

When Covid-19 Meets Climate Change: Rethinking Tourism Education and Research in Contemporary Creative Economies

João ROMÃO

新型コロナウイルスと気候変動の遭遇：
現代のクリエイティブエコノミーにおいて観光学教育・研究を再考する

ショアオ・ロマオ

Department of International Business and Tourism,
Yasuda Women's University

Abstract

Assuming a central role within contemporary creative economies, tourism activities registered a significant growth over the last decades, despite the concerns often raised regarding environmental impacts and sustainability, in particular when observing problems of “overtourism”. This growth implied the emergence of new and highly qualified jobs in the tourism sector, regarding the design and management of services and facilities, business and territorial planning, advanced marketing and communication techniques or the integration of digital technologies into different aspects of tourism activities, in particular those related to cultural heritage and creativity. However, problems and concerns with global impact, like those related to climate change or the recent covid-19 pandemics, clearly question this process of continuous growth. This work frames these new problems within the evolution of tourism activities, education and research in the last decades, suggesting that tourism will keep a significant socio-economic importance, even if there is a shift from international to domestic travels. A more clear focus on high value added rather than on mass demand and the importance of creativity, health and safety in tourism provision imply the development and training of high-skilled labor for different tasks in the tourism sector, both at the private and public levels.

Keywords: Tourism, Innovation, Sustainability, Skills, Education, Research

1. Introduction

As tourism activities evolve, the approaches to education and research in tourism also tend to change, as observed and systematized in different studies¹⁾. Today, the implications of the covid-19 pandemics on tourism may also have a strong impact on related education and research^{2),3)}. As the evolution of this problem is still uncertain, the reflexion and discussion about it is diverse and intense⁴⁾. This is reflected in articles and reports recently published by researchers and international tourism-related institutions, like the World Tourism Organization⁵⁾. This work combines the analysis of the implications of the covid-19 pandemics with other contemporary problems related to sustainable development (like climate change and CO2 tourism-related emissions)⁶⁾. This is contextualized within the growing importance of tourism within contemporary creative economies⁷⁾, its relations with other economic activities⁸⁾ or aspects related to the resilience of economies and societies when facing an external negative shocks⁹⁾. Based on a systematic scoping review¹⁰⁾, this work takes into consideration all these aspects for a discussion of their impacts on education and research in tourism. For this purposes, a brief synthesis of the evolution of main concepts and concerns in tourism education and research is presented, along with the importance of related skills for tourism planning and management in private companies and public institutions.

2. Contemporary challenges for tourism

1.5 billion international arrivals were registered in 2019¹¹⁾. This figure represents the highest number in history and it is 60 times larger than the 25 million observed in 1950, revealing the importance assumed by travel and tourism within contemporary societies. This importance of tourism appears to be related to technological developments in transportation services, networks and infrastructures, longer periods of vacation, increasing discretionary income and also to societal changes and their implications on consumption behavior. New destinations and territories are assuming a more relevant role within the global tourism flows. The emerging economies received 47% of the international air travelers in 2019 (from 36% in 1995) and the Asia-Pacific region grew from 16% to 25% in the same period. Japan was one of the Asian countries where tourism registered higher growth levels during the last decade, entering the top-10 global destinations in 2018: although the country is not listed in the 10 first positions in the world regarding the number of visitors, it occupies the 8th position in terms of the revenues obtained by the tourism sector¹²⁾.

Tourism activities registered a continuous and significant growth since mid-20th century, with an increasing contribution for local and global economies, along with the utilization and mobilization of a wide scope of natural, cultural and human resources for a diversified and increasingly sophisticated supply of services and experiences. This socio-economic importance of the tourism sector also created new problems and challenges, once tourism is an activity

with high sensitiveness to different types of risks and external shocks, raising different questions related to the socio-economic resilience of the territories. Questions related to ecological resilience, on the other hand, had already been raised when observing the negative impacts of mass tourism on sensitive natural and cultural resources. These problems have been clearly enhanced with the perception of the current process of climate change in the planet. The interconnection between these aspects (rising importance of tourism, ecological limits of the planet and restrictions on traveling due to external shocks) will be systematically analyzed in this Section.

