Chapter 9

Public Policies for the Digital Transformation of the Tourism Industry Within the EU Tourism Transition Pathway: A Comparative Analysis

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1. Introduction

Enhancing the digital transformation of the tourism industry is increasingly becoming a strategic priority for governance to create opportunities for destinations and SMEs.

Digitalization gave rise to new trends in tourism demand, disrupted the tourism value chain and revolutionized the ways the tourism offer reaches potential clients. New distribution channels have emerged, which have resulted in better capacity utilization and have reduced the cost of travel, as they sell to independent, geographically sparse consumers (European Commission, 2021; Navío-Marco et al., 2018). Tourism businesses can thus reach scale without mass (Organisation for Economic Cooperation and Development (OECD), 2020). Digital tools have changed the way tourism businesses communicate with their clients (Dionísio et al., 2022; European Commission, 2021; Navío-Marco et al., 2018); internal business operations have become more effective, while flexible home working by using the Cloud and digital collaboration tools reduces costs for businesses, permits the outsourcing of different tasks and adjusts staff employment to fluctuations of demand (European Parliamentary Research Service (EPRS), 2018). Data analysis provides new business opportunities to create innovative products for specific target markets and plan evidence-based policy-making (Boes et al., 2016; European Commission, 2021; Organisation for Economic Cooperation and Development (OECD), 2020; World Economic Forum (WEF), 2019; Zsarnoczky, 2018).

The digital transformation of tourism has gained further prominence amid the COVID-19 pandemic to mitigate negative impacts, help the industry resume its activities and enhance resilience to future shocks (European Commission, 2021). The pandemic revealed the weaknesses of the tourism industry. Destinations are

vulnerable due to their high dependence on tourism expenditure, the low productivity of tourism businesses and the fact that tourism SMEs are lagging in the uptake of digital tools[1] (Ahmad et al., 2020; European Commission et al., 2020; Valeri, 2022a). A broader range of consumers has become acquainted with online services and expects tourism businesses and destinations to offer personalized experiences before, during and after the trip (Deb et al., 2022; Obermayer et al., 2021). Furthermore, the pandemic has put forward new advantages for the use of digital tools to ensure safety at the destination for visitors, residents and workers by managing tourism flows and speeding up the uptake of travel (Ioannides & Gimóthy, 2020; Keller, 2020).

Governance is important to streamline smart growth in tourism, given that tourism is a fragmented economic sector, embracing private and public stakeholders who are administratively and geographically isolated from each other, differ in size and scope and may adopt conflicting agendas. This chapter aims to explore public policies implemented by EU countries at the national, regional and local spatial scale to enhance the digital transformation of the tourism industry within the framework of the EU Tourism Transition Pathway, as they evolve under the impact of rapid technological change. In the following section we review the notions of 'tourism business ecosystem', 'smart tourism' and 'smart tourism destination' which capture the impact of digitalization on tourism businesses and destinations. We then go on to present critical issues on the digital transition of the tourism industry that need to be addressed by governance. The third section discusses the European Commission's policy to develop the Tourism Transition Pathway through a process of co-creation and co-implementation and the degree and fields of engagement of national, regional and local administrations. Conclusions relate priorities set by public authorities to barriers and opportunities to the digital transformation of the tourism industry as identified by the literature.

2. Literature Review

2.1 The Tourism Business Ecosystem

In the digital era, value chains give way to the digital business ecosystem, where new technologies help create loose networks of businesses, consumers and organizations with global reach, that are not bound by hierarchy, but by symbiotic, collaborative, yet at the same time antagonistic relationships (Jayawardana et al., 2022; Kelly, 2015; World Economic Forum (WEF), 2019).

The tourism industry has several traits that facilitate the formation of a digital ecosystem (Calvino et al., 2018; Organisation for Economic Cooperation and Development (OECD), 2020; World Economic Forum (WEF), 2019). Information is of high value, so a community of users can easily create and share value.

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[1]OECD-EC Policy workshop on 'Preparing the tourism workforce for the digital future' (January 2021), UNWTO, High-Level Discussion on Measuring the Sustainability of Tourism, a Side event to the UN Statistical Commission's 52nd session (March 2021), OECD 107th Tourism Committee (April 2021).

Tourism products are modular: a stay, a ticket, a meal, a tour and a car rental form distinct modules that can easily be combined by a third party. The tourism industry has spare capacity, so, there are considerable efficiency gains in creating a new market. Many people for example have second homes they use only a few days a year.

