arrivals in January 2021, compared to the same period from 2020 (January 2021 as United Nations World Tourism Organization (UNWTO) calls for stronger coordination to restart tourism). Santos et al. are for instance reporting impacts on consumer patterns and preferences, as well as arguing that the pandemic can accelerate digital and green transitions, create opportunity for rural and nature-based destinations and overall foster rethinking of the current tourism (Santos et al., 2020). The COVID-19 consequences on tourism and its impact on local communities is explored in different studies and different countries around the world, e.g. in Spain and Portugal (Rodrigues et al., 2022), Brunei (Chin et al., 2023) and California (Hardesty, 2020), to name a few. In this manner, this research

will investigate the relation between rural tourism and digital technologies; what can these technologies contribute to rural areas in terms of provision and development of rural tourism, especially in relation to sustainable development and consequently to marketing promotion amidst such events as COVID-19. Several studies, i.e. Chin and Musa (2021), Abbas et al. (2021) have already looked into new ideas that could act as solutions in such crises, arguing that the process of digital transformation and the introduction of digital tourism could endorse agritourism as a form of tourism are one of the possible solutions; and even before the COVID-19 pandemic, studies showed the potential of rural tourism in regard to sustainable development and resilience (Nair et al., 2015; Kantar and Svržnjak, 2017) on one hand, and benefits of the use of digital technologies, fostering so-called smart place-service-tourism (Gretzel, 2018). However, compared to the studies mentioned, unique contribution of this research is its method, i.e. a combination of the secondary analysis and conducted interviews with involved stakeholders in research pilot projects, led directly by the authors of this paper.

In terms of the policy ramifications, programme such as an Interreg programme, within which one of the presented pilot research activity took place, is in particular focused on pursuing the policy framework. Therefore, in terms of policy actions such research can be beneficial for further policy developments.

For instance, The World Trade Organization (WTO) explored tourism-related policy approaches, which were adopted during COVID-19 crisis and found out the importance of government support in terms of provision of financial support, vouchers for online training and reskilling programs (WTO, 2020). Measures to alleviate financial strain on tourism businesses during periods of reduced demand were in particular beneficial. In this context, policy responses included deferment or annulment of tax and social security obligations, national initiatives for tourism promotion and marketing, and the facilitation of tourism enterprises offering vouchers instead of refunds to their clients. Another benefactor in this regard was offering support in financial liquidity to bolster both major and minor stakeholders in the travel and tourism industry (WTO, 2020). Further, as a response to the COVID-19 pandemic, The Organisation for Economic Co-operation and Development (OECD) suggested actions for policy development with key focal points on rebuilding confidence among travelers, assisting tourism businesses to adapt quickly, promoting domestic tourism and facilitating the safe return of international tourism, offering clear information to both travelers and businesses, adapting response measures, enhancing cooperation within and between countries and cultivating a more resilient and sustainable tourism industry (OECD, 2020).

Accordingly, by focusing on smart place-service-tourism ecosystems within the frameworks of sustainable rural tourism and digital technologies, this paper will show how rural digital innovation ecosystems can provide a holistic and in particular, sustainable “responsible tourism approach,” embodied in a sustainable, transformative rural tourism, which accelerates green transitions, more eco-friendly solutions from both supply and demand sides (already in growth trends in the last decades) in line with SDGs objectives. As these processes result in changes in consumer behavior, underlying preferences for national destinations, low tourist overcrowding, nature and outdoors activities etc., marketing and promotional activities need to follow these

transformations too.

In this manner, this research paper, financed by *Slovenian Research Agency (ARIS), P2-0425: Decentralized solutions for the digitalization of industry and Smart cities and communities* will present 3 potential business models of rural tourism that are clearly demonstrating digital transformation being not just a technical, but a social process as well, meaning they have a strong potential to be upgraded into innovative sustainable business models which can serve as an epistemic starting point for developing a general heuristic rural tourism model. To encapsulate, general contributions of this research are the following:

- Demonstrating that rural tourism in connection to digital technologies has much potential in tackling resilience challenges that COVID-19 had emphasized and beyond in terms of the so-called risk society.
- Providing theoretical study, resulting in a heuristic rural tourism model, accompanied with practical study cases will enable universal transferability of the new approaches of marketing promotion of rural tourism.
- Qualitative analysis, consisting of the secondary analysis and 6 semi-structured interviews with stakeholders, directly related to 3 presented potential business models, taking place between 2022 in 2023.

The presented models, combining the use of digital technologies, are so-called research pilot projects, conducted within European financial programmes of Interreg, Horizon and Rural Development Programme (RDP). The first presented model is the model of “Meet the Local Producer”, a web store for local farmers, who do not have the capacities and means to have their own web pages; the second presented model is the developed app, “KulTura, aspiring to connect digital technologies, cultural and natural legacy with local stakeholders and the third model of the practice of “Virtual wine tasting” is demonstrated, alongside with the rural digital hub’s solution,

To sum up, the purpose of this research is to demonstrate the prospects and benefits of the new digital technologies within rural tourism during the (post) COVID-19 pandemic.

## **2. Methodology**

This study is based on qualitative methodology. The first part provides a review of the situation in rural tourism with the unique focus on the post pandemic situation. The second brings forth data, collected by conducting qualitative interviews between the years of 2022 and 2023. The interviews were conducted “in person” or by digital tools, such as ZOOM and email.

Following their interdisciplinary approach, undertaken in rural areas within various international Horizon and Interreg projects, namely LiveRur (2021), Carpe Digem (2021), Smart Villages (2021) and Smart Agro Grape (2021), the authors of this paper conceptualize rural digital innovation in relation to smart development, according to which technology and technological solutions should be understood as a product of culture and social norms.

By securing social, cultural, environmental, and economic sustainability, rural digital innovation ecosystems have the potential to create smart and sustainable tourist destinations (SSD) which have immense potential for innovative approach,

stimulating various stakeholders, i.e. establishments and governments in introducing technology to encourage the progress of tourism destinations (Li et al., 2017), including the need to modernize decision-making policies (Celdrán-Bernabeu et al., 2018).

In this regard, this research is based on two central theses:

- By including smart tourism, rural tourism is forming a rural digital innovation ecosystem, which enhances smart and sustainable tourist destinations (SSD) and consequently acts as heuristic tourist model.
- New types of tourism, i.e., smart rural tourism demand new approaches of marketing promotion, which need to combine digital technologies with the unique characteristics of local environments, along with adequate inclusion of relevant stakeholders of the targeted smart and sustainable rural tourism destination and principles of sustainable development.

The elaboration of the identified central theses is based on the evocation of the concept of an ecosystem, which allows to conceptually link “diverse entities, processes, products, services, organizations, industries, communities, as they draw on resources, including technology, attention, and knowledge, to create and realize the value of digital innovation” (Wang, 2019).

The relevance of this perspective is its ability to conceptualize multiple stakeholders and multiple innovations almost in a holistic set (Wang, 2019), which is in particular helpful for analyzing different aspects of (rural) tourism, i.e. from tourists (consumers), residents, trade, services, government, banking and payment of accounts, various industries and suppliers, ICT business dealing with the use of devices, to data for smart destinations etc.