2.1. Tourism in the creative economy: experiences for smart tourism

The continuous growth of travel and tourism has also significant impact on the global economy. According to UNWTO¹¹⁾, 10% of the world GDP, 7% of the international exports, and 30% of the global exports of services are related to tourism activities, a sector responsible for the employment of 10% of the workers in the world. However, it is also noticeable that tourism consumption is very elastic, with strong reactions to variations in prices (as a result of the competition between rival destinations at the global level) and in the revenues (as tourism is not a primary need, traveling tends to reduce or increase significantly when revenues get smaller or larger). This transformation of the tourism sector also implies substantial changes in travel patterns. OECD¹³⁾ identifies four major “mega-trends” shaping tourism development, including aspects related to: people (more people participating in tourism activities, increasing number of travels, shorter duration of each travel, more autonomy of tourists and personalized plans); planet (higher perception of the impacts and limits of natural and cultural resources, concerns with sustainable development, implications of travel on climate change); productivity (increasing utilization of digital technologies in tourism services, reshaping all the processes of communication and interaction between tourism suppliers and consumers); and governance (systematic reduction of working time, international integration favoring mobility, relaxation of the processes to obtain visas).

These trends in tourism dynamics can be framed within broader transformations in the economies, involving a strong convergence between the cultural and the economic domains: culture is increasingly commodified and market-oriented, while commodities integrate more aesthetic and semiotic meanings beyond traditional utilitarian aspects (through the integration of information, knowledge, and symbolic values into tradable goods and services)¹⁴⁾. This is also connected to the increase in discretionary income for large parts of the population and to transformations in lifestyles, with high importance given to aspects related to entertainment, cultural interaction, education, self-esteem, wellness, or personal valorization, as observed by OECD⁷⁾ when defining the “knowledge economy” or “creative economy”. Creative industries are then defined as “knowledge-based creative activities that link producers, consumers and places by utilizing technology, talent or skill to generate meaningful intangible cultural products, creative content and experiences”. This includes multimedia production and

distribution, Information and Communication Technologies (ICT), architecture and design, communication and advertising, and fine and performing arts or cultural production and distribution, along with leisure activities, like interactive games, gastronomy, or tourism. These activities tend to engage in systematic innovation processes, requiring the integration of knowledge, technology, and highly qualified workers related to specialized skills.

For tourism services, these transformations implied a shift from the focus on territorial resources to the creation of personalized experiences¹⁵⁾, with increasing importance of the immaterial aspects of the visit, like livability, cultural interaction with local knowledge and traditions, or concerns with local communities in different cultural contexts¹⁶⁾. Tourism may contribute to reinforce the connections between creative products and services, potentially reinforcing local networks, while opening opportunities in global markets⁸⁾. Creative tourism enlarges the traditional scope of cultural heritage, connecting physical aspects of each destination to immaterial elements of local cultures, contributing for the creation of innovative experiences rooted on the uniqueness of the destinations⁷⁾. In particular, the tourism sector has been largely transformed along the last decades as a result of the developments in ICT^{17),18)}. This includes computerized distribution and reservation systems for transportation, accommodation, and other services; increased interactivity based on tools related to social media; easy-to-use tools for multimedia production and communication; development of tools based on geographical information systems; generalization of mobile utilization in portable devices; generalization of online payment systems; increasing speed, reliability and amount of information transmitted. All these developments contribute for an increasing interaction between tourism companies and travelers before, during, and after the trips. ICT contributes to enrich and to personalize tourism experiences, by facilitating the access to multiple services (for consumers) and to acquire a better knowledge about consumer preferences (for producers). In particular, aspects related to the interpretation of cultural heritage (through multimedia platforms, using mobile devices and based on tools related to virtual or augmented reality) also acquire a significant importance in the context of creative tourism development.

The role of experience, the importance of immaterial aspects of cultural heritage and creative elements of the destinations or the generalized utilization of ICT for the implementation of systematic processes of interaction between tourism producers and consumers, clearly transformed the tourism ecosystem, contributing for the emergence of concepts like “co-creation”^{19),20)} (development of new products and services as a result of the interaction between producers and consumers) or “smart-tourism”²¹⁾ (systematic utilization of ICT in the different tourism, activities in order to increase the interactions between agents, accumulating and processing information for the development of innovative products, services or collaborative governance modes for tourism planning and management). These transformations opened new opportunities in terms of business opportunities and job creation, with much higher requirements in terms of labor qualifications. In particular, the utilization of digital tools for marketing and communication, the management of global networks, the integration of cultural and creative elements into tourism experiences, the development of

applications to attract visitors, to support the visit and to keep regular connections with clients, require a whole set of new and high qualifications for the workers involved in tourism activities, much beyond the basic skills for the traditional hospitality services.

