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COVID Crisis and the Impact on Smart Tourism, Sustainable Development and Local Communities

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7.1 Introduction

Smart tourism is an increasingly important concept that builds on smart city principles (Coca-Stefaniak, 2019). While the latter are oriented towards serving city residents' needs, the former concept mainly focuses on fulfilling visitors' requirements. However, smart cities and smart tourism share common goods and facilities and seek to increase residents and tourists' wellbeing. This symbiotic relationship between the two concepts is intrinsically connected to the benefits of sharing public goods and

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services, as well as the need to avoid negative externalities that can arise from tourism activities.

Tourism's adverse effects are the result of various factors, especially massification and diversification trends (Matias, 2019). The first trend is related to the pressures excessive demand puts on destinations, which generate complaints from locals regarding, for example, noise, litter, property destruction and general congestion. The second tendency relates to the movement away from traditional sun, sea and sand (i.e. triple-S) products to other offers, for instance, short-term stays in cities. Tourist crowds affect densely populated areas, so some discomfort among locals is to be expected as they compete for the same vital spaces, services and amenities in urban environments. While this competition may occur in

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less densely populated areas, the effects are mitigated by more plentiful space, and the benefits of tourists' spending in local businesses are more quickly visible.

Tourism can thus contribute to the general degradation of natural and local assets, which in turn lowers both residents and tourists' quality of life, but tourism and nature (i.e. the environment) can also coexist or develop a symbiosis (Budowski, 1976) depending on a variety of factors. In tourism contexts, market forces alone do not always produce the desired outcomes, so adequate and suitable policies and initiatives must be implemented to avoid the latent conflict between tourism and nature. This proactive approach includes promoting sustainable tourism, smart cities and smart tourism.

The problem with either positive or negative externalities is that they are often difficult to assess and manage given the numerous side effects associated with tourism—particularly non-economic impacts—as no strategies for making them marketable exist. To improve residents and tourists' welfare, cities must develop appropriate policies and initiatives to cope with negative externalities and benefit from positive impacts. This chapter's remaining sections will examine how policy-based initiatives need to be coordinated and integrated in order to build on smart city and smart tourism principles.

One of tourism authorities and policymakers' main roles is precisely to avoid or offset negative externalities' effects through regulations, licences, tax policies or cooperative solutions among private and public agents. More specifically, the uncertainty generated in the tourism industry by the coronavirus disease-19 (COVID-19) pandemic has created different obstacles and opportunities to varied players. This crisis changed tourism's direction when countries closed their borders and locked down their economies in the fight against COVID-19, triggering an unprecedented crisis in the travel and tourism industries.

The present study assessed the pandemic's impact on smart tourism, sustainable tourism development and local communities through an in-depth literature review. To this end, a tripartite but interconnected analysis was conducted to answer the following research questions:

- What impact has COVID-19 had on smart tourism?
- Will sustainable tourism be strengthened or threatened by the pandemic?
- What effects can COVID-19 be expected to have on local communities?

This chapter is thus structured as follows. The next section presents the literature review, providing an overview of past research on smart cities, sustainable tourism and local communities, as well as the most relevant empirical rankings and/or benchmarks. The third section is a brief note on the methodology applied. The fourth section presents and analyses the findings, discussing COVID-19's expected impacts on the three main concepts discussed in the literature review. The chapter ends with conclusions and recommendations.

7.2 Literature Review

Smart Tourism

Smart cities and smart tourism are closely related phenomena mainly because of shared foundational elements. Smart tourism grew out of the smart city concept (Coca-Stefaniak, 2019). As mentioned previously, one major difference between the two ideas is that smart cities serve their residents while smart tourism is mainly oriented towards visitors and/or tourists. Smart cities and smart tourism share infrastructure and facilities that provide solutions to both population segments. The literature has, however, explored these concepts separately, and the resulting knowledge has evolved into two separate subdivisions of 'smart' phenomena (Khan et al., 2017).