As new business models emerge, traditional tourism businesses operate and compete alongside digital natives (Milne & Ateljevic, 2001; Organisation for Economic Cooperation and Development (OECD), 2020; Rachinger et al., 2019; Zsarnoczky, 2017). This is particularly evident in the rise of the sharing (or collaborative) economy model (European Commission, 2016). People are willing to 'share' what they own and offer their spare capacities for collective use to maximize the exploitation of their resources and efficiency gains (World Economic Forum (WEF), 2019; Zsarnoczky, 2018). This trend has mostly affected the accommodation and the transport sector, but it also has a growing impact on activities and dining (European Parliamentary Research Service (EPRS), 2018; European Commission, 2019). The collaborative economy is not only about the provision of goods and services by private people, as the European Commission acknowledges in its 2016 communication (European Commission, 2016).

2.2 The Smart Tourism Destination

At the destination level, the use of ICT platforms, sensor technology and wireless communication to collect and process real-time data to deliver intelligent and more efficient interactions between the destination and its visitors has given birth to the concept of smart tourism (Gretzel, Koo, et al., 2015). Having its roots in the smart cities' literature (Gretzel, 2018; Gretzel, Koo, et al., 2015), where 'smart' is used to describe efforts aimed at the concerted use of different technologies to achieve resource optimization, effective governance, sustainability and quality of life, smart tourism is defined as (Gretzel, Sigala, et al., 2015; Zheng et al., 2022) tourism supported by data collected from 'physical infrastructure, social connections, government/organizational sources and human bodies/minds'.

Smart tourism thus differs from e-tourism, which focused on connecting consumers to businesses and consumers to consumers through the Web, in that it relies on the sensor and mobile technology to integrate web infrastructure into physical infrastructure. The physical and the virtual components co-evolve and form a single system (Del Chiappa & Baggio, 2015). It takes technology, consumer co-creation and public–private collaboration to form a smart tourism ecosystem, by connecting a wide range of tourism businesses, support services (telecommunications, banking/payment services), platforms and media, regulatory bodies and NGOs, transportation carriers, tech companies, consulting services and infrastructure (pools, parks, museums, etc.) (Boes et al., 2016; Gretzel, Koo, et al., 2015; Gretzel, Sigala, et al., 2015). When smartness supports sustainability, financial, political, technical and

environmental goals converge to provide improved living conditions for residents and visitors alike (Shafiee et al., 2019).

Smart tourism applications include vehicle tracking and monitoring systems for getting the real-time location of vehicles to plan tourism flows and improve accessibility, energy-efficient accommodation, applications generating quick feedback from tourists regarding service quality and applications providing translation (Jasrotia & Gangotia, 2018; Law et al., 2014). Context-aware recommender systems support tourists on their visit and offer personalized guidance based on data extracted by the user's smartphone (time, location, weather, user's speed) and data created by the user on social media (user's profile and interactions) (Angeloni, 2016; Kontogianni & Alepis, 2020). Applications based on the Internet of Things can track tourists' context to better care for their needs. For example, a sustainable tourism app has been created for tourists with the limited time that visit Cagliari, Sardinia, Italy. Sensors placed in points of interest gather information on waiting queues and together with estimations on the required time to access the location recommend to tourists the best route to see all sites they are interested in (Kontogianni & Alepis, 2020). Augmented reality applications enrich visitors' experience while roaming unknown surroundings and provide valuable information in an entertaining way (Kontogianni & Alepis, 2020). Real-time data, synchronization of technological systems and context awareness are crucial to smart tourism (Kontogianni & Alepis, 2020). Smart tourism applications satisfy tourists' needs but may also provide business and government bodies with useful insights into the way tourists interact and connect with the physical environment and the destination.

Although technology is fundamental to developing a smart tourism destination, it becomes effective only in association with human agency, that is, visitors, residents, entrepreneurs, a skilled workforce and institutional leadership (Boes et al., 2016). Gretzel and Collier de Mendonça (2019) show how smart destination brands in two smart destinations B2B websites (destinosinteligentes.es, smart tourism capital.eu) are designed to impress a technology-focused agenda and motivate commitment and resource mobilization in industry stakeholders. Governments should not only encourage the establishment of tourism based on information, but they should also determine standards for a sustainable smart tourism framework (Shafiee et al., 2019). Smart tourists are an integral part of the smart tourism ecosystem, as they tap into its resources and, at the same time, actively contribute data through their queries, their movement and their uploads.