2.2. Covid-19 meets climate change

This continuous growth observed in tourism represents a process of democratization, with larger parts of the population being able to enjoy traveling and vacation. However, it had also important negative consequences, with mass tourism development in many coastal areas leading to significant environmental problems, with excessive urbanization to accommodate a seasonal flux of visitors, degradation or destruction of sensitive natural areas and significant interferences on the lifestyles of local communities. A large number of studies addressed these problems for more than 50 years^{22),23)}. However, the concerns with the environmental impacts of tourism would increase significantly when the concept of sustainable development was introduced²⁴⁾. This concept would be quickly adopted in tourism studies and policy guidelines: the first “Strategy for Sustainable Tourism Development” was published in Vancouver in 1990, the first “Sustainable Tourism Development Conference” was held in Edinburgh in 1990 and the Journal of Sustainable Tourism was founded in 1992, among other examples²⁵⁾. These views would contribute for the consolidation of a critical perspective of tourism development and to the formulation of alternative approaches based on smaller scale forms of tourism oriented to niche markets, taking into consideration the physical limits of the territories^{26),27)}. However, it was also observed that principles of sustainable development should be applied to all processes of tourism planning for all types of destination, independently of their scales²⁸⁾. Moreover, an important theoretical connection between the concepts of competitiveness and sustainability would be developed later on²⁹⁾, when applying to long-term tourism planning and policies the strategic formulations focused on the concept of competitive advantage³⁰⁾. A recent example on European regions shows that tourism often fails to generate significant benefits for all the 3 pillars of sustainable development³¹⁾. The recent perception of the problems related to climate change and their potential impacts on sensitive ecosystems (in particular coastal areas or remote islands with strong tourism attractiveness and low level of infrastructures) would reinforce the importance of the analysis of the relation between tourism, environment, and sustainable development³²⁾. The high sensitiveness of some territories regarding the effects of climate change (like the rise sea level or the occurrence of extreme weather conditions raises questions of safety and raises problems related to the physical resilience of the territories and their ability to preserve the ecological balance.

According to recent estimations³³⁾, 1,600 million tons of CO₂ were emitted at the global level in 2016 for the transport of tourists, corresponding to 5% of the global emissions related to the consumption of energy. This report also calculates that transports represent 75% of the tourism-related CO₂ emissions, with plane (40%) and car (32%) being responsible for the largest shares. However, even when attention to environmental impacts increases and new and more

environmental-friendly forms of travel and leisure are implemented, the continuous growth of international air travels is not in accordance with the principles of sustainability. In fact, in the last years the concept of “overtourism” started to be broadly used, reflecting a generalized perception about the excessive negative impacts of mass tourism, now also spreading to cities and urban destinations^{34),35)}. This relatively long and systematically continuous process of growth of tourism activities and international travels would be recently interrupted by the emergence of the covid-19 global pandemics, which had deep implications, not only on travel and tourism, but also on local, national and international economic systems. As the number of cases of infections started to increase at the international level since February 2020, the number of international flights would be drastically reduced from March 2020³⁶⁾, with the related implications on the occupation of tourism accommodation establishments and other hospitality services. In the beginning of Summer 2020, 65% of the world countries had their borders completely closed, while most of the European countries were starting to easy travel restrictions³⁷⁾. Despite the different guidelines and recommendations published³⁸⁾, this would be a turbulent process, once the fluctuations in the number of infections registered in each country lead to consecutive changes in the rules for traveling inside the European continent, thus implying a large uncertainty and a weak performance for the tourism sector.

Although the covid-19 pandemics was not the first negative external shock with impact on tourism observed in the 20th century, its consequences will surely be the most severe, even if they are not fully predictable now: the 9/11 terrorist attacks in 2001 (with impacts on the perception of security), the global economic crisis in 2009 (with impact on the income of families) and the pandemics related to SARS (2003) or MERS (2015), also had negative impacts on tourism³⁹⁾. However, the global scale of the covid-19 pandemics, the duration of full lock-downs in many parts of the world and the consequences on revenues and employment related to the reduction of economic activities observed, allow us to anticipate that the consequences on tourism dynamics will be much more severe than any other of the previous shocks⁴⁾, even if the problems related to public health can be solved in a relatively short term (which is still far from clear). In this context of successive negative shocks with strong impacts on economies, the concept of socio-economic resilience also gained relevance within social sciences and in the particular case of tourism. Different studies^{40),41)} show that the types of sectorial relations established between tourism activities and other industries influence the capacity of regional economies to recover after a negative shock. Moreover, a recent analysis covering a large number of European region and observing periods with different economic context (growth, recession and recovery), found that the economic benefits of regional specialization in tourism are not related to high volumes of demand, but to the capacity to generate high value added in the tourism sector⁹⁾. In fact, a strong employment in tourism services with low value added increases the vulnerability of regional economies to the negative impacts of external shocks.

