The Impact of the COVID-19 Pandemic on the Tourism Industry and What Kind of Future this Industry will be Led to

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ABSTRACT

In a strongly connected and integrated world, the impact of the COVID-19 pandemic has become increasingly severe since the outbreak, especially on the tourism industry. In this paper, we first discuss the severity of the epidemic and how severely the accommodation industry and the transportation industry (especially the international aviation industry), two main parts of the tourism industry, were impacted by the epidemic. Then, we describe how these two industries have recovered from the epidemic and evaluate their methods and other possible recovery methods. Lastly, we discuss the possible future of these two industries based on some main influencing factors in the world.

Keywords: Covid-19, tourism, impact, recovery, future

1. INTRODUCTION

As the COVID-19 virus was recognized in 2019, it was rapidly shown to be caused by a novel coronavirus that is structurally related to the virus that causes severe acute respiratory syndrome (SARS). Nevertheless, the tourism industry, influenced largely by the severe crisis, survives from the disease and recovers gradually. The companies have faced many problems and restrictions, but they also seize the opportunities of the community’s recovery to resume the business and back to the market. In this paper, we will try to show the severity of the epidemic’s impact on the tourism industry with statistical data. Then, under such a severe impact, this paper would like to find what strategies have been taken by different companies related to the tourism industry to tide over this difficult period; In the last part, this article will discuss the future development direction of the tourism industry.

2. THE SEVERITY OF THE EPIDEMIC

In order to show the severity of this epidemic, we will first make a general description through comparison and then separately talk about the impact on the accommodation industry and the transportation industry under the tourism industry. The number of infections and deaths of the COVID-19 crisis is enormous compared to the previous severe virus crisis such as SARS and H1N1. To measure the impact of coronavirus outbreaks on the tourism demand globally, the comparison of influence among different viruses plays a prerequisite role. Since 1976, when the world recognizes the Ebola crisis, the impacts of viruses vary by world regions depending on the source and distance to the virus outbreak source. The SARS epidemic crisis (2002) and H1N1 (2009), which are recent crises, caused a striking drop in tourist arrivals by −10 million in the Americas region; in tourism spending, the loss was −21 billion US dollars in that region. This is severe enough, but the COVID-19 virus impact is much more critical. Depending on the dynamics of future pandemics (from April 2020), the travel tourism industry worldwide will drop on average from −2.93 percentage points to −7.82 in the total GDP contribution during the crisis. Jobs in the travel tourism industry will decrease by −2.44 percentage points to −6.55. The estimated lost inbound tourist spending ranges from −25.0 percentage points to −35.0. Total capital investments that fall due to pandemics vary from −25.0 percentage points to −31.0 [1].
As the basis of all these broad explanations of the impact, the detailed influences are also a topic that should be discussed. Since the COVID-19 virus has become familiar worldwide, sanitizing has become a strong need for everybody, such as hand sanitizers, medical alcohol, and even masks. At this critical time, everybody wants to protect themselves from the virus; hence these kinds of stuff are quickly sold out everywhere in the world. “The prices of cleaning and sanitizing, as we expected, is largely enhanced during the crisis. The hand sanitizer, as an example, the price has jumped by a massive 53% in the US [2].” Hence the cost for the tourism industry on cleaning and sanitizing is also primarily increased. Also, the occupancy rate of hotels is hugely reduced because this can improve the safety perception of customers. The governments have imposed the limits for these hotels, which are well below the total capacity, this decision harmed the business sustainability for the whole industry, and the price for a trip is therefore increased. Other than the limits for the hotels, given the high speed of transmission of the coronavirus, the governments worldwide have no other option but to impose lockdowns. This severely influences the tourism industry since Tourism is one industry that cannot hold its ground without the mobility of tourists [3]. “The fall of 22% in tourist numbers in the first quarter of 2020 (compared to the same quarter of 2019), and the threat of 60% to 80% fall throughout 2020 (compared to 2019), are some indications of the havoc that the COVID-19 pandemic can cause for the global tourism industry [4].”