Therefore, for the purposes of this research, the concept of an ecosystem has been extended in such a manner, that complexity of rural tourism is underscored, along with the concept of smart and sustainable destinations tourist (Rocha, 2020), which in regard to tourism is about stipulating cooperation and partnership between consumers, suppliers, and public and private spheres, accompanied by democratic and sustainable (Rocha, 2020).

If digital ecosystem is about “community actors, services required, the technical platform for delivery and the underlying infrastructure being us” (Digital and Social Innovation in Rural Services, 2018) effective functioning of rural digital innovation ecosystem needs to follow specific context of rural areas, especially in regard to the so-called three main pillars of the rural digital divide: broadband infrastructure; available digital services; and the digital literacy of residents (Digital and Social Innovation in Rural Services, 2018). Successful delivery of these three dimensions enables achieving smart and sustainable tourist destinations, characterized by social and economic equity, efficiency and reduction in energy consumption, adequate governance and information management and satisfying the tourism experience (González-Reverté, 2019).

It is important to add, that our research engagement with rural communities has provided us with invaluable insight in how to work with these communities, resulting in developing a methodology which understands that digitalization in rural areas is about cocreation of rural digital culture. For digitalization to be successful in rural

areas, it needs to engage rural residents individually and communities as a whole, actively. Such methodology therefore needs to be characterized by community engagement via application of bottom-up, non-hierarchical approaches that enable effectively identify the needs of the targeted communities and consequently develop a myriad of promotional activities for the targeted smart and sustainable rural tourism destination.

As the use of qualitative methods enables such in-depth analysis, which we regard as key in understanding how local communities work, besides conducted secondary analysis we created semi-structured interviews to evaluate the proposed models in an in-depth manner with a particular focus on the individualized outcomes of a particular involved stakeholder. This phase of our research served us for exploring and identifying individual differences between participants' experiences and outcomes regarding their entry context and it consists of 6 semi-structured interviews which were based on pre-defined questions; although they were adjusted to each individual respondent, based on their answers.

The conducted qualitative analysis consisted of different sections by which we wanted to gather participants' opinions about each practice, representing a specific business model. The interviews collected perceptions on the involvement of digitalization in their business models and their readiness level, whereas the future oriented section included participants' views on what could be improved within the future developments.

In terms of recruitment, the respondents were chosen based on their involvement in the research pilot projects. With the exception of the French and Spanish winemaker, who were based on our request initially contacted via our project partners, all the participants were contacted via emails.

Before conducting the interviews, the respondents were presented with the background of the research, it was also explained to them, that the interviews will be recorded and if answered via emails, emails would be archived only for the purposes of the research.

Privacy and data security of the respondents was assured. This part of the research, in particular interview section follows all the principles of the ethical consideration in research: voluntary participation, consent, anonymity, confidentiality and results communication. In this manner, all the respondents agreed to take part in the research process; the interview with the French winemaker was conducted in French language and subsequently translated to English language, Spanish respondents agreed to speak in English, and 3 Slovenian respondents spoke in Slovenian language due to a shared mother language of researches themselves.

Participants sample is heterogeneous as we aimed to have at least one participant for each practice described. For the examples of "Meet the Local producer Platform" and "KulTura", we did have one participant for each practice, but for the last example, the "Virtual wine tasting", we had four participants, namely two winemakers (one from France and one from Spain), Slovenian stakeholder and a Spanish stakeholder, which are not winemakers. In the text below, we provide participants descriptions and their answers. Respondents' information can be found in **Table 1**.

**Table 1.** Participants’ information.

	<b>Participant 1</b>	<b>Participant 2</b>	<b>Participant 3</b>	<b>Participant 4</b>	<b>Participant 5</b>	<b>Participant 6</b>
Sex	Female	Female	Male	Male	Male	Female
Country	Slovenia	Slovenia	France	Spain	Spain	Slovenia
Occupation	Has a private institution for innovation and entrepreneurship, which has made the growing importance of innovation in the region’s development and its economy the basis of its activities. The mission of the institute is to introduce innovation and sustainable principles into the development of the region.	A graphical engineer who works in a public institution in the tourism industry related to entrepreneurship and tourism development. They also have a museum department and a business incubator. The total number of current employees is 18 people. Their customers are the public, SMEs, and municipalities.	Winemaker. Wine production for him has been a family business for 6 generations. Their sales section is organized in four sectors: more than a half of the sales is trade (bulk sales), private individuals (cellar/trade fairs/online sales) account for around 20% of the sales, then cooperatives and professionals (wine merchants, restaurant owners, export).	Fourth generation of the family-owned business for winemaking. It was established in 1931 in Mallorca, Spain. Currently, they employ 45 people. The customers are mainly locals and foreigners who live in Mallorca and some customers from abroad. They sell their products in restaurants, supermarkets, shops and directly from the winery to those who live abroad. They are starting with online sales.	Representative of the Chamber of Commerce, Industry, Services and Navigation of Mallorca	Representative of a rural digital hub from Slovenia and sommelier
Activity in the research pilot projects, i.e. presenting one of the business models	Meet the Local Producer” platform user	Interviewed in regard to the mobile application “KulTura”	Participated at the event “Virtual wine tasting”	Participated at the event “Virtual wine tasting”	Participated at the event “Virtual wine tasting”	Participated at the event “Virtual wine tasting” and representative of the rural hub

### 3. Heuristic rural tourism model

#### 3.1. Searching for the new heuristic rural tourism model as a response to COVID-19 challenges

Prior elaborating on rural tourism, a general epistemic account of the tourism studies is needed due to phenomenal expansion of both domestic and international tourism in recent year (Cohen and Cohen, 2015).

Unprecedented growth in tourism since World War II correlates with a number of complex socio-economic processes: from mass and relatively low-cost air transport to dependence on economic returns from the industry by a number of countries, bringing into the discussion the issue of mass tourism, which results in unplanned and uncontrolled tourism development, where particularly developing countries are facing (Wisansing, 2004) cultural denigration, loss of traditional pride and ethnic identity as well as environmental degradation (Hughes, 1994).

The genealogy of the tourism industry is therefore closely linked to the epistemic matrix of Western society, interconnecting social, cultural and economic dimensions. As argued by a number of researchers (Cohen and Cohen, 2015; Doquet and Evrard, 2008), tourism should be regarded as the modern Western phenomenon with the specific geographic pattern of international tourism coming from Western or

Westernized countries into the undeveloped ‘pleasure periphery’ (Cohen and Cohen, 2015; Turner and Ash, 1975) with tourists searching for experiences of difference, authenticity and/or the ‘exotic’ Other (Cohen and Cohen, 2015).

However, this could be seen as a contradictory response to mass standardization brought upon globalization and needs to be in this regard conceptualized within the profound societal changes, i.e., transformation of mass culture into postmodern culture, underpinned by the emergence of new media and sociopolitical and cultural processes of digitalization. In fact, in the 1980s and 1990s, critical perspectives on mass tourism, neocolonialism and dependency gathered momentum, enhancing studies of ‘alternative tourism’, ‘responsible tourism’ and various approaches, such as community-based tourism (CBT), volunteer tourism, fair trade tourism and pro-poor tourism were instigated (Jamal and Higham, 2021). Consequently, approaches that are critical of Eurocentric bias were developed, proposing to move away from the prevailing modernist paradigm in tourism studies (Cohen and Cohen, 2015).

