

# Impact of COVID-19 Pandemic on Smart Tourism

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## ABSTRACT

The purpose of the paper is to explore how smart tourism has been changed and affected due to the Covid-19 pandemic. It analyzed the emergence of new models of smart tourism, the improvement of smart tourism and the changing of tourists' travel methods during the pandemic. It draws a conclusion that the pandemic has brought about a negative impact on the overall tourism industry but promoted smart tourism to some extent. Eventually, the paper proposes some constructive suggestions about promoting the development of smart tourism under the normalization of the pandemic.

**Keywords:** smart tourism; Covid-19; pandemic; impact

## 1. INTRODUCTION

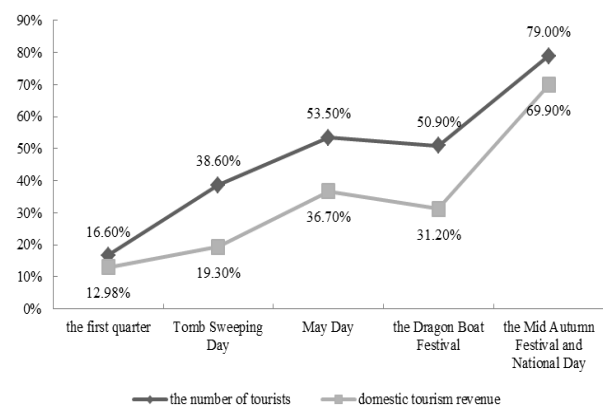
As a new type of tourism industry, smart tourism is a buzzword in recent years. Smart tourism is the integration of traditional tourism and "smart" technology. Smart tourism tailors tourism programs with individual characteristics for tourists based on modern information technology and has become a new path for the development of tourism[1]. In 2020, the Covid-19 has brought about a negative impact on the world economy. The tourism industry has been heavily stricken due to industry characteristics, and tourism revenue has plummeted dramatically. According to the statistics of the China Tourism Research Institute, domestic tourism revenue is projected to drop by 52 percent by the end of 2020. Global pandemic is still inclined to be spreading. The overseas tourists can't visit China. Luckily, by far the Covid-19 has been well-controlled in China; the tourism industry has gradually recovered. Regardless of the travel models or the travel demand, it has been shown that the pandemic has not weakened consumer demand for travel, but Chinese consumers have put forward higher requirements for the safety and quality of travel[2]. The development level of smart tourism exactly affects the safety and quality of tourism.

Therefore, the purpose of the paper is to explore the impact of Covid-19 on smart tourism in China. It attempts to find out how smart tourism has been changed and affected due to the pandemic. Eventually, the paper proposes some constructive suggestions about promoting the development of smart tourism under the normalization of the pandemic.

## 2. ANALYSIS ON CURRENT SITUATION OF TOURISM

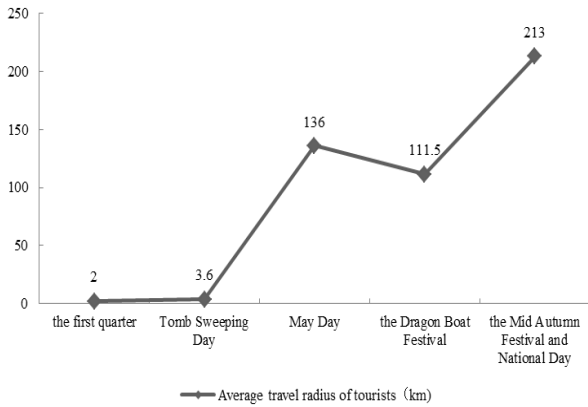
According to the statistics of the China Tourism Research Institute, the number of domestic tourists decreased by

83.4%, the tourism revenue dropped by 87.02% and the radius of destination activity continued to shrink to about two kilometres in the first quarter of 2020. With the good control of the epidemic in China and the wide application of smart tourism, the tourism industry began to recover orderly from Tomb Sweeping Day. Urban leisure tourism and peripheral tourism began to be active from then on. During May Day, domestic tourism returned to 50% of the same period, and smart tourism modes such as appointment tourism, face swiping, contactless service and robot meal delivery became the mainstream. 98% of the domestic scenic spots were reopened during National day and the Mid Autumn Festival. Tourism consumption confidence was fully restored and tourism development potential of the scenic spots was fully released. Fig. 1 below shows the year-on-year recovery of domestic tourism revenue and the number of tourists in the first quarter, Tomb Sweeping Day, May Day, the Dragon Boat Festival, the Mid-Autumn Festival and National Day. Fig. 2 shows the change of tourists' travel radius.