3. THE IMPACT OF THE EPIDEMIC ON TOURISM INDUSTRY

3.1. Accommodation Industry

The COVID-19 virus significantly impacted tourism, and one of the most influenced industries is the accommodation industry. The amount of money the global accommodation industry received in 2020, when the outbreak of Covid-19 took place, decreased by 46% in 2020 to $198.6 billion, a $169.2 billion loss. The number of customers almost halved, falling from 1.1 billion in 2019 to 595 million in 2020 [5].

Many of the largest global hotel chains also faced significant losses of profit. The world’s largest hotel chains lost $14 billion amid the pandemic; Wyndham Worldwide, the biggest hotel chain in the world by the number of hotels, got 36% or $0.7 billion less in 2020 than in 2019; Choice Hotels International lost $340.7 billion; Marriott International saw a fall of profit of $10.4 billion. Also, in the US, the market size of the hotel industry dropped from $1.47 trillion in 2019 to $610 million in 2020. The hotel industry was so damaged that Statista predicts that it may take another three years for the hotel industry to recover the market size and turnover from the impact of the COVID-19 Pandemic [5].

3.2. Transportation Industry

Similar to the accommodation industry, the transportation industry has also been severely affected by the epidemic. The proof of this conclusion is very simple, we can just look at the changes in the number of passengers’ arrivals since 2020 [6].

Figure 1 is about international tourist arrivals from the World Tourism Organization was cited in an article exploring the impact of COVID-19 on tourism. The horizontal axis represents different regions, and the vertical axis represents percentage changes. The light blue bars represent the changes in different regions throughout 2019, while the dark blue bars are only the changes from January to May 2020. From this chart, we
can see that the decrease in the percentage of visitor arrivals in less than half a year in 2020 is much more significant than last year's percentage. This article also quoted another more intuitive chart from World Tourism Organization [6]. The horizontal axis of Figure 2 represents the month, and the vertical axis represents the number of tourists' arrivals. Lines of different colors indicate the trend of visitor arrivals in different years in different months. From this chart, we can see that the changes in this trend from 2017 to 2019 were roughly the same. However, from the beginning of the year to the spread of the epidemic in May of 2020, the number of passengers’ arrivals experienced a sharp decline. Under the influence of the severe decline in the number of passengers, the transportation industry is bound to suffer a severe blow.

![Figure 2 Global tourists’ arrivals by months from January to December during 2017-2020](image)

**4. THE RECOVERIES OF SOME COMPANIES AND HOW THEY RECOVERED**

### 4.1. The Overall Recovery: Trip.com Group Ltd.

The impacts of COVID-19 on the tourism industry are huge, but companies in this industry recover well after the crisis is alleviated. To represent in detail, a specific example is a prerequisite. Take Trip.com Group Ltd. as an example, and it is representative enough since it is the largest tourism company in China and the recovery of its business goes very well. Firstly, due to the travel restrictions in Mainland China, the top line of travel in 2021 decreased by 13% year-over-year and about 50% compared to the same period in 2019. Despite such challenges, the Chinese domestic travel market rebounded in March 2021, with even more significant momentum in April and May. Because of this opportunity, new initiatives such as travel financing services and domestic travel advertisements have delivered strong results. Secondly, as China controlled the pandemic effectively and accelerated vaccination significantly, the government removed domestic travel restrictions. As a result, the pent-up demand travel volume has been unleashed during this time. Thirdly, this company also observed new trends in customer behaviors as the restrictions were released. For example, the rapid growth of quality leisure travel, bookings for mid-to-high-end hotels, rising demand for quality travel, etc., was more and more popular among travelers. The company's departments recognized these and took this opportunity to attract more customers to use their services. Fourthly, a new travel marketing hub, named “Star Hub”, is launched to face the increasing travel businesses [8]. Through Star Hub, partners, and suppliers of 5, the company is given the tool to deliver differentiated and tailor-made travel content and a wide diversity of marketing activities to interact with high-quality customers. Lastly, while leisure travel is thriving, the corporate management business also fully recovered from the negative impact of the pandemic. Despite the leisure travel recovery, business travel has also recovered strongly along with the economic growth in the domestic China market. By analyzing the market trend of the market, sees the shifting trends with business travelers turning to corporate management services. This will form the vital cornerstone for the long-term development of the company’s corporate travel management.