Smart tourism destinations have also been theorized from a knowledge transfer perspective, as places where ICT is used to make knowledge and information accessible to all stakeholders systematically and efficiently and to make available mechanisms that allow them to participate as much as possible in the innovation process (Del Chiappa & Baggio, 2015; Shafiee et al., 2019). Research in three Italian tourism destinations has shown that a more intense use of technological tools results in increased connectivity between tourism stakeholders and increased diffusion of information. Smart ecosystems are, therefore, more efficient in information and knowledge sharing, which is a key factor for innovation and consensus building (Del Chiappa & Baggio, 2015; Valeri & Baggio, 2021a).

2.3 Critical Issues to the Digital Transition of Tourism

Tourism-related data like location, academic and professional profile, interests and opinions are huge and can be voluntarily given, observed, or implicitly inferred (Kontogianni & Alepis, 2020; Vaz & Machado, 2022). Additional user-related data known as digital footprint can be automatically extracted. This raises concerns about information governance and privacy, particularly questions about being able to identify individuals out of large collections of anonymous data, automatic capture of data for no concrete purpose, uncontrolled sharing of data between service providers and surveillance under the disguise of service provision (Buhalis & Amaranggana, 2015; Crowe, 2020; Gretzel, Sigala, et al., 2015). Ultimately, it is a question of maintaining trust with the consumer (Navio-Marco et al., 2018). Businesses and destinations must be constantly informed of the changing rules introduced by social media on data collection and in an EU setting must also conform to the strict standards set by the General Data Protection Regulation (GDPR) (Kontogianni & Alepis, 2020). Data management needs to be institutionalized, which is not straightforward in a fragmented industry like tourism that involves micro businesses.

Another concern is technology dependence. This has to do with the risk of a growing digital divide felt by destinations not being able to afford to take the digital leap or consumers without smartphones (Gretzel, Sigala, et al., 2015; Valeri, 2022b). Tourism businesses on the other hand are concerned about a growing dependence on technological solutions and external agents, such as tech companies (Femenia-Serra & Ivars-Baidal, 2019; Gretzel, Sigala, et al., 2015). Technology dependence also has to do with consumer trends, namely weariness and a desire to avoid technology during vacations, as well as a varying propensity to purchase online. Tourism destinations and businesses should not take it for granted that tourists always seek smart experiences (Buhalis & Amaranggana, 2015) and should discuss accommodating different levels of technological experiences. The market has already spotted this trend and offers innovative, digital-free holiday products, like black hole resorts, digital detoxing holidays and programs where participants are deprived of digital devices to treat internet addiction and manage stress (Li et al., 2018; Ministry of Tourism of Greece, 2022). Smart tourism applications may impose tourists with an overload of information and present usability issues. It is, therefore, essential to their viability to assess whether they are accepted by a wide range of end users (Kontogianni & Alepis, 2020).

For a smart tourism destination to evolve, several practical issues concerning usability should also be addressed (Kontogianni & Alepis, 2020). As tourist data are constantly increasing, systems need to filter relevant data, control data storage and keep processing time at a reasonable level. Systems need also to synchronize effectively with several devices and avoid imposing data overload on users. Users need processing and battery power in their mobiles to use smart tourism apps.

Moreover, tourism businesses present a varying degree of digitalization, depending on the technologies used as well as the size and type of business. According to OECD data (Organisation for Economic Cooperation and Development (OECD), 2020), the tourism industry outperforms all other industries in online sales in all OECD countries except Canada, Finland and the United Kingdom. When it comes to the use of more advanced technologies, however, tourism businesses are

lagging behind other sectors. Only 20% of European accommodation and food and beverage businesses used cloud computing and big data analysis in 2018. The tourism industry has been classified as of low digital intensity from 2001 to 2003 and 2013 to 2015 (Calvino et al., 2018; Mistilis & Gretzel, 2013).

Concerning the size of business, international organizations point out that while the gap between SMEs and bigger businesses has diminished when it comes to simple digital services, like web presence and an internet connection, there are still considerable differences in the adoption of advanced technological tools (Dredge et al., 2018; European Commission, 2021; Hjalager, 2010; Organisation for Economic Cooperation and Development (OECD), 2020). For example, SMEs have limited access to search-related data or data related to tourism booking, which are currently controlled by platforms (Najda-Janoska & Kopera, 2014). However, these data could provide valuable insight to anticipate demand, adjust services according to customers' trends and provide better and sustainable tourism services (European Commission, 2022).