**Figure 1.** The year-on-year recovery of domestic tourism revenue and the number of tourists

Data source: China Tourism Research Institute



**Figure 2.** The average travel radius of tourists

Data source: China Tourism Research Institute

### 3. EMERGENCE OF NEW MODES OF SMART TOURISM

#### 3.1. Booming of “Cloud Tourism”

Field travel is restricted to a large degree during the pandemic, out of health safety. In order to attract tourists’ interest and satisfy their traveling needs, new smart tourism models such as “Cloud Tourism” and “VR Parks” emerge and widespread. At least 20 cities and thousands of scenic spots in China have launched online touring services, and “Cloud Tourism” has promoted the tourism market[3]. During the period of the pandemic, “Cloud Tourism” enables tourists to realize their desire to travel around the world without leaving home. Even in the post-pandemic period, “Cloud Tourism” is believed to continue to reveal its smart advantages. It will work as an effective supplement to on-site tourism, giving guidance and reference to tourists. “Cloud Tourism” will stimulate the potentials of smart tourism and become one of the ways to optimize the structure of the tourism industry[4].

#### 3.2. Popularity of “Tourism + Livestreaming”

Offline tourism has been restrained and tourism products are unsalable due to the impact of the pandemic. To reduce the negative impact of unsalable tourism products on tourism industry and economy, government departments at all levels and tourism companies are constantly trying new models to market tourism products. The new smart tourism mode of “Tourism + Livestreaming” can not only promote, endorse and attract traffic to tourist destinations but also promote tourism products through a live broadcast without personal face-to-face contact, so as to realize the marketing mode of online and offline integration. For example, the

nationwide marketing triggered by the “Ding Zhen incident” is the result of the fermentation of smart tourism after ten years of brewing, and it is a true portrayal of smart tourism concepts, models and methods.

#### 3.3. Extension of “Appointment Tourism”

During the epidemic, an appointment system has been implemented by major tourist attractions. Tourists need to fill in the relevant health information and travel path before they enter the scenic spots at the designated time. On the one hand, the appointment system controls the number of tourists entering the scenic spots and reduces the risk of the transmission of the pandemic. On the other hand, it can also be used as a data source for foot traffic information management. According to the statistics of the China Tourism Research Institute, more than 4000 scenic spots have implemented the appointment system since May Day. 77.4% of the tourists visit the scenic spots through the reservation, and 74.1% of them think that the appointment tourism experience is very good.

### 4. IMPROVEMENT OF NEW SMART TOURISM

Smart tourism is usually evaluated from four aspects, such as smart infrastructure, smart management, smart service and smart marketing. The outbreak of Covid-19 undoubtedly affects these four aspects positively.

#### 4.1. Perfectizing Smart Infrastructure

The smart infrastructure system includes Wi-Fi coverage, wireless communication capability, intelligent information query, CCTV monitoring, GPS positioning and other items. In order to ensure the safety of travel after the pandemic and prevent the resurgence of the pandemic, smart body temperature monitoring has been employed at the entrances of major scenic spots to monitor the temperature changes of tourists in real-time. Smart body temperature monitoring is a new indicator of smart tourism spawned by the pandemic, making the smart infrastructure system more perfect.

#### 4.2. Sound Smart Management

The smart management system includes self-service fare collection, online booking service, electronic payment, intelligent parking, foot traffic information management and other items. Due to the pandemic, people are more inclined to travel to tourist destinations equipped with contactless self-service ticketing, electronic payment. It forces all tourism destinations to continuously improve their smart management styles. For example, many tourist

attractions have implemented the appointment system and code scanning or face swiping system.

#### **4.3. Satisfactory Smart Service**

The smart service system includes the official website, customized travel route recommendation, catering and accommodation information, voice-guided tour, interactive community, scenic virtual experience and other items. Because of the pandemic, to satisfy tourists' desire to travel at home, major attractions have launched new tourism models such as "Cloud Tourism" and "VR Park", which makes the scenic virtual experience get unprecedented development. In addition, many provinces have launched tourism APPs to provide tourists with one-stop and customized services. In the meanwhile, a self-check-in mode and robot food delivery service has been implemented.