Researchers have considered the smart city concept from diverse points of view. The existing studies recently began to conceptualise smart cities as ecosystems that contain a network of complex, interdependent communities of interacting organisms and their environments (Gretzel, Werthner, et al., 2015c). Smart cities comprise interdependent resources that interact dynamically to provide solutions to local communities,

thereby improving the opportuneness and efficiency of the services that meet their needs.

Technological innovation's effects on tourism-related behaviours have created a new social phenomenon—smart tourism—through mobile information technologies (Hunter et al., 2015). Smart tourism can be defined as mobile information systems that use physical information infrastructure in tourism contexts to create new kinds of experiences for tourists. This tourism trend needs to be understood holistically as it combines technologies, systems and management practices (Gretzel, Werthner, et al., 2015c; Koo et al., 2016).

By engaging all stakeholders in dialogues about their interests and responsibilities, smart tourism provides discourse and platform that facilitate value co-creation (Boes et al., 2016; Mistilis et al., 2014). Smart tourism increases residents and destinations' shared vision and sustains smart destinations' competitive advantages (Femenia-Serra et al., 2019). This type of tourism can thus be implemented as a novel approach that creates new boundaries for tourism production and value co-creation. By expanding the convergence of governments, businesses, residents and visitors' interests, smart tourism can strengthen destinations' competitiveness (Boes et al., 2016).

Smart tourism can sometimes be mistakenly seen as an extension of e-tourism. However, this approach to tourism connects the digital and physical worlds before, during and after tourists travel to create additional value, whereas e-tourism affects these links only before and after tourists' trips (Gretzel, Werthner, et al., 2015c). Smart tourism generates value by combining destinations' ecosystem with technologies, infrastructure and businesses, so smart tourism and e-tourism are quite different (Gretzel, Sigala, et al., 2015b; Hunter et al., 2015).

This form of tourism has also attracted researchers' attention as an effective sustainable development tool within the tourism industry. Smart tourism ecosystems inherently place high priority on economic and environmental sustainability (Buhalis & Amaranggana, 2014; Gretzel, Sigala, et al., 2015b). Smart tourism destinations' top priorities can be analysed from a demand- or supply side perspective. These destinations seek to enhance tourists' travel experiences by providing intelligent platforms with which visitors can gather and distribute information from local

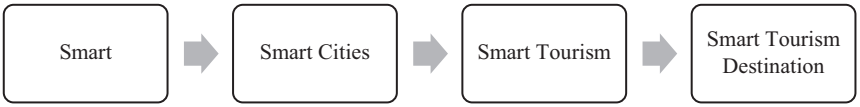

Fig. 7.1 Concept evolution

stakeholders and by facilitating an efficient and effective allocation of tourism resources. The smart tourism approach integrates tourism suppliers to ensure that tourism's benefits are equally distributed to visitors and local communities (Buhalis & Amaranggana, 2014; Nam & Pardo, 2011).

Creating smart destinations exploits the convergence between physical infrastructure and information and communications technology. This strategy also entails developing new business ecosystems based on new information infrastructure to increase efficiency, enhance experiences and, ultimately, strengthen sustainability in tourism (Gretzel, Koo, et al., 2015a). Smart tourism destinations are thus seen as a solution that meets tourists and locals' changing expectations and needs and implements holistic innovations that benefit all stakeholders in tourism ecosystems (Kulualp & Sari, 2020) (see Fig. 7.1).

Sustainable Tourism Development

The public health crisis provoked by COVID-19 has created a need for a 'fresh look' to be taken through sustainability analyses of tourism activities. Researchers must understand the pandemic's positive and negative impacts, taking into account its consequences for sustainability strategies. This crisis makes identifying tourism's positive economic, sociocultural and environmental effects during the COVID-19 pandemic critical as a way to minimise tourism's negative effects on destination cities. The remainder of this section first defines sustainable tourism development and the factors determining residents' attitudes towards tourism. The discussion then focuses on how this industry has been affected by the COVID-19 crisis.

The World Tourism Organization (2020) defines sustainable tourism development as 'tourism that takes full account of its current and future

economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities'. This United Nations (UN) agency recommends a suitable balance be found between the three types of impacts to guarantee tourism's long-term sustainability.