### 4.2. The Recovery of Hotel Industry: Luxury Hotel

After reading how a comprehensive travel app/website responds to the impact of the epidemic, we shifted our perspective to the accommodation industry, especially the hotel industry. Though the hotel industry was in a downslope, luxury hotels stood up during the time of difficulty and contributed back to their communities. At first, they were just like other hotels: closing up, losing revenue, and being anxious about when the pandemic was going to end. Finally, however, they decided to make a difference to their communities and provided many bits of help during difficulty.
First, they host and fund medical professionals. Many doctors and nurses slept in their cars after their 18-hour shifts because they were afraid of infecting their family members. These hotels, then, freely provided empty rooms for these medical professionals to help them. The hotels also provided daily meals for them for free.

For example, “the Wythe hotel host about 30 doctors and nurses who needed a safe place to self-isolate and made 40 lunches per day for the medical professionals at Woodhull Hospital.” “The Four Seasons Hotel in New York and Claridge’s in London provided free rooms to health care workers on the front lines of fighting the pandemic;” “Hotel Adlon Kempinski Berlin had set aside more than 1,000 overnight stays for Berlin’s health care workers to take a pampering staycation after the crisis abates [9].”

They were also donating to the medical professionals. For example, “Marriott pledged to donate $10 million worth of hotel stays to health care professionals battling COVID-19.” “In Italy, a group of four iconic hotels on the Amalfi Coast—Le Sirenuse in Positano, Palazzo Avino in Ravello, Hotel Santa Caterina in Amalfi, and Il San Pietro di Positano— teamed up with Michelin-starred restaurant Don Alfonso 1890 to raise €200,000 ($217,000) for COVID-19 research.”9 (Itzkowitz) These are just examples – there were many luxury hotels stand up and helped those medical professionals either by providing places to stay or donating money. So they helped a lot in the fight against the pandemic.

Second, the luxury hotels provided meals to their communities. “From California to India, luxury hotels are donating foods to doctors, nurses, the homeless, and even their employees who have been laid off or furloughed [9].” The hotel, the Riggs, partnered with World Central Kitchen, the organization founded by Chef José Andrés to provide foods for workers and the homeless; also, the team at boutique hotel Orania Berlin immediately donated all of its food to homeless aid organizations and asked its two biggest grocery suppliers to give as much food as possible.

Third, hotels sold gift cards and gave out hotel bonds for charity. Gurney’s Resorts in Montauk and Newport in Rhode Island donated 25% of each gift card. Also, many hotels participated in a program called “Buy Now, Stay Later.” In the program, hotels gave out hotel bonds to the community. For example, Le Barthélémy in St. Barts and Greydon House in Nantucket offered $100 gift cards whose value will mature to $150 after 60 days [9].

Fourth, these luxury hotels were giving virtual traveling experiences to homebound travelers. With live streams, videos on social media, and photos, they kept people dreaming about their next trip and made them less bored at home. Singita, a leader in wildlife conservation in Africa, is taking people on live safari drives twice a day via its Instagram account @singita_. Carrie and Alex Vik, the husband-and-wife team behind the art-focused Vik Retreats in Uruguay, Chile, and Milan, are featuring videos by the artists whose work is exhibited at their new hotel Galleria Vik Milano on the hotel’s Instagram account [9].

Though hotels were losing revenues a lot during the difficult times, these luxury hotels stood up and gave bits of help back to the communities. This is also a good way of dealing with the pandemic. Some hotel segments will perform better than others, such as leisure resorts and some economy hotels. “Economy hotels are better able to tap segments of demand that remain relatively healthy despite travel restrictions, including truck drivers and extended-stay guests. As fewer of these properties were forced to close, and as more people opt to travel by car, these properties will continue to benefit in the foreseeable future [10]. During the economic downturn, substitutes will generally perform better than luxury goods. This is a theory we will learn when we are new to economics. The gap in performance between the economy hotel and luxury hotel under the epidemic fits this theory.