3. Trends in education and research

The strong dynamics and significant mutations observed in the evolution of the tourism sector along the last decades implied systematic processes of innovation, both related to the integration of new technologies and new forms of organization of productive processes, which has been extensively analyzed in the literature^{18),42)}. Consequently, also the skills required to the workers and managers involved in tourism activities evolved significantly, thus creating new challenges and opportunities for education and research. This evolution is represented in Table 1 and it can be systematized as follows:

1) relatively simple skills required for the operation and maintenance of traditional and standardized hospitality services (accommodation, food and beverages, transports);

2) importance of marketing and promotion, both at the establishment level and at the destination level, thus requiring the creation of institutions for coordination, planning and promotion of tourism;

3) perception of the physical limits of the places and importance of territorial planning defining limits according to their carrying capacity; importance of design of facilities and infrastructures combining attractiveness and preservation of sensitive resources;

4) importance of differentiation as a strategy to obtain competitive advantages in a context of increasing global competition³⁵⁾ and market segmentation as a tool to identify the adequate consumers; importance of specialized knowledge on tourism marketing and service design in order to generate higher value added and personalized services and experiences, both at the establishment and at the destination level;

6) development of ICT, with deep transformation in tourism services, including automation and interoperability, contributing to a larger autonomy of consumers and a high potential for interaction between tourism service providers and tourists; these interactions occur before the travel (collecting information, defining plans, making reservations and payments), during the travel (supporting mobility, adding information about local resources, characteristics and events) and after the travel (feedbacks, loyalty programs or customer relation management); digital forms of communication and service provision require advanced skills in marketing combined with knowledge of digital tools and systematic monitoring different communication channels and social networks;

7) utilization of ICT to enrich the experience by integrating knowledge and creative contents related to cultural heritage; virtual and augmented reality are increasingly used as tools to support the interpretation and facilitate the understanding of different local cultural resources (lifestyles, museums, monuments, buildings, neighborhoods, etc.), potentially used in digital applications for mobile devices;

8-9) utilization of ICT to monitor aspects related to sensitive ecosystems, impacts of extreme weather phenomena, health, safety and wellbeing, while developing solutions for “touchless” (using sensors) or “contactless” (using robots) services, requiring advanced engineering skills, both in terms of the utilization of new equipments and devices and also in terms of design and

planning of facilities newly created or adapted to the new requirements for safety and hygiene.

10) stronger interconnections between education and research, as a result of the uncertainty and unpredictability of the evolution of tourism in the near future, thus requiring to tourism instructors an additional effort to follow current and to integrate new knowledge being produced.

The main purpose of this work is to discuss the implications on tourism activities of the covid-19 pandemics, which happen within a context of: strong tourism development of tourism as a major trend within contemporary creative economies and supported by the significant development of digital technologies; and global concerns related to questions of sustainability and in particular the impacts of tourism on climate change. Thus, the discussion of the future of education and research in tourism must take into account all these aspects. Moreover, some authors claim that this is an important opportunity to reinforce a critical look and to discuss and to redefine the overall tourism system and related processes of education and research^{3),46)}. Following these concerns, the importance of values and critical perspectives for the transformation of our societies in the context of serious problems and global threats like climate change or pandemics like covid-19 was also emphasized²⁾. In this sense, tourism education should promote a more clear link between tourism practices (in enterprises or planning institutions) and academic research and education, along with the reinforcement of critical perspectives aiming at increasing wellbeing, rather than a focus on an unsustainable process of economic (and touristic) growth.

In a similar vein, the focus on growth as a central objective of tourism policies and strategies is also questioned, once the ecological limits of the planet seem to be so clearly exposed³⁾. Moreover, a process of “de-globalization” for the overall economic system is also suggested in this study, implying that tourism should shift from an international perspective to a stronger focus on the domestic market. With a more concrete focus on education and training, the author points out that skills for tourism should be “transferable” to other jobs and economic activities, considering the high vulnerability of the tourism sector to external shocks not controlled by the industry.