In touristic services, these transformations can be identified by new trends of diversification of the tourism product, diversity, and multiplicity of the tourist experience, and above all, in altered tourism services, which are about finding new, innovative ways for the tourist’s sensorium, underlining the importance of the experience itself. This new model is more postmodern than modernist, as it does not accept the proverbial Eurocentrism, putting instead the importance of the authentic multisensory and physical experience.

By following approaches of place-based research, communal co-creation, accompanied by bottom-up approaches, fostering development of an in-depth understanding of the local environments, valuing local knowledge and new promotion strategies, that are aware of the importance of different environments and their specific cultural and territory characteristics, this model aims to tackle the challenges of rural tourism, i.e., globalization, digitalization, and environmental challenges.

It aspires for a sustainable, just tourism paradigm, that is not only primarily growth-driven, Eurocentric and anthropocentric, but understands the diversity and the rights of the “Other”. Is also a model, that displaces human-centered privilege, fosters forms of economies, that are other than market capitalism oriented, putting forward community social enterprises, human-environmental/human-animal relationships and nature’s rights (Holden, 2019; Jamal and Higham, 2021; Puriri and McIntosh, 2019).

With the emergence of the pandemic of COVID-19, likely related to biodiversity loss, disclosing how that imbalance is degrading both human health and wealth (Bradshaw et al., 2021), the need to develop a heuristic rural tourism model which will be polysemic, is even more urgent, moving away from the modernistic understanding of tourism, being purely as a development tool.

This paper is therefore proposing that sustainability (or sustainable development) is part of the proposed tourism model of the rural digital innovation ecosystem. By this, the proposed model continues with sustainability being an inseparable part of the smart tourist destination concept (González-Reverté, 2019), promoting its values in all of its 5 areas environmental, economic, and social, cultural and political aspects. The proposed areas can be further differentiated by 11 dimensions in place sustainability: the natural environment, economic growth, social equity, built environment, landscape, live ability and health, conviviality, transport, energy, water and waste management,

and governance, with each of the dimension being evaluated by local government (Taecharungroj et al., 2019).

COVID-19, tourism faced one of its biggest crises, leading to different socio-economic impacts, such as loss of jobs impacting on livelihoods, decreasing export revenues from tourism and reducing the global GDP, as well as affecting cultural heritage practices (Tourism and COVID-19 unprecedented economic impacts, n.d.). The importance of developing new strategies and models in tourism is even more important, especially in regard to sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Report of the World Commission on Environment and Development: Our Common Future, n.d.).

As World Tourism Organization (UNWTO) understands rural tourism as “a type of tourism activity in which the visitor’s experience is related to a wide range of products generally linked to nature-based activities, agriculture, rural lifestyle / culture, angling and sightseeing” (Rural tourism, n.d.), it has the potential to be a model of sustainable development. But, as UNWTO argues, the sustainability of tourism in rural areas can only be successful if a multi-action and multi-stakeholder participatory approach is adopted, together with a comprehensive, inclusive planning strategy (Rural tourism, n.d.). Let us now take a more detailed look at different rural tourism definitions.

### **3.2. Types of rural tourism**

Because the notion of rural tourism operates as an umbrella term, it encompasses several types of tourism: agritourism, ethnic tourism, ecotourism, creative tourism, and culinary tourism (Sasu and Epuran, 2016).

Agritourism is usually organized as a secondary activity, supporting farming as the central activity (Darău, et al., 2010). Given the fact, that postmodern tourism is about searching for alternatives to the conventional mass tourism and finding ways how to express interest for simulated and theme-oriented tourism attractions (Dujmović and Vitasović, 2015), agrotourism for many tourists represents a unique experience, based on the idea of authenticity of the promotes lifestyle. Agritourism is in particular welcoming for a target group that is eager to have more intimate, personalized, and ethically correct experiences in their holidays (Daugstad and Kirchengast, 2013).

Besides agritourism, Sasu and Epuran are identifying ethnic tourism as tourism that involves the local population, in particular the minority population (Sasu and Epuran, 2016), where, according to Wood cultural identity is the object of marketing (Wood, 1984). The epistemic similarities due to rural tourism being an umbrella term resonate in recurring themes of sustainability, legacy, conservation and communities, authenticity etc., connecting agritourism, ethnic tourism but ecotourism and creative and culinary tourism as well.

Ecotourism is specifically about sustainability, conservation, sustainable travel and its activities should be based in a manner that they are not harmful to the environment or to the people who practice it. Nistoreanu et al. are stating that for tourism to be eco, it must follow a certain set of conditions, like protecting and



preserving nature, using local resources, aspiring to enable educational purposes and overall, the activities should have a less negative impact on the environment (Nistoreanu et al., 2011).

Learning about new skills and experiencing new sensations is even more important within the creative tourism, which is about “involving tourists in the creative life of the destination, a creative means of using existing resources, a means of strengthening identity and distinctiveness, [...], a source for recreating and reviving places” (Richards and Marques, 2012). But in terms of experiencing new sensations, perhaps the most important is culinary tourism, for which Sasu and Epuran are arguing, is part of cultural tourism, however, due to the nature of its activities and principles, it can be regarded within the rural tourism as well (Sasu and Epuran, 2016). This type of tourism is connected to local food production, enhancing economic and environmental sustainability.

### **3.3. Overview of rural tourism’s definitions**

The indicated models of tourism attest its complexity and underline its involvement in local, regional, national, and multinational environments. The term rural tourism is based on a variety of characteristics, underlining its broad conceptual heterogeneity. Wegren argues that no consensus on the definition of rural tourism exists (Wegren, 2016) and several researchers are proposing to approach it as an umbrella term (Rural tourism explained: What, where and why, n.d.; Sasu and Epuran, 2016), underscoring the importance of the polysemic epistemic approach to rural tourism.

Sznajder et al. via McComb et al., claims that prior to the 1970s, rural tourism was about specific types of tourism and businesses which were mainly about agritourism and rural lodging establishments (McComb et al., 2017). On the other hand, Hernández Maestro and González-Benito are arguing that natural resources of rural environments and the local community of the local residents and hosts are nowadays still integral for rural tourism (Hernández-Maestro and González-Benito, 2014).

Despite being an umbrella term, the kernel definition of rural tourism is derived from the geographical dimension in relation to urban / non-urban areas (Rural tourism explained: What, where and why, n.d.; Sasu and Epuran, 2016; Garau, 2015). In general, rural tourism is conceptualized as “places for entertainment, leisure activities, second homes and as an alternative to urban residential areas” (Bessière, 1998), and Gökhan Ayazlar with Reyhan A. Ayazlar contextualizes rural tourism within the wider socio-historical, cultural, and economic context, underlining its embeddedness in an array of social processes and cultural phenomena (Ayazlar and Arslan Ayazlar, 2015). But perhaps the most comprehensive definition of rural tourism is offered by Nagaraju and Chandrashekara, who are arguing, that rural tourism is about “any form of tourism that showcases the rural life, art, culture and heritage at rural locations, thereby benefiting the local community economically and socially, as well as enabling interaction between the tourists and the locals for a more enriching tourism experience” (Nagaraju and Chandrashekara, 2014).