Promoting sustainable tourism involves paying attention to constructs such as support—or even empowerment—of sustainable tourism development, so destination managers first need to understand which factors are antecedents of residents' attitudes. Figure 7.2 summarises the sustainable tourism conceptual framework based on the three aforementioned dimensions and residents' attitudes. The literature offers diverse theoretical or empirical approaches to this topic, but these dimensions appear to be a stable element of all models.

Applying more generalised models of locals' attitudes to the specific context of sustainable tourism development helps to highlight the factors influencing local communities' support for expanding tourism. Multiple models and scales have been extensively studied by tourism researchers in the last decade (Hsu et al., 2020; Lee, 2013). More recent studies have been based on the sustainable tourism attitude scale (SUS-TAS), which is a multiple-item instrument developed by Choi and Sirakaya (2005,

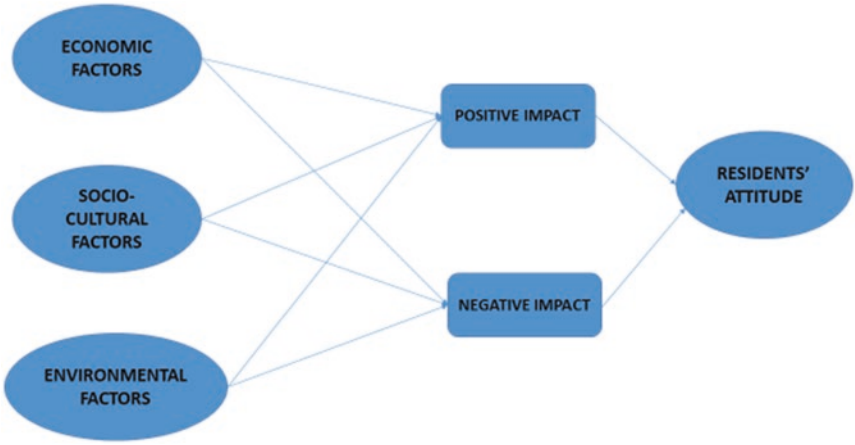

Fig. 7.2 Conceptual model of residents' attitudes towards sustainable tourism

2006) to measure residents' attitudes towards sustainable tourism development.

This scale considers not only community feelings towards sustainable tourism development but also existing paradigms such as social exchange and sustainability theories (Vong et al., 2020). One of the latest adaptations and refinements of the SUS-TAS scale can be seen in Hsu et al.'s (2020) work. The cited authors' scale includes economic (i.e. perceived economic benefits, long-term planning and community-centred economies), sociocultural (i.e. perceived social costs, community participation maximisation and visitor-friendly environments) and environmental (i.e. environmental sustainability) factors.

Sustainable tourism development is frequently mentioned as an important way to reduce poverty by increasing tourism's positive economic impacts on locals, as well as reducing environmental degradation and sociocultural disturbances (Budhiasa et al., 2016). Sustainability has been widely accepted in tourism as a way to mitigate the detrimental effects of mass tourism (Hsu et al., 2020) and 'overtourism', a term used to describe tourism's excessive negative impacts on host communities and/or natural environments (Gowreesunkar & Seraphin, 2019; Koens et al., 2019). Although these terms (i.e. mass tourism and overtourism) are different, both focus on some of the most important causal factors of non-sustainable tourism.

Local Communities

Tourism development in destinations generates both positive and negative impacts on the host community. Various authors have used social exchange theory to explain host communities' perceptions of and support for tourism development (Chen et al., 2020; Rasoolimanesh et al., 2015; Ribeiro et al., 2017). According to this theory, if residents are more aware of tourism's benefits rather than its costs, locals will be more predisposed to support tourism development (Pulina et al., 2013). While positive perceptions of impacts encourage residents to support tourism projects, locals' negative perceptions dissuade them from supporting them (Sharpley, 2014).