#### **4.4. Active Smart Marketing**

The smart marketing system includes we media marketing platform, third-party marketing platform, smart tourism scheme recommendation, e-commerce platform, e-shopping guide and other items. Under the influence of covid-19, offline marketing of tourism products has been greatly restrained. Government departments and tourism businesses are turning to online marketing, and actively exploring online and offline integration marketing mechanisms. They promote tourism products through we media platforms and third-party e-commerce platforms, and actively try new marketing models such as "Tourism + Livestreaming" to make smart marketing channels more active.

### **5. CHANGING OF TOURISTS' TRAVEL BEHAVIORS**

#### **5.1. Tourism Destinations**

The pandemic arouses tourists' higher requirements for tourism security and health, leading to the transference of cross-provincial and overseas tourism destinations to local and domestic tourism destinations. Rural tour with sparsely-populated areas and neighbouring tours with closer distance to habitation have become popular travel modes after the pandemic[5]. Tourists prefer travel modes that can relax their body and mind, such as natural scenery, leisure and vocational areas, while theme parks with more crowds are deserted[6]. However, rural tourism has natural defects such as inadequate publicity and low intelligence. The huge demand promotes innovation, so the new smart tourism model of "Tourism + Livestreaming" came into being. It can not only promote, endorse, and attract traffic

for rural tourism, but also promote the development of rural tourism without contact through live broadcasting.

#### **5.2. Travel Mode and Accommodation Type**

The pandemic also changed tourists' travel mode. At present, Chinese tourists prefer self-driving travel, creating a huge crisis for travel agencies. At the same time, star hotels become the primary choice of accommodation, while featured homestays, youth hostels and tent camping are badly affected[6]. In order to compete with star hotels under the pandemic circumstance, many featured homestays and youth hostels actively seek new ways out. They launched a "peace of mind strategy" on various social platforms such as WeChat Subscription, Xiaohongshu, Weibo, etc. They invite residents to share the experience of accommodation and actively publicity through the Internet. In order to reduce personnel direct contact during the pandemic, some homestays have implemented a self-check-in mode. Tourists communicate with homeowners to obtain the room password to check-in by themselves. The pandemic has changed the way people travel and the types of accommodation, but it has also promoted the innovation and development of smart tourism.

#### **5.3. Service Requirements of Smart Tourism**

Smart cities are already under active construction and smart tourism is highly promoted before the pandemic in China. A great number of Chinese people get used to relying on the Internet or mobile phones to collect necessary information and determine their traveling demand. However, due to the uneven economic development of regions, some cities and scenic spots located there lag in the construction of smart infrastructure. Tourists did not get the necessary smart services, thus passively lowering their requirements for smart tourism. Thanks to the pandemic, the promotion of modes such as "Tourism + Livestreaming" and "Cloud Tourism", the popularization of the appointment system, contactless purchases, self-check-in and other smart tourism methods have been deeply rooted in the hearts of the people, imperceptibly changing tourists' travel habits. In other words, tourists have put forward higher requirements for the smartness of tourism as well.

### **6. CONCLUSION**

To sum up, the pandemic has brought about a negative impact on the overall tourism industry, especially the traditional tourism industry but promoted smart tourism to some extent. It has promoted the modes and evaluation indices of smart tourism, people's travel choices have been changed too. The development of smart tourism has greatly reduced the negative impact of the pandemic and there is still huge potential in China's tourism market. Smart

tourism with highly developed information can allocate tourism resources reasonably and connect tourism destinations with tourists better. For its further development, we put forward the following suggestions. Firstly, solving technical problems is the first and key step, local tourism administrative departments and tourism enterprises must introduce technical talents who can solve the problem of informatization and digitization of tourism industry. Secondly, governments at all levels should increase their support for smart tourism enterprises to bridge the policy gap. For example, they can provide technical support to tourism enterprises with backward smart technology, provide financial support for the smart reform of tourism enterprises, or provide support to these enterprises in the form of tax reduction, tax exemption and tax postponement. Thirdly, we should continue to enrich the smart tourism modes based on the new smart tourism modes developed during the pandemic. We should accurately grasp tourists' preferences and needs and strive to realize the possibility of "*customized tourism*" by using big data analysis tools. Finally, the regulatory authorities should strengthen the supervision of the Internet; severely punish false tourism information, false publicity and false marketing.

## ACKNOWLEDGMENT

The paper is financially supported by Jiangsu Provincial Department of Culture and Tourism (Grant No. 20YB27) and Jiangsu Social Science Fund Project (No. 17JYB001).

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