### **3.4. Rural tourism (in the European Union): Before, within and after the COVID-19 pandemic**

Rural tourism's relevance was relatively residual until the 1960s (Remoaldo et al., 2017). On the other hand, with the rapid expansion, tourism in rural areas has increased, resulting in higher levels of consumption, and importantly changing contemporary agriculture (Haven-Tang and Sedgley, 2014). The importance of rural tourism of being a valuable contributor to the quality of rural living has been demonstrated by a number of researchers (Bojnec, 2010; Martínez et al., 2019; Polukhina et al., 2021; Petrović et al., 2017).

As suggested by Bojnec, before the COVID-19 rural tourism in several rural places in Europe as well as in some part of Australia, New Zealand, the United States of America and Canada was quickly becoming one of the most significant single economic activities in the rural economy (Bojnec, 2010) and rural tourism established itself as a provider of rural growth and development (Dashper, 2014).

As rural tourism is inherently linked to the local environment, based on the geographical position and research experience of the authors, this paper will in particular focus on the context of the European Union, providing a three-phase analysis: Rural tourism before, within and after the COVID-19, ultimately discussing the prospects of the post COVID-19 situation.

In Europe, the phenomenon of rural tourism started in the late eighties and consolidated over time (Garau, 2015). Bojnec identified how specific EU countries approach to rural tourism (Bojnec, 2010); in Spain, rural tourism is understood from the context of rural economy diversification and not from farm diversification (Vélez and Arévalo, 2004), underlining a much greater importance of rural tourism in comparison to agriculture in the UK (Hill, 2006). Together with farm tourism, rural tourism in new member states of the EU (from Central and Eastern Europe), has become a new market niche (Bojnec, 2010; Rozman et al., 2009).

As rural tourism is very much intertwined with the concept of the sustainable tourism, given its inherent linkage to green spaces and environmentally friendly forms of tourism (Rural tourism explained: What, where and why, n.d.), it has invaluable potential to jump on the bandwagon of the green and digital transition especially during the COVID-19 crisis as many destinations relied on rural tourism for their revenues in rural areas (Liu et al., 2023). It cannot be stressed enough that with the COVID-19 situation, when sometimes no physical tourist activities were allowed, rural tourism needed to find new ways of approaching its tourists. Nature-based and rural destinations found themselves in a better position than urban/overcrowding destinations which needed to rethink their tourism's strategy (Santos et al., 2020).

Yet, as all types of destinations are subjected to climate change and to its various socioeconomic, political, and environmental consequences, a change of approach is needed. For instance, Tuel and Eltahir are putting forward the example of the Mediterranean which has experienced substantial drying over the last century, adding that further drying will inevitably exacerbate social and geopolitical tensions in this severely water-stressed region (Tuel and Eltahir, 2020). Or as reported by NASA, overall, July 2023 was 0.43 degrees Fahrenheit (F) (0.24 degrees Celsius (°C)) warmer than any other July in NASA's record, and it was 2.1 F (1.18 °C) warmer than the

average July between 1951 and 1980 (NASA Clocks July 2023 as Hottest Month on Record Ever Since 1880, n.d.).

Even before the COVID-19 pandemic, Bojnec was stressing the importance of the synergy between the specific sector policy for tourism development from the EU in terms of encouraging and supporting local tourism development to enable sustainable development (Bojnec, 2010), but with the COVID-19 crisis, being the third recognized disease transmitted from animals to humans in only two decades (Coronaviridae Study Group of the International Committee on Taxonomy of Viruses, 2020) and strongly associated with climate change (Epstein, 2001), this involvement is even more important.

Santos et al. are for instance suggesting that their involvement enables exploring new opportunities, helps identify new challenges and market failures, refine, and extend new innovation priorities, share experiences and best practices and draw on territorial and cultural diversity (Santos et al., 2020).

### **3.5. Stakeholders of rural tourism: Who are they, why are they important and how to actively engage them in the new heuristic rural tourism model of a rural digital innovation ecosystem?**

A decision to address rural tourism via proposed notion of rural digital innovation ecosystem underscores the favorable relation between local environments and enhancement of development of local (tourism) markets, industries, and above all, fosters creation of self-identified, organic, and sustainable social construction of local communities (Hunter et al., 2015).

As the proposed heuristic rural model is following the principles of sustainable development, which is a complex notion due to potential contradictions, coming from tensions between the different dimensions of sustainability, i.e., environmental, business, and social, stakeholders' inclusion ought to be aware of this complexity, especially in regard to tourism, which embodies all these aspects (Gray, 2010). Concretely, this complexity is encapsulated by various fields of activity, from transports to accommodation and food services to leisure, cultural activities (Remoaldo et al., 2017) and marketing strategies as well, which are in particular coming forward in the example of rural tourism.

Due to rural tourism's dependence on the local context, rural tourism enhances glocalization processes, which "have significant implications for consideration of 'the local' (Giulianotti and Robertson, 2006), 'underscoring the importance of the inclusion of the local stakeholders. Because glocalization is about constructing and inventing local traditions or forms of particularity (Robertson, 1995), an overall significance of the rural tourism's stakeholders is emphasized. But who are the stakeholders of rural tourism?

Via McComb et al., Freeman defines a stakeholder "as any individual or group who either has an impact or is impacted by tourism development" (Freeman, 2010). Otherwise, a general stakeholder profile network includes host (local) community, tourists, non-governmental organizations, the tourism industry, governmental bodies, local governments, national environmental agencies, tourism authorities, tour operators.

To aspire to avoid disruptive consequences of global mass tourism, i.e., destruction of environment and unplanned and uncontrolled exploitation of resources, the approach that understands the importance of endogenous resources, community's needs, and bottom-up model of action (Woods, 2010) is a preferable choice.

Lebe and Milfelner have observed that due to economic benefits from tourism, local residents can actually disruptively contribute to their own natural resource (Lebe and Milfelner, 2006), making active engagement of stakeholders even more important, as their collaboration can raise awareness, introduce more sustainable solutions and in general enhances the invaluable role of the local communities.

Thus, inclusion of local stakeholders is integrative for sustainable local spatial, economic and social operation, and, as argued via Modica, tourism monitoring is importantly recognized as a stakeholder-driven process (Modica, 2015). Stakeholders' engagement therefore importantly valorizes so-called endogenous development, which "is based on the use of resources through the valorization of local economy and culture" (Remoaldo et al., 2017), underlining sth. Which Rangues et al. identify as sustainable management (Rangus et al., 2017).

## **4. How can digital technologies support rural tourism?**

### **4.1. Smart tourism in smart rural areas and sustainability**

If digitalization is according to Brennen and Kreiss et al. exploitation of digital opportunities, digital transformation is affecting all levels of society (Brennen and Kreiss, 2016). However, one of the main characteristics of digitalization is that it operates in a convergent way, fusing different (media) formats and user experience, resulting in transformation of various fields, e.g., marketing, finance, health, education, work, news, online user participation, tourism, environmental care etc.

In discussing the issue of governance, regarding sustainable tourism in rural areas, the role of technology is indispensable (Garau, 2015). Vargas-Sánchez is for instance arguing that mixing ICT and sustainability concepts facilitate smart destinations to stimulate sustainable economic growth (e.g., socioeconomic, environmental, and cultural) and encourages design of procedures for tourism management using smart, competitive, and sustainable methods (Vargas-Sánchez, 2016).