The existing literature classifies tourism's effects on residents as economic, environmental and sociocultural. Positive impacts include, among

others, job and infrastructure improvements, monument restorations, protection of natural and cultural heritage sites, residents' better quality of life and promotion and preservation of local culture. Negative effects encompass higher prices, dependency on the tourism industry, saturation of public and leisure infrastructure, traffic congestion, weakened cultural authenticity and/meaning and cultural conflicts between locals and tourists. Other negative impacts are an increased incidence of crime and the availability of drugs, among others (Almeida García et al., 2015; Rasoolimanesh & Jaafar, 2016; Rasoolimanesh et al., 2017).

Various studies (Cardoso, 2018; Chen et al., 2020; Rivera et al., 2016) have confirmed that residents directly perceive economic, cultural, social and environmental impacts on their lives, which influence their predisposition to support tourism development and sustainable tourism. However, attitudes towards and perceptions of this development are mediated by varied factors. These variables include sociodemographics, type of tourism (Pulina et al., 2013; Rasoolimanesh et al., 2015), distance to tourism attractions, frequent contact and/or dealings with tourists (Sharpley, 2014), communities' stage of tourism development (Kim et al., 2013), perceptions of tourists' behaviours regarding respect, tourist density and tourism's personal benefits (Vargas-Sanchez et al., 2011).

In addition, residents' attitudes towards tourism can be categorised as due to extrinsic or intrinsic factors. Extrinsic variables refer to destinations' characteristics such as the degree or stage of tourism development, the host area's level of economic activity, tourism and/or types of tourists' seasonality, density of tourists and/or tourism development and nationwide stage of development. Intrinsic factors comprise host community members' characteristics including the perceived balance between positive and negative impacts. If locals feel that development's benefits are greater than its costs (i.e. economic, environmental and sociocultural effects), residents are more disposed to support it. Other intrinsic variables are geographical proximity to concentrations of tourism activities or distance from tourism zones; rural, urban or coastal residential areas; economic and/or employment dependency on tourism; community attachment and length of residency. Personal values, social identity and/or status, level of contact with tourists and residents' sociodemographic characteristics can also be considered intrinsic factors (Ozturk et al., 2015; Pulina et al., 2013; Sharpley, 2014).

Some authors (Blasco-López et al., 2018, 2020; Lee, 2013) use community involvement to describe the degree of locals' participation in destinations' tourism development. Increased involvement allows residents to gain greater control over and knowledge about the initiatives developed, as well as a more direct perception of tourism's personal benefits, which can increase locals' support for tourism (Almeida García et al., 2015). A better understanding of benefits not only increases backing for tourism but also has a positive impact on residents' subjective wellbeing. Kim et al. (2013) also confirmed that locals perceive economic, environmental, cultural and social effects and acknowledge that each of them has an impact on residents' wellbeing. Mathew and Sreejesh (2017) further concluded that locals' overall quality of life derives from destinations' sustainability and responsible tourism initiatives.

The literature on tourism perceptions reveals that most opinions of tourism and related crises centre around two different perspectives: risk perception at an individual level (i.e. the demand side) and crisis management at a collective level (i.e. the supply side). Researchers have also observed a lack of studies focused on local perceptions of tourism that consider the risks associated with tourism (Qiu et al., 2020).

Smart and Sustainable Tourism and Smart City Rankings and Benchmarks

Different rankings, benchmarking and indexes have been developed over time to evaluate cities according to how smart and sustainable their tourism is (for an in-depth review, see Sáez et al., 2020). These rankings offer city leaders, local authorities and policymakers valuable tools that support urban development policy design at a strategic and tactical level. During the initial phases of the COVID-19 pandemic, public and private institutions released the results of some rankings.

The Instituto de Estudos Sociais e Económicos (IESE) Cities in Motion Index (IESE, 2020), for example, ranks 174 cities worldwide based on 101 indicators classified into nine main dimensions. These are governance, economy, social cohesion, human capital, international projection, technology, urban planning, environment and mobility and

transport. The top five smart cities in 2020 are located on three different continents: London, New York, Paris, Tokyo and Reykjavík.