4. Conclusion

This work systematized different international analyses to the impacts of the covid-19 pandemics on the current situation and trends in the global tourism sector, taking into particular consideration the important role of leisure and tourism within the contemporary creative economies and the limits and challenges raised by climate change for sustainable development. From this analysis, some key aspects can be observed:

1) leisure and tourism will continue to be important aspects in the consumption patterns in the future; however, a shift to a higher importance of domestic tourism and a lower demand for international tourism must be considered as a possible development;

Table 1: Tourism problems and related skills

| Stages and milestones | New questions and concerns | New tasks and skills |
|--|---|---|
| 1. Initial development | Creation and maintenance of standard hospitality services | Traditional hospitality skills (food and beverages, accommodation or transports) |
| 2. Consolidation and internationalization (from the 1960s) | International marketing and promotional campaigns to increase attractiveness and number of visitors | Marketing, promotion and communication for general audiences through conventional channels |
| 3. Critical views on mass tourism (from the 1970s) | Degradation of sensitive resources; interference with lifestyles and quality of live of local communities in rural and coastal areas | Identification of limits for carrying capacity and visitor management; Physical planning of facilities and infrastructures; |
| 4. Global competition and introduction of the concept of “competitive advantage” | Importance of strategic differentiation and consequent processes of market segmentation | Strategic planning and marketing, both for individual establishments and destinations |
| 5. Introduction of the concept of “sustainable development” (from 1987) | Importance of the achievement of socio-economic benefits for host communities; centrality of the protection of natural and cultural resources | Integration of tourism within broader strategies for economic development; consideration of environmental concerns in traditional hospitality services (water and energy saving, recycling, etc.) |
| 6. E-tourism (since the 1990s) | Digital distribution of tourism services; autonomy of tourists and increasing transparency; systematic interactions and interoperability between providers and consumers before, during and after the travel | Information and customer relation management before, during and after the travel; personalized forms of marketing and communication; management of social networks; development of multimedia and GIS tools |
| 7. Creative tourism (since the 2000s) | Centrality of the concept of experience; increasing importance of livability, social interaction and cultural heritage; emergence and development of the “sharing economy”; “overtourism” in urban areas and negative impacts on quality of live and housing markets | Advanced and personalized service design; integration of place-based resources and services into unique experiences; utilization of digital platforms for the “sharing-economy”; utilization of virtual and augmented reality for interpretation of cultural heritage; integrated planning of tourism cities and related infrastructures |
| 8. Climate change (since the 2010s) | Rising average temperatures reducing attractiveness for sun-and-sea holidays; rising sea level and extreme weather events reducing attractiveness for places with low levels of urbanization; higher perception of environmental costs of tourism; preference for local and authentic products and services | Reinforcement of the ecological planning of tourism services, facilities and infrastructures; reorganization of tourism value-chains prioritizing the utilization of local resources; utilization of digital technologies to monitor, prevent and mitigate the impacts of extreme natural events; planning cities for increasing numbers of visitors. |
| 9. Pandemics (current) | Severe concerns with contagious diseases, requiring social distance or isolation; temporary lockdowns at local or national levels; severe restrictions or prohibitions on mobility; bankruptcies and unemployment in the tourism sector; deep economic recession | Redesign of services, facilities and infrastructures for lower levels of utilization; utilization of digital technologies for automation and contactless procedures; economic support and resilience for companies, regions and countries; focus on domestic rather than international tourism; focus on quality rather than quantity |
| 10. Uncertainty (current) | Need to integrate and systematize new knowledge about ongoing phenomena | Reinforcement of the relations between tourism practices, management, education and research |

2) the focus of tourism policies and services tends to shift from quantity to quality, implying the creation of additional value to the visitor; this reinforces the importance of connecting tourism to economic sectors related to cultural and creative activities and to the systematic utilization of innovative application of ICT;

3) this creation of additional value is also related to the ability to create and to deliver unique and personalized experiences, thus requiring efficient processes of communication, interpretation and co-creation based on systematic forms of interaction;

4) along with lower environmental impacts related to the transportation of tourists, also the transportation and consumption of other resources must be considered by the tourism sector, emphasizing the importance of the connection to local markets and producers, in particular for food, drinks and unique products with cultural value;

5) questions and concerns related to environmental or public health problems will reinforce the importance of aspects related to planning and designing cities, infrastructures and services;

6) the close connection between tourism and other creative sectors (in particular, the cultural sector) appears as an interesting strategic option, not only to face the new challenges of tourism dynamics, but also to guarantee the “transferability of skills” to work in a different activity³⁾; skills related to the advanced utilization of ICT in tourism provision can be also applied to other sectors.

7) questions related to urban, territorial planning or the design of public spaces and infrastructures require increasing integration between tourism studies and other types of knowledge, thus reinforcing the importance of connecting business practices, policy and planning, education and research.

In general terms, even if international tourism may suffer a reduction in the future (which is not totally certain), the tourism sector will clearly continue to require highly qualified workers, in particular for the development of stronger inter-relations with the creative industries, including ICT, communication or cultural activities.

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Contributor: Professor Tsunekazu TODA (Department of International Business and Tourism)