Introducing digitalization to rural tourism needs to follow a strategy that goes beyond narrow implementation of technology - it needs to imply a deeper change at the level of the community, encompassing the entire business model, also including how technologies are integrated into the development of rural tourism on one hand and the sustainability dimension on the other hand.

When applying these technologies to rural areas, the notion of "smartness" comes to the centre of debates. "Smartness" in rural areas is not limited to increased levels of digitalization or connectivity, instead, "smartness" comes from the use of digital technologies as vehicles for local development goals and the improvement of the quality of life of citizens (Smart Villages Pilot Project, 2019).

But these areas can only become smart, if introduction of digital technologies involves their communities and their people who are the most important stakeholders of their smartness. In fact, the relation between smartness and sustainability can be identified in the strategy of the destination and the application of technologies for a

more efficient environmental management (Ribes and Baidal, 2018).

In this regard, smart tourism in rural areas needs to cover different areas of use (Gretzel, 2018) and in relation to the smart city concept, ought not to be only about technical, but also about social perspective (Nam and Pardo, 2011). Therefore, smart tourism needs to be distinguished from the eTourism's paradigms, which are proverbially attesting the link between the physical attributes of the destination on one hand and smart digital ecosystem on the other hand (Gretzel, 2018).

In this context, the concept of smart tourism (not only in reference to rural areas) follows a broader socio-technical perspective (Ballina, 2020; Gretzel, 2018), underlining the importance of the development of the strategic and holistic approach by including a network of different stakeholders and methodology and putting forward the importance of cooperation between the digital and real environments. Similar as with the perspectives on smart cities, which are stressing the importance of multidimensional aspect of smart-ness, i.e., a technological, a human and an institutional (Nam and Pardo, 2011), smart tourism aspires to put forward these ideas to tourism contexts (Gretzel, 2018) and in general aspires to improve the competitiveness of tourism firms and destinations by developing information and communication infrastructure and capabilities (Gretzel et al., 2015).

However, applying smart tourism in non-urban areas is complex (Gretzel, 2018), emphasizing the argument that new digital technologies do not create new solutions and arrangements per se, but need to be integrated into existing structures that depend on a great variety of factors (Butollo, 2021), such as adequate infrastructure, digital competences, and digital skills. But what exactly does smart tourism mean in its relation to smart sustainable rural areas and development of new marketing promotion strategies?

Smart tourism is mostly applied to the destination level (Ballina, 2020; Gretzel, 2018) and a number of different authors are pointing to ICTs as being a decisive factor in the competitiveness of destinations (Femenia-Serra and Neuhofer, 2018; Koo et al., 2016). As digital technologies provide rural areas with a greater level of visibility, communication, integration into tourist flows, marketing of products, and services of higher quality (Garau, 2015), they are adding value to the overall tourist experience but to the tourist areas as well (Weidenfeld, 2018).

#### **4.2. Smart specialization and tourism: Smart Villages as example of the rural digital innovation ecosystem**

The UNWTO guidelines for safe and secure tourism development after the COVID-19 crisis are advocating new digital transformation strategies as imperative for creating new sustainable tourism (UNWTO launches global guidelines to restart tourism, n.d.).

Recently, great attention has been given to digital marketing and e-commerce services as it opens up opportunities for reaching new markets, gaining new customers and retaining existing ones, building brand awareness and recognition (OECD Tourism Trends and Policies 2020, n.d.).

Data, coming from the use of digital technologies, is creating a unique loop. Data generated by tourists provides future scenarios of tourist preferences, allowing local

communities to improve and customize their services and allocate their resources more efficiently. All and all, the use of these technologies helps rural tourism in several dimensions, i.e., tourists service suppliers, tourist and travel agencies, communications, events, and conventions companies, as well as financial systems (banks) and even public administration, including governments (Rocha, 2020).

Three main components for future development of the tourism industry are expected: New ways of consumer engagement through storytelling, implementation of cutting-edge technologies such as VR and AR and presentation of a new sustainable business model for achieving social, economic, and environmental value.

However, as we have demonstrated, bringing digital technologies to rural areas can be challenging as it needs to consider complexities of rural communities. In several of our analyses (Cvar et al., 2020; Stojanova et al., 2021; Stojanova et al., 2022; Zavrtnik et al., 2018; Zavrtnik et al., 2019; Zavrtnik et al., 2020) we have demonstrated that place-based and context-based approaches seem particularly useful in applying to rural areas, as they put forward bottom-up integrated approaches, which have the ability to address complex needs of communities. Recently, so-called rural digital hubs have gained attention, having potential to foster holistic and above all inclusive digital transformation in rural areas.

### **4.3. Rural digital hubs and their role in development of the rural digital innovation ecosystem and rural tourism**

A number of research studies are demonstrating that digital infrastructure and technologies can help rural places to become better connected and thereby overcome the disadvantages of their remoteness (Rundel et al., 2020; Townsend et al., 2013). Rural digital innovation hubs are places where rural communities are empowered and are taking the initiative to find solutions to the challenges, they face utilizing modern digital technologies.

Rural digital hubs are able to effectively address the issue of connectivity, digital skills and above all, provide community training places for enhancing digital inclusion (Rundel et al., 2020; Stojanova et al., 2022). According to ENRD, rural digital hubs are offering physical spaces with internet access which is fast and reliable, with equally important provision of a whole range of business and community support services, e.g. networking and peer-to-peer activities, training, mentoring and business advisory, e-commerce, as well as very basic services (crèche, library, etc.) (Revitalising rural areas through digitisation. The experience of three rural digital hubs, 2017). As rural digital hubs need to be actively involved with their communities, they are not just about digital but also about social and open innovation, meaning that they can have an integrative role in development of rural tourism, as long as they are adapted to the rural context and digitalization is implemented by the involvement of rural communities themselves.

In regard to rural tourism this involves a (potential) fruitful relationship between local communities, who know best, what are the tourists' needs, as well as the needs of their own communities, underlining the adequacy of the central concept of this research, i.e., rural digital innovation ecosystem.

Until now we have demonstrated various aspects of rural tourism, its potential in

becoming sustainable and above all transformative, with a specific focus on digital technologies. But let us now move to presenting concrete practices of the “smart” use of digital technologies which are fostering new approaches of marketing promotion within the context of rural tourism.

## **5. Digital technologies in rural tourism: Digital storytelling**

In today’s congested digital environment, business must be more innovative when presenting themselves online, using more engaging techniques. An inspirational narrative that employs content marketing and storytelling can add value for the audience, something that other marketing activities fail in achieving.

The role of visuals, such as photos and videos, for transporting people into these stories is key. Building relationships with consumers is seen as a result of effective storytelling, connecting over shared values and offering a behind-the-scenes look at the service.

Storytelling adds a sustainable competitive advantage to places, increases their reputation and makes them more attractive in general. It helps in sharing a place’s goals, norms and values, thus motivates tourists and locals to visit it and then helps in memory maintenance, triggering feelings such as confidence and sense of belonging. Varying range of technologies in the digital era allow for these stories to be updated and modified constantly, also personalized based on a user’s characteristics (Bassano et al., 2019).

These insights can to a certain degree be translated into working on developing new models of rural tourism, that combine ICT technologies and principles of sustainability in smart and sustainable tourist destinations (SSD) of rural digital innovation ecosystems.