The Institute for Management Development-Singapore University for Technology and Design's (IMD-SUTD) Smart City Index (IMD-SUTD, 2020), in turn, rates 109 cities worldwide based on residents' perceptions. Two pillars are considered—structures (i.e. cities' existing infrastructure) and technology (i.e. the available technological provisions and services)—over five key areas (i.e. health and safety, mobility, activities, opportunities and governance). According to their residents, the top five 2020 smart cities are Singapore, Helsinki, Zurich, Auckland and Oslo.

The World's Best Cities for 2021 (Resonance, 2020) also assessed cities' performance by combining quantitative indicators with qualitative evaluations by residents and visitors in six core dimensions: places, people, programmes, products, prosperity and promotion. The 2020 edition included new indicators related to the pandemic. The 2021 best cities are London, New York, Paris, Moscow and Tokyo.

At a regional level, the European Capital of Smart Tourism (2020) ranking recognises the importance of four areas—accessibility, sustainability, digitalisation and cultural heritage and creativity—and describes the winners based on a case study approach. The two 2020 European Capitals of Smart Tourism are Gothenburg and Malaga. In addition, the latest data gathered for the UN's Sustainable Development Goals (SDG) Index (Lafortune et al., 2019) revealed that no European city has yet fully achieved the UN's SDGs. The city with the best overall performance across the 17 SDGs (i.e. Oslo) has achieved 74.8% in terms of implementing appropriate ways to achieve the UN's targets. More specifically, the best city with reference to SDG 11—sustainable cities and communities—(i.e. Berlin) was found to be, on average, 76.7% of the way to achieving the relevant targets.

7.3 Methodology

The present research was based on an in-depth literature review focused on three main aspects of the COVID-19 pandemic's impacts on smart tourism, sustainable tourism and local communities. This kind of study

can be described as a more or less systematic way to collect and synthesise previous research (Snyder, 2019; Tranfield et al., 2003). The current study collected secondary data using desk research to identify recent findings related to the COVID-19 pandemic that specifically include all three concepts under analysis: smart tourism, sustainable tourism and local communities.

7.4 Analysis of Findings

COVID-19 Crisis in Smart Tourism

The recent pandemic crisis has had numerous, lasting adverse effects on the tourism industry worldwide. Concurrently, COVID-19 has increased the competitive advantages generated by smart tourism infrastructure that can provide relevant health and smart services. When the pandemic began, individuals, organisations and countries turned to technology to enable societies to keep functioning (Gretzel et al., 2020). The tourism industry has been, however, one of the most strongly affected activities due to the current level of globalisation and this industry's widely acknowledged fragility regarding tourist movements (Gossling et al., 2020).

During the pandemic's initial phases, an enormous amount of mobile data were collected on a vast number of users' calls and behaviours on social media platforms, with special attention paid to the need for privacy and data protection. Technology had been used previously to connect isolated individuals and employees and to replace physical interactions (Tešić et al., 2020). In tourism, various innovative examples exist of smartphone mobile applications that track people and their contacts. In addition, tourism marketers have resorted to new virtual solutions to satisfy individuals' desire to travel, such as virtual museum tours and virtual reality concerts (Chandler, 2020; Zeng et al., 2020).

Tourism information services and travel planning assistants appear to be strongly influenced by hopes regarding post-pandemic environments. As more people avoid closed places, outdoor activities will increase. This

trend could accelerate the digital transformation of services or facilitate the development of new digital solution applications (Stankov & Filimonau, 2019). In this context, a new term, 'non-contact tourism', has emerged in destinations more consistently aligned with the smart city approach (El-Assasy, 2020).

Advanced smart city and smart tourism depend strongly on spatial components as most services offered are location-oriented from both a user and services provider perspective. Since smart tourism destinations are associated with situations that optimise interactions between technologies and physical environments (Liberato et al., 2018), these destinations need to improve real-time information and information access and encourage greater context awareness and real-time monitoring (Buhalis & Amaranggana, 2014). These enhancements could increase smart tourism destinations' competitiveness (Lin, 2017).