Therefore, there is a varying awareness of the opportunities offered by digitalization (Martinez-Roman et al., 2015). Research on European tourism SMEs has shown that businesses with low digital intensity perceive digitalization mainly as an opportunity to retain customers, to better organize their work and to improve the quality of services, whereas businesses with medium digital intensity are mostly interested in expanding their business to the global market (Dredge et al., 2018). Respondents to the above-mentioned survey also acknowledged that digitalization is not an end and stressed that digitalization has not yet been accomplished at the destination level.

Establishing a smart tourism ecosystem requires stakeholder collaboration, which is difficult to achieve in a fragmented industry like tourism. It also requires state intervention, and there is a need for public policies to encourage tourism SMEs with low levels of digitalization to participate and, at the same time, to support innovative digital businesses that fuel the ecosystem (Organisation for Economic Cooperation and Development (OECD), 2020). Research in the Spanish region of Comunitat Valenciana (Femenia-Serra & Ivars-Baidal, 2019) has shown that DMOs acknowledge the benefits of digitalization and put forward the need for solid organizations to lead the adaptation process. Wider coordination and formation programs for DMOs and other stakeholders to gain new skills come top on their agenda.

3. Methodological Approach

The literature review showed that analysis of ongoing policies for the digital transition in the tourism industry is limited. To supplement this gap, we conducted systematic online research on EU and international bodies' platforms (Organisation for Economic Cooperation and Development (OECD) and World Tourism Organization (UNWTO) to map ongoing policies from national, regional and local administrations within the framework of the EU Tourism Transition Pathway (Beeton, 2005). Information is also retrieved from international fora discussing the digital transformation of tourism.

Content analysis has helped identify recurring themes in policymaking, which are then explored in the framework of the barriers and challenges to the digital transition identified by the literature. Results are indicative of the way public authorities

respond to the changes effected on the tourism ecosystem in the digital era and are open to re-evaluation, as the process of coordination of co-implementation of the digital transition is ongoing. Results are restricted to EU countries.

4. Public Policies for the Digital Transformation Within the Framework of the EU Tourism Transition Pathway

4.1 EU Transition Pathway: Principles and Priorities

In response to concerns raised by the COVID-19 pandemic, the European Commission adopted a new industrial strategy to monitor and coordinate the twin transition of the European economy, boost competitiveness and build resilience. Hard hit by the pandemic (European Commission, 2021; European Commission, 2022; Joint Research Centre (JRC), 2020), the tourism ecosystem is the first industrial ecosystem to elaborate a Transition Pathway, that will form the basis for the upcoming European tourism agenda 2030/2050. Besides, change inflicted by the pandemic is equally considered an opportunity to rethink the development of the tourism ecosystem within the framework of sustainability.[2] Based on the principle of co-ownership as a prerequisite for successful policymaking, the Commission has adopted a co-creation process involving extensive consultation with industry stakeholders representing a wide array of branches of the tourism ecosystem, both online and through a series of workshops, as well as meetings with Member States and EU experts (European Commission, 2022, 2022a, 2022b).

The Commission has also opted for a flexible and expanding approach to implementation. Public and private stakeholders at all spatial scales (national, regional and local) are invited to commit to transition and submit their pledges to concrete actions in 27 topic areas referring to 5 key groups, namely policy and regulation, stakeholder support, green transition, digital transition and skills and resilience (European Commission, 2022a, 2022b). These topics were the key enablers for transition identified by stakeholders at different stages of the consultation (European Commission, 2021; Font et al., 2021; Koens et al., 2021; Neuhofer et al., 2021) and were eventually adopted in the Tourism Transition Pathway policy report (European Commission, 2022). A total of 260 pledges from 142 organizations have been submitted to the two calls issued by February 2023, while a third batch of pledges is due to be published by March 2023 (European Commission, 2022b). The aim is to monitor, register and coordinate the actions European public and private stakeholders take on their way to the twin transition.

Five topics are listed under digital transition (European Commission, 2022).

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[2]See relevant discussions in international and European fora: OECD 106th Tourism Committee (October 2020), OECD 107th Tourism Committee (April 2021), European Tourism Convention (October 2020), OECD-EC Policy workshop on 'Preparing the tourism workforce for the digital future' (January 2021), UNWTO High-Level Discussion on Measuring the Sustainability of Tourism, a Side event to the UN Statistical Commission's 52nd session (March 2021).