### **5.1. Web platform: Meet the local producer**

One example of digital storytelling is the web platform Meet the Local Producer, developed by our team within the Smart digital transformation of villages in the Alpine Space (SmartVillages) project, funded by the Interreg Alpine Space program, Carpe Digem project, funded by the Interreg Europe program and LiveRur, funded by Horizon 2020.

Its aim is to connect local farm holders and food producers to their consumers, by local producers using the advantages of digital technologies to present themselves and their products to the local market.

The platform which emphasizes sustainability, builds its uniqueness on the awareness of the importance and role of local producers. With the so-called “storytelling” it demonstrates new ways of representation and communication, bringing producers closer to the people, using their products. By content, consisting of photographs, videos and text, all done in close collaboration with the local communities, the platform is telling a story of inclusive digital transformation of rural areas.

It also promotes the process of making the products, in this way promoting the importance of the people behind it and not only the end products. Another benefit of this platform is boosting local tourism. This comes as a result from consumer’s

knowledge of product origin, which makes them more likely to visit the place of production.

Using the advantages from digital technology, it also presents a new way of building and increasing the digital skills and competences of people in these areas. The platform also represents a new business model on a local level, which supports a sustainable local rural economy. It is important to state that this platform operates in a close collaboration with the local influencers, the so-called “local heroes.” Via local heroes, participatory, non-hierarchical, bottom-up approaches that put the needs of the community first are emphasized.

Local heroes know the dynamics of their rural communities and know how to inspire and, most importantly, how to communicate with both local communities and other stakeholders. Through these people, local communities are encouraged to suggest new ideas and solutions. This means that this platform is based on the local needs and adapted to serve local people and is an example of digital storytelling, demonstrating that the focus should not only be on technology but on people as well to improve rural people’s lives.

To encapsulate, Meet the local producer platform supports local food supply chains, fosters economic and social sustainability, showing the importance of local producers and in regard to promotional strategies within the context of digital storytelling, the aspect of connecting digital marketing products with non-digital environments is adequately provided (**Figure 1**).



**Figure 1.** Meet the local producer landing page (Slovenian language).

## 5.2. KulTura: Technologies of AR/VR

Another information and communication technology (ICT) tool that can contribute to a strong and sustainable recovery from the pandemic and at the same time improve tourist experience is Augmented Reality (AR). With the use of computer-simulated interactive contents, AR allows an interactive experience for the user through his device, providing context specific information (Cranmer et al., 2020).

This particular technology enables online visitors to be virtually transported to any place and can experience something “unusual”. Studies have shown that they



remember this experience vividly and it is much more effective than only remembering a set of pictures. This helps not only in educating consumers about the chosen destination but also increases their interest and intention to visit the place (Yung et al., 2020).

Marketing tactics that can trigger a positive emotion for a specific product are shown to have a positive influence on the buying behavior of that particular product (Spears and Singh, 2004). Many studies show that the same holds true in the travel industry for destination selection, especially in the pre-visit phase (Bastiaansen et al, 2018; Griffin et al., 2017; Huang et al., 2013; Teixeira et al., 2012).

In this regard, another good practice, which we would like to present is the mobile application KulTura, developed within KulTura, Interreg Slovenia Croatia program (Figure 2). At its core is the connection and joint propagation of cultural and natural heritage landmarks in the cross-border (Slovenia-Croatia) city pair of Črnomelj and Jastrebarsko.

The main impetus for the application's conception was the fact that, when it comes to cultural and natural heritage, public awareness tends to be consolidated around big national landmarks, usually close to big cities and capitals. Smaller cities, for example those close to the Slovenia-Croatia border, while rich with cultural heritage tend to be overlooked due to their relative remoteness.

With KulTura, smaller towns are not only able to adopt a joint tourism-marketing strategy, as can be seen in several successful cases across the world but can also offer a unique experience with several good practices integrated into its main functionality.

With its focal feature set, KulTura engages its user with the promise of exploration, storytelling and problem-solving in a display of proven gamification techniques. When visiting one of the supported cities, the user is acquainted with several real-world points of interest at which they will be able to tackle story-driven puzzles and challenges.

In this manner, the application functions similarly to popular Geolocation based mobile games, such as Pokemon Go and Ingress. When dwelling inside a specific location's geofence, the user is faced with a short character-based dilemma, which usually ties in with the region's historic/natural identity. In this way, the user might try to help ring the bells of an old church or find the secret inscription on a local monument. Through engaging with the cultural/natural heritage in a fun and interactive way, the user not only learns some basic elements of its history and value, but is also motivated to read more about it when they inevitably succeed in their task and unlock the entry about its legacy and the traditions connected to it.

The challenges in KulTura were carefully selected after a comprehensive user study, selecting the most popular and accessible elements of game design, mostly focusing on word-based puzzles. They are complemented with cutting-edge approaches in augmented reality, which applies the UI design of most common AR solutions to maximize the familiarity with what is still an emerging technology in the eyes of the general public. Continued exploration and discovery of new points of interest is stimulated in several ways. Firstly, an overarching story drives users to explore all possible landmarks, as they will be rewarded with its conclusion only at the end.

Furthermore, each successfully completed challenge rewards the user with

benefit points. These are redeemable at local businesses to earn concessions on their services. Thus, they are neatly tied into the tourist's exploration cycle, which stimulates promotion of an otherwise niche local mobile application a common point of failure of similar solutions.

As KulTura is based on a cross-border solution, purposefully designed in a modular way, new locations, their stories and challenges can be added quickly, with a high level of flexibility. Consequently, by the potential number of included locations being able to expand in the future, the platform offers a unique new channel for promotion of interesting natural and cultural heritage, as its users will already be familiar with its benefits and thus more receptive to these solutions (**Figure 2**).



**Figure 2.** An insight into KulTura app (in Slovenian language).

## **6. New business models or searching for new business models within rural tourism during the COVID-19**

Different businesses, even from different industries, can be supported by sustainable business models to achieve their sustainability ambitions within sustainability frame (Nosratabadi et al., 2019) where generated economic value is also ecological and social.

The main idea behind sustainable business models is not solely focused on provision of value, but also to serve the wellbeing of the natural environment and society (Nosratabadi et al., 2019). Related to such new business models, we are providing an example, developed by our team in collaboration with the Šmarje community.

### **Divina wine hub (an example of rural digital innovation hub)**

The Divina Wine Hub has been created on the initiative from the young winemakers of the wine-growing region of Slovenian Istria, is strategically located and represents a unique rural supportive hub for stipulation of the common goals and activities, as well as creation of a strong supportive environment through joint products of wines under a single brand and a joint oenological technological production.

In this respect, the presented hub model ensures efficient future appearance in domestic and foreign markets, as well as an innovative industry integration and organized support in the field of innovation and advanced ICT tools within the area of viticulture.

Through an innovative approach and partnership, activities are aimed at connecting key actors in rural areas in order to create new development, entrepreneurial and employment opportunities and strengthen sustainable production, consumption and marketing, exchange and spatial organization.

The Divina Wine Hub model in particular encourages participation of young winemakers, identification and the use of advanced ICT technologies in joint promotion, marketing and sale of the common and individual products wines and above all economic efficiency and optimization of business, although in accordance with sustainable development.