COVID-19 Crisis in Sustainable Tourism Development

Sustainability in the tourism industry was already a high priority for both scholars and tourism stakeholders before COVID-19 appeared (Jones & Comfort, 2020). However, the pandemic crisis has generated new concerns and opportunities related to applying sustainable tourism development measures and practices (Santos-Roldán et al., 2020). While tourism researchers recognise the devastation caused by the pandemic, many look to the COVID-19 crisis as a potential catalyst for essential transformations (Higgins-Desbiolles, 2020).

Different issues should be examined to ensure accurate predictions about the COVID-19 crisis's short- and long-term effects on sustainable tourism development in cities. First, from an economic point of view, governments (i.e. national, regional or local), companies, local businesses or other national companies that depend on tourism are focusing on preserving the economic systems present prior to the pandemic. Thus, companies need to plan how to invest their financial resources in sustainability practices to keep their operations alive through financial support (i.e. loans and grants) and public and private investment. In addition, legislation should be favourable to the interests of businesses that depend

on tourism and that do not harm entire ecosystems' long-term sustainability. Sustainability behaviours in the tourism industry are also strongly driven by internal stakeholders' consent and best tourism practices. If companies head off in opposite directions, this lack of coherence could start a vicious cycle of weakened efforts to increase sustainability (Zenker & Kock, 2020).

Second, the external shock generated by the COVID-19 crisis has more strongly hit southern EU economies that rely too heavily on the tourism industry, such as Italy, Spain and Portugal. Many national companies and local businesses are closing or are planning to give up in the near future if they do not receive government help. A promising line of research centres around the concept of resilience—a characteristic increasingly recognised as important for tourism destinations' long-term sustainable development. Resilience can help managers focus on more positive aspects of the situations created by pandemic crisis. The gaps and empty spaces left in the market by exiting companies could further represent market entry opportunities that will allow new innovative business models to develop (Ioannides & Gyimóthy, 2020).

Third, the overall reduction of greenhouse gases emissions (Muley et al., 2020) is helping to promote more sustainable tourism in the short term and changes in final consumers' (i.e. tourists) vision. However, these individuals also expect a recession after the pervasive health crisis passes and thus unfavourable economic conditions, so tourists will likely look for the lowest prices rather than the most sustainable options. Post-crisis consumers will also probably choose to travel to destinations closer to their place of residence. Given people's growing insecurity and uncertainty, nearby destinations could be considered less risky by many potential tourists who have been noticeably affected by the economic crisis triggered by the health crisis and who have seen their purchasing power reduced (Romagosa, 2020). In the long term, tourists might, nonetheless, see the pandemic as a reason to engage in more sustainable behaviours as well.

Before the COVID-19 crisis, scholars questioned themselves regarding how to reframe the overtourism phenomenon within the wider conceptual framework of urban development analysis and the rethinking of tourism models (Pasquinelli & Trunfio, 2020). Before the pandemic,

inhabitants from varied cities complained about mass tourism, but Western countries' cities that relied heavily on tourism before 2020 are now empty. Policymakers, local businesses that did not directly depend on tourism activities and city-centre residents are thus experiencing a deep economic and social crisis. The pandemic's effects have helped locals to understand that large numbers of tourists are not necessarily a negative phenomenon unless visitors 'over-exploit' cities' resources.

Last, the COVID-19 pandemic may subconsciously reshape both tourists and residents' behaviours in important ways that future tourism research needs to examine (Zenker & Kock, 2020). Locals may become less welcoming of incoming tourists and less supportive of tourism development (Muley et al., 2020). The pandemic may, therefore, give rise to in-group and/or out-group biases among residents and tourists—a phenomenon that is still under-researched (Chien & Ritchie, 2018; Zenker & Kock, 2020).