- *Topic 9 – Data-driven tourism services*: The Commission acknowledges that both SMEs and public authorities have poor access to tourism data and puts forward the need to create public–private partnerships for data sharing. Stakeholders are invited to cooperate and agree on a Code of Conduct for data sharing, regulating privacy rules and respect for the commercial interests of partners, actively engage in data sharing and use data for developing the tourism offer.
- *Topic 10 – Improving the availability of online information on tourism offer*: The aim is to make available trustworthy information on sustainable and targeted tourism offers that need digital information sources to reach their audience, to increase the visibility of certified accommodation providers and to provide information on consumer rights and dispute resolution mechanisms.
- *Topic 14 – Technical implementation for tourism data space*: The wealth of data created by various tourism providers needs to be included in a common, interoperable data space linked to data spaces from other industrial ecosystems (agrifood, mobility, health). Stakeholders are invited to undertake preparatory work (interoperable technical specifications and governance framework) to create a tourism data space.
- *Topic 15 – Research and innovation for digital tools and services in tourism*: Stakeholders are invited to create data-driven destination management tools to tackle overtourism and embrace digital tools to support innovative, sustainable products for cultural tourism.
- *Topic 16 – Support for digitalization of tourism SMEs and destinations*: Stakeholder consultation showed that a barrier to adopting new digital tools by SMEs and destination management organizations is the lack of possibilities to exchange practical knowledge with peers. Stakeholders are invited to raise awareness of the benefits of digitalization and share existing digital tools, practices and funding programs for the digital transition of tourism SMEs and destinations.

Pledges on digital transition have increased their share of total pledges in the second publication round and count 48 out of 260 published pledges under all topics (19%) (European Commission, 2022b). During the second round, there has been an increase in the number of pledges submitted by SMEs (European Commission, 2022b).

4.2 Public Administrations: Scope and Fields of Engagement in the Digital Transition

Public authorities have shown active engagement in the co-implementation phase of the EU Transition Pathway. Many national, local and regional administrations have either submitted concrete pledges (24 out of 132) or have expressed their general commitment to the principles of transition (14 out of 132) (European Commission, 2022b).[3] Regarding digital transition, 16 out of 48 pledges have been submitted by public authorities (see Table 1 below).

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[3]These numbers do not account for pledges and commitments submitted by destination management organizations.

Table 1. Pledges Submitted to EU Tourism Transition Pathway by Public Administrations – Topics Related to the Digital Transition. Retrieved From the EU Commission Database, January 2023.

EU Transition Pathway Topic	Organization	Country	Spatial Scale
Topic 9 – Data-driven services	Ile-de-France	France	Regional administration
	Pays de la Loire	France	Regional administration
Topic 10 – Improve the availability of information on tourism offer online	Castilla-La Mancha Region	Spain	Regional administration
	Ministry of Transport and Construction, Tourism Section	Slovak Republic	National administration
	Regione Toscana	Italy	Regional administration
Topic 14 – Technical implementation for tourism data space	Empresa Pública para la Gestión del Turismo y del Deporte de Andalucía	Spain	Regional administration
	Regione Toscana	Italy	Regional administration
Topic 15 – R&I for digital tools and services on tourism	Ministry of Economic Affairs and Communication	Estonia	National administration
Topic 16 – Support for digitalization of tourism SMEs and destinations	Consiliul Județean Maramureș	Romania	Local administration
	Empresa Pública para la Gestión del Turismo y del Deporte de Andalucía	Spain	Regional administration
	Ministry of Economic Affairs and Communication	Estonia	National administration

Table 1 shows the prevalence of regional administrations. Overall, public administrations from five countries have submitted their pledges. More than one administration represents France, Spain and Italy. Public authorities have

submitted pledges for all five topics related to the digital transition. However, only one public organization has committed to research and innovation, a field that requires considerable funding. On the other hand, certain administrations commit to more than one action, which shows overall planning on their part aiming at the digital transition of the tourism ecosystem.

In the following, we summarize the results for national, regional and local public administrations according to the recurring themes identified by content analysis.

4.3 Adopting a Holistic Approach

Several public administrations integrate the digital transformation of the tourism industry to broader policies on sustainable development. The Estonian government, for example, adopts a holistic approach by integrating research to develop innovative digital tools into a broader measure to support the development of new, green, digital and sustainable products. The overall aim is to instigate the competitiveness of the Estonian tourism product and restore the exports of Estonian tourism services to pre-crisis levels by investing in innovation, quality and better and holistic customer experience targeted to a comprehensive range of visitors. Another priority for the Estonian national administration is the digital transformation of tourism SMEs. Funding is provided for tourism businesses to invest in digitalization and automation to fine-tune workflows and increase efficiency, enhance the availability and booking of additional services by the visitor and build capacity for data analysis. Support is also provided to 30 tourism SMEs to improve their know-how in service design and digital services.