One of the key developments of this approach is the practice of a virtual wine tasting model that represents a unique supportive hub for the promotion of local wine products using ICT tools. Wines together with specific instructions are received in advance. The virtual event takes place via an online meeting tool. During the event, participants can learn about the wines, but also about the winemakers, their legacy and ambitions.

In the midst of the COVID-19 pandemic and the need for finding new ways of getting in touch with potential customers, this model of virtual wine tasting which is basically operating as a rural digital innovation hub is proving to be not only innovative, but also a lot of fun and, after all, COVID-19 safe with beneficiaries being stakeholders from twine organizations, associations, consortia, farms and companies, tourist organizations, municipalities etc. (**Figure 3**).



**Figure 3.** One of the virtual wines tasting degustation—live session with oenologist.

Within the Interreg project Carpe Digem, the presented Divina Wine Hub business model was transferred to an international environment. A high level of interest for international collaboration was expressed. In this regard, the presented model is an example of marketing promotion strategy, which operates on several levels, encapsulating the concept of the rural digital innovation ecosystem, as it includes various activities: From sales, providing jobs, to having overall positive implications for the community as well. For instance, the oenologist, who runs the hub, is able to stay in her local environment with a working position, embodying the successful collaboration of rural tourism and the use of digital technologies (**Figure 4**).



**Figure 4.** Virtual Wine Tasting event within the Interreg Carpe Digem, 16 June 2021.

## **7. Marketing promotion practices for rural tourism**

Sustainable tourism marketing has been on the agenda of tourism policy makers for some time, but with the current pandemic the need for rethinking it, has intensified (Hall, 2019) even more, underscoring the importance of including (tourists’) value-system orientation (Vinzenz et al., 2019) into marketing related activities themselves, as for instance environmental awareness is proving to be an important aspect of sustainable tourism.

As rural tourism is very much about social, cultural, environmental, and economic sustainability and has with the use of new digital technologies immense potential to foster responsible tourism along with marketing strategies, that underline tourism marketing and sustainability not only in economic terms, but also in aspects of a tourism destination’s unique specifics and its cultural and natural heritage, our paper has provided a link between digital technologies and rural tourism.

Concretely, this relation is emphasized by the provided examples, developed within our field work. However, except for the end goal of promoting rural tourism, they are also perfect examples of innovative tools for sustainable economic development and development of sustainable tourism marketing, i.e., new approaches of marketing promotion for rural digital innovation ecosystems.

Personalization, technology, (recent) emergence of relevance of rural tourism, the COVID-19 pandemic is just some of the factors that led to changing the concept of

tourism in general.

The concept of digital storytelling explained via Meet the Local Producer platform shows that the consumers today are interested in more than just the end product. They want to hear about how it was made and who made it. In the context of rural tourism, this is especially important as it indirectly promotes the destination and the so-called smart and sustainable tourist destination.

Moving on to the next example Kultura, this developed practice represents a future-oriented marketing approach, where high technology is used for consumer engagement, affecting three important aspects: presence, emotion and intention (Yung et al., 2020). Using these technologies in tourism does not only affect the consumers, but also the planning and management, predicting the typical user's needs, activities and patterns (Pestek and Sarvan, 2020).

Presented new business models cover more than just conventional marketing tactics, and more specifically, the Divina Wine Hub model, the use of event marketing. The aim of event marketing is to spread the marketing message by involving the target group. Event marketing can take many forms and online event marketing is just one of them which will be more often seen in the future. As these are challenging times for the future of tourism, health, safety, security issues and economic crises have all affected tourism destinations across the globe in recent years, provision of concrete, place-service-tourism examples is key.

In this respect, our paper provides a systematization of developed practices, which are on one hand related to single place-based cases and the use of digital technologies but are also having potential of their generalizability to other places.

## **8. Analysis**

The first part of this study is based on the secondary analysis, i.e., review of literature, selected for the purpose of the central study's theses: the first thesis being about formation of the rural digital innovation ecosystem, acting as heuristic rural tourist model and the second thesis being about new types of tourism, e.g. smart tourism, that as such demand approaches of marketing promotions.

On the bases of this performed analysis, a general picture of the transformative smart rural tourism in adversity of the COVID-19 pandemic and beyond was created. However, researchers wanted to get respondents' opinions about each of the presented model. For each proposed model a set of standardized questions was created with the purpose to add to the central research theses.

In line of providing a nuanced study, the conducted research operates as hermeneutic research because it consists of two central theses, that function as methodological starting points. Subsequently they were addressed via performed secondary analysis, consisting of literature review, policy documents and conducted interviews.

Analysis of the interviews was based on 4 identified main sections: 1) general section (sociodemographic background); adjusting to the analyzed model: 2) before and after the event section (in the case of the virtual wine tasting); 3) impressions on using the presented platforms, with the last section, dedicated to gathering in-depth reflections, adding importantly to the deeper comprehension of the acquired data. In

collected responses, elements, crucial to the central theses were identified.

### **8.1. Main findings**

To demonstrate the main trajectories of the addressed topic of rural tourism, in particular in relation to digital technologies, the study conducted 6 semi-structured interviews with the participants, who were engaged actively in the pilot activities. Their responses below, in sub section, 8.2., Summaries, can be synthesized in 5 thematic sets: 1) infrastructure; 2) digital skills and bridging digital gap; 3) promotion activities by using digital solutions, including digital storytelling; 4) bridging the urban/rural gap and 5) opportunity to develop a further, resulting in developing a more general model solution.

### **8.2. Summaries**

#### **Meet the local producer**

In this section, summary of the interview with our first participant, related to the “Meet the Local Producer platform”. Although, this is not the only initiative of this type, she is taking part, she highlighted that this was the one with the most potential, stating “/.../ it is the one that promises to have a greater reach in the future, especially nationwide”. She added that this practice requires advanced digital skills to participate in, “especially in rural areas, which is where it touches on the whole supply side”. She thinks that what motivates people to engage in this kind of digital solutions is, quoting “/.../ a good presentation and novelty on the market”. For her organization specifically, the benefit is seen from the new possibilities for upgrading and innovative solutions. She thinks that the model can be further improved through new modalities or VR content. Especially important for her is having a systemic approach, i.e., involvement from different stakeholders, in the process of development and use of the model. She thinks that this model could be generalized and consequently adapted to other sectors or the promotion of other goods, since there is a lack of this kind of things in the field of small crafts and entrepreneurship in rural and urban areas in Slovenia. She thinks that this type of engagement through storytelling would improve the user experience. Related to possible future improvements she highlighted the user experience and their feedback, trust from the stakeholders and adaptation to the market needs.

### **8.3. KulTura**

This subsection presents results from the interview, conducted in relation with the “KulTura” mobile application. The respondent stated that they are involved in other similar initiatives where they use this type of AR/VR mobile apps. She doesn’t think that this practice requires advanced digital skills to participate in. They had encountered some difficulties in using the digital tool such as problems with updates. Further, they are satisfied with the solutions, offered as interactivity. She thinks this could become a general practice, i.e., a business model for their activities. The participant stated that this helped them to gain new insights and knowledge and that this brought some benefits to their organization, such as: “/.../ we have developed new products and activities which we are successfully promoting”. She also highlighted the enthusiasm from the participants and that there is a great potential of this model

for a (post) pandemic situation.