COVID-19 Crisis in Local Communities

Societies currently dealing with COVID-19 consider it to be a natural disaster associated with restrictions that have generated sociopolitical and/or human-made situations heading towards general economic and more specific tourism-demand crises (Ritchie & Jiang, 2019). The COVID-19 incidence has been different in each country. Some countries such as Italy, Spain, the United States or parts of China—especially at the pandemic's beginning—have experienced extremely high rates of infection. These trends have had a negative impact on their image as tourism destinations, including perceptions of local health infrastructure, safety or other COVID-19-impaired facilities. These more exposed countries are in an adverse situation as they will have to find ways to attract tourists again. The citizens of those nations with more vulnerable conditions or those more concerned about the pandemic's further development will be less motivated to travel to the harder hit destinations. However, the latter may be able to take advantage of tourists who seek to provide financial support to less favourable destinations (Zenker & Kock, 2020).

Because of the pandemic, guest-host relationships have been abruptly interrupted. This situation will have a prolonged negative effect on these relationships because of greater mistrust of tourists within host communities. In addition, negative emotions have been generated in visitors' minds towards specific destinations, and travellers may lack a willingness to interact with host communities. These effects could cause guest-host relationships to deteriorate so that residents could become less welcoming of incoming tourists and less supportive of tourism development, thereby weakening destinations' image. If tourists have bad experiences, these could generate negative emotions, a sense of dissatisfaction and disappointment, which probably will result in negative word of mouth and have an adverse impact on intentions to revisit these locations (Kour et al., 2020; Zenker & Kock, 2020).

Qiu et al. (2020) report that residents are willing to endure the consequences of reducing tourism's negative impacts on their communities during the COVID-19 pandemic. More specifically, the cited study's results suggest that, in general, locals are willing to suffer financial losses to reduce tourism's social costs. Young residents were especially willing to pay more for risk reduction than older people probably because younger locals are more digitally connected, which gives them access up-to-date information about the pandemic crisis.

The changes brought about by the COVID-19 disaster have redirected tourism towards meeting host communities' needs. At first, this shift was a survival strategy, but it could become, in the long term, a resilience strategy (Lapointe, 2020).

7.5 Conclusions and Recommendations

This chapter presented an in-depth systematic literature review focused on answering three research questions. Regarding the first research question (i.e. What impact has COVID-19 had on smart tourism?), the results reveal that, although the pandemic crisis has strongly affected the tourism industry, the crisis has also generated other responses to overcome the multiple adversities produced by the pandemic. Researchers expect that COVID-19 will boost the digital transformation of tourism

(e.g. planners' use of big data), which will contribute to promoting the smart tourism approach based on personalised and 'non-contact' travel solutions (e.g. outdoor activities and virtual tours). Even as the COVID-19 crisis exposed the fragilities of tourism-dependent economies, it also underlined the importance of developing integrated policies that seek to promote smart cities and destinations.

Concerning the second research question (i.e. Will sustainable tourism be strengthened or threatened by the pandemic?), the findings include short- and long-term positive and negative economic, environmental and sociocultural effects. In the short term, the external shock on economies generated by the pandemic has had a negative impact on the likelihood that many tourism companies will survive. However, in the long term, the shock also may represent opportunities in varied markets for developing new, more environmentally friendly business models. In terms of sociocultural impacts, the literature review showed that the pandemic will reshape residents' attitudes towards tourists and tourism.

Regarding the third research question (i.e. What effects can COVID-19 be expected to have on local communities?), the pandemic crisis has also provided opportunities to policy planners and locals to update their attitudes towards tourism. The crisis has demonstrated that, while negative externalities are always likely to arise from tourism activities, sustainable tourism's positive effects often largely overshadow these problems. In addition, the authorities have at their disposal various tax instruments to compensate for tourism's potential negative impacts.

Although more time needs to pass before lessons can be learned from the COVID-19 pandemic's effects on cities worldwide, smart tourism destinations should be able to withstand the most harmful effects and take advantage of future opportunities to improve. The present findings contribute to the existing literature by offering in-depth insights into COVID-19's expected impacts on smart cities, smart tourism and local communities. These complex issues must be addressed by travel and tourism organisations, event planners, destination marketers and smart tourism leaders. Future research could focus on measuring the three types of impacts, especially how city rankings, benchmarking and indexes change in post-COVID tourism industry.

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