For some regions, the digital transition of the tourism ecosystem is integrated into territorial policies to develop smart services that accommodate the needs of businesses, visitors and residents alike and strengthen the attractiveness of the region. The region of l'Ile de France, for example, has created in 2019 a platform that uses data on the region to offer residents and tourists customized services on local natural attractions and outdoor activities, such as cycling and walking itineraries, as well as information on local restaurants and producers.

4.4 Data-Driven Policymaking

Policies to create a tourism data space may concern monitoring sustainable tourism development or be oriented to business intelligence. The region of Andalusia attempts to coordinate the efforts of European stakeholders to create a European Tourism Data Space. The project is still in an exploratory phase: it aims to identify priority data sets and their potential uses, as well as determine governance.

The region of Tuscany has put business intelligence at the forefront. The region has created a 'regional data lake', focused on interoperability and on integrating data from various and expanding sources (public or private, regional, national

and European). This data pool is used to develop tools for business intelligence and analysis.

Older digital tools for tourism businesses are now being updated and extended to new services. Pays de la Loire region has developed a regional online booking system, backed up by the region's database and available to businesses since 2018. The region plans to expand digital services provided by the booking system so that tourism businesses acquire a tool for managing availability and making direct sales from their website. The system will also link tourism businesses with new distribution channels, particularly low-commission operators related to ethical tourism.

4.5 Support for Tourism SMEs and Tourism Destinations

Common actions to support SMEs undertaken by public authorities are to provide funding for the uptake of digital tools, to share best practices and to enhance capacity building. Consultancy is also considered essential to tourism SMEs and DMOs, as well as awareness-raising on the opportunities offered by digital transformation.

Regional administrations are trying to cope with the difficulties of monitoring sustainability at the destination level. A partnership of four Spanish regions – Andalusia, Catalonia, Navarra and Valencia – is working within the framework of the EU Structural Reform Support Service to develop a common methodology for monitoring sustainability along the lines of the EU green deal and UN Sustainable Development Goals. The four regions will then focus on data aggregation, pilot testing, capacity building and the exchange of best practices on sustainable monitoring frameworks.

4.6 Online Information Diffusion

Actions proposed by the Commission aim to improve online valid information availability. To this end, national and regional authorities choose to develop new web portals or redesign existing ones. Authorities build web portals around user-centred principles and market segmentation to improve visitors' experience, target-specific market segments and enhance the efficiency of the tourism offer. For Slovakia, the aim is twofold: to provide domestic and foreign visitors with online information on the destination and to create a space where tourism organizations can share good practices and consultancy. The portal will adopt a narrative approach, telling the story of the country's culture through the lens of younger generations and capturing impressive images of the natural and built environment.

5. Conclusions

Public authorities are at a deferring pace on their way to the digital transition of the tourism ecosystem. Some actions were initiated before the pandemic crisis and the elaboration of a new industrial strategy by the European Commission, which

shows an early awareness of the issues at hand and may be combined with a broader strategy on digital transformation already on the way. To take an example, some administrations plan to redesign and improve their existing web portals, while others are currently building their websites. Deferring paces may exist among regions belonging to the same country as is the case for the Italian regions of Tuscany and Maramures.

Policy measures towards digitalization are integrated under wider umbrella terms, namely sustainability and competitiveness. For example, actions to create an appropriate methodological framework for data collection, aggregation and analysis fall under policies for sustainability. Some policies benefit residents and visitors, while others are addressed to tourism businesses and organizations. There is also special care that local businesses from several tourism branches benefit from digital tools developed by regional administrations, especially small activity, and leisure service providers (e.g. digital tool for online booking and managing availability, Pays de la Loire).

Overall, public authorities prioritize actions that respond to the barriers and challenges to the digital transition of the tourism industry identified by the academic literature and stakeholders. The need to support tourism SMEs is acknowledged by public administrations, as well as the need to ease tourism businesses' and destinations' access to reliable data. However, impediments such as the low digital awareness of tourism SMEs or issues related to the limited resources of micro-enterprises are not dealt with.

Public administrations often adopt similar actions to enhance digital transition such as developing digital platforms and showcasing good practices. This shows that administrations face common challenges but may also indicate that there are limited solutions on offer or that authorities opt for specific tools due to their restricted capability to plan and implement a wider range of strategies. In this case, carefully planned support is needed to enhance digital literacy within the public sector.

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