The participant thinks that this model could be generalized and consequently adapted to other sectors or the promotion of other goods and also regions. She agrees that this model is a good example of cross-border cooperation. Related to the possible improvements she suggested “a better platform for reporting and recording results and achievements”.

#### **8.4. Virtual wine tasting**

For the third practice, as explained before, we conducted interviews with four respondents, as it was an international event (two winemakers and two stakeholders). For some of the respondents this was the first time attending an event of this type, while some of them already had a similar experience.

Winemakers perceive this practice as something that requires digital skills, whereas other two participants do not. However, good internet connection and speed is mentioned as a precondition. Motivation for participation existed among all participants, as they see this practice as a promotional opportunity, with added value to their business model and at the same time as a convenient and less time-consuming process. Also, as stated by Participant 4: “I was curious to discover this simultaneous virtual tasting in various places in Europe”.

They emphasized the importance of interactivity and engagement, besides the fact that it is a virtual event, which was present in this event.

They agreed that this is a practice which has the potential to evolve. As they believe that the interest in such activity can increase, resulting in developing new business opportunities.

They feel that this practice can help in reducing the digital gap, consequently, represents additional motivation for participation. Participant 6 added that she thinks that this represents a simple practice which contributes to the general development of their company, but also the region itself, as it, quoting “/.../ connects cultural heritage with digital development”.

The event itself was perceived as very valuable since the participants stated that they also gained communicational and organizational skills and as added by Participant 3: “This was learning about a new communication tool and the opportunities from available digital tools.”

The winemakers shared that after the event, customers came to them, asking them to send sample bottles and to organize a similar event. Participant 5 proposed that sending samples before the event would have been even more convenient and more beneficial for winemakers in the future, instead of sending actual bottles. One of the participants shared the idea that this practice can be used for further training of waiters who work in restaurants.

Participants actually see this practice as something that can be further extended and applied to other sectors as well. Participant 6 for instance argued that this event helped in attracting new customers, who promoted it via word-of-mouth technique.

All participants agreed that the practice of virtual tasting could be consequently adjusted to other industries. Participant 3 stated that this was a very enriching interactive experience, giving a new insight into the means of communication and

marketing.

On the other hand, participants are concerned that different contexts (rural vs. urban context) could affect the use of the model, since in rural areas technology takes longer to become established, and the internet speed is often much lower than in urban areas. Furthermore, participants find this practice convenient for the end consumers. Participant 4: “Consumers want to be in their homes and be relaxed and at the same time to learn more about the wine, which makes this event good”.

Another added value is helping to reduce the rural-urban gap—participant 6 believes, that it helps rural areas to develop.

In relation to cultural dimension, the aspect of culture is addressed by discussing relation between cultural differences and digital technology, to which participants added wine industry is relatively traditional, but changes in this industry do happen and this sort of activities are a good step towards international promotion. The participants claim that this practice is a fine example of a cross-border cooperation model: “Being able to communicate simultaneously with people from other European countries is an essential tool for international trade nowadays” (Participant 4).

Overall, participants believe that this activity could contribute to the development of an international online business and e-commerce since online sales in general are increasing every year.

## **9. Discussion**

The gathered data from secondary analysis and conducted interviews, providing a hermeneutic research approach, underline and above all, confirm central theses of this study, that rural tourism which so-called smart tourism forms a rural digital innovation ecosystem, that fosters smart and sustainable tourist destinations (SSD) and consequently acts as heuristic tourist model. This can be in particular seen in respondents’ reactions, which can be synthesized in 5 thematic sets: 1) infrastructure; 2) digital skills and bridging digital gap; 3) promotion activities by using digital solutions, including digital storytelling; 4) bridging the urban/rural gap and 5) opportunity to develop a further, resulting in developing a more general model solution, which can be looked at as a heuristic tourist model. Due to hermeneutic research approach, these 5 thematic sets offer this study a more insightful understanding in smart tourism, in particular when it comes to the use of digital technologies, which need to follow, in their everyday use, characteristics of local environments, along with adequate inclusion of relevant stakeholders of the targeted smart and sustainable rural tourism destination and principles of sustainable development.

As seen from the respondents’ reactions, they are well aware of the significant changes in rural tourism after the post COVID era, when it comes to the use of digital technologies. One directly and others indirectly stress the importance of digital storytelling, for which psychologists have shown that storytelling is more effective than presenting raw data in helping individuals retain meaning or purpose. Consumers tend to better remember stories because they can be stored in memory through multiple avenues, including factual recall, visual imagery, and emotional engagement (Mossberg and Nissen Johansen, 2006).

This two-phase research, demonstrates that smart rural tourism, given its



prospects for sustainable development and if its activities operate in a sustainable manner, can provide a general model not just for transformative rural tourism, embodied in a heuristic rural tourism model but for the tourism industry as well. Following Garau (2015) and Vargas-Sánchez (2016), technology, together with concepts of sustainability is indispensable in developing rural tourism.

The provided examples, together with conducted interviews highlight the importance of infrastructure and digital competences in smart rural tourism, however participants' responses also demonstrate that application of these technologies in rural areas can only be successful, if complexity of the local environments is considered.

## **10. Conclusion**

Data showed that tourism was one of the industries hardest hit by the coronavirus pandemic and the outlook remains highly uncertain (OECD Policy Responses to Coronavirus (COVID-19), 2020). Impacts on the future prospects were partly mitigated by domestic tourism (OECD Policy Responses to Coronavirus (COVID-19), 2020).

This research shows that digital technologies can help stipulate rural tourism. Based on the collected data, involved participants underscore potential of the use of technologies in different areas, but state the importance of digital skills and, in particular one participant, underlined the need to work with different stakeholders, highlighting the proposed heuristic rural digital innovation ecosystem model to tourism as proposed in the thesis 1. Further, digital technologies support development of new marketing approaches, which can be adjusted to the needs of smart rural tourism, supporting thesis 2.

In this manner, the heuristic rural tourism model with its different modalities, delineated in this paper, can act as an opportunity not just by offering new approaches to tourism, but also by having potential for more sustainable growth.

By developing tourism this way, long-term visions can be taken into account, especially regarding digitalization, low-carbon transition and the need to follow a more general structural transformation of the sector in general, including marketing promotion practice.

As the proposed heuristic rural tourism model is based on the use of digital technologies, technology is playing a central role in the presented practices of rural tourism, underlining its importance for designing innovative approaches to tourism, in particular within the context of transformative rural tourism. However, as it can be grasped from the respondents, smart tourism in rural areas needs to cover different areas of use, to refer to Gretzel (2018). And similarly, to the smart city concept, applying digital technology is also about social perspective (Nam and Pardo, 2011). This social embeddedness of technology, which is clearly demonstrated by conducted interviews too, argues that introduction of digital technologies can only be done by multi-stakeholder participatory approach with being adopted together with a comprehensive, inclusive planning strategy of place-based and context-based approaches and accompanied by bottom-up integrated approaches, which have the ability to address complex needs of communities and consequently provide innovative marketing practices, underscoring the relevance of so-called concept of rural digital

innovation ecosystem. This logic of an ecosystem can thus be best summarized by Gretzel's distinction between smart tourism and eTourism's paradigms, as eTourism's paradigms are more about the link between the physical attributes of the destination, whereas smart rural tourism is about the whole digital ecosystem (Gretzel, 2018).

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