4.3. The Recovery of Transportation Industry: Aviation Industry

Compared with the hotel industry, the transportation industry, especially the most severely affected international aviation industry, can adapt very few strategies. “According to IATA, passenger air transport measured as revenue passenger kilometer was down 90% year-on-year in April 2020 and still down 75% in August [11]. Due to its limitations, the international aviation industry can hardly shift its revenue focus to reduce its losses. Therefore, these international airlines rely more on the help of government policies: “Globally, governments have provided the airline industry with aid totaling $123 billion to keep companies afloat. This cash is much needed but covers only about a fifth of 2019 revenues. Furthermore, about half of that aid, $67 billion, comes in the form of loans or other liabilities that will ultimately need to be repaid with interest [10].” The recovery of the aviation industry and the entire transportation industry depends on the situation pandemic and the international economy.

5. THE FUTURE OF TOURISM INDUSTRY

At last, we also try to look forward to the future development direction of the tourism industry, and we break down the idea into four parts:

5.1. Recovery of international travelling around the globe

Since 2019, international tourism has been plummeted because of the coronavirus crisis. In addition, many nations are reinstating harsher travel bans because
of the pandemic’s changing characteristics. Compulsory testing, quarantines, total border closures weigh international traveling’s return. Simultaneously, the progressive introduction of a COVID-19 vaccination is intended to help rebuild tourists' trust, ease restrictions on travel, and gradually restore traveling in the coming year.

According to the World Tourism Organization, in 2020, the proportion of foreign visitor visits fell by 73 percent globally, with 1 billion fewer passengers than in the year 2019, around 100 to 120 million direct tourism employment was at risk [12].

Figure 3, conducted by UNWTO, the six graphs can demonstrate people’s initial expectations of traveling anywhere without any regulations, wearing masks, and keeping sanitizing hands [12]. Around 10 percent of people in all continents around the globe expect that international trips will resume in 2022, which is just next year. Around 40 to 50 percent, most people hope and believe that the freedom of traveling will be given back to them since 2023, most likely in 2024 or later years. From these graphs, it is clear that the chances of resuming international trips are high from next year. Their desire to travel cannot be restrained anymore. Therefore, with the elevating demand for tourism around the globe, this industry will recover much faster than other regular industries. Therefore, the fields dependent on tourism will recover fast with tourism growth.

International tourism is the focus in the tourism industry because it can precisely indicate the actual emerging recovery and tourism trend. The travel agent is the tourism-dependent economy, so it can be directly affected by the recovery of international traveling. Many people across all age groups choose to travel to foreign countries through travel agencies. During the coronavirus pandemic, the services of international traveling agencies must be cut off. In the future, such services will be available for tourists again, and large numbers of people will support the service provided by agencies since they are regulated to stay at home for such long periods.
In this scatter plot of a negative correlation, about -0.72 (Figure 4), between tourism dependence and the growth shock in 2020, viewers can clearly understand the strike that COVID-19 has on the tourism industry in 2020 [13]. The economic growth related to tourism in all countries has been dramatically dropped. The dots on the scatter plot can indicate the unfavorable situation of situations of the industry in these countries. Therefore, the strike that travel agents suffer is severe.

Fortunately, the situation of travel agencies is improving now, and it will continue improving in the future. Nevertheless, the Travel Agencies business is expected to undergo substantial changes and difficulties during the next five years, from 2021 to 2026. For example, Expedia Group Inc. and Booking Holdings Inc. are inclined to maintain gaining market share at the cost of their rivals. Therefore, demand for specialized travel is expected to increase during the forecast period, but slower than the online category.

5.2. Policy

There may be government policies to support businesses affected by the Covid-19 that may help develop tourism. For example, lifting the travel restrictions between countries can help develop international tourism. Different countries have already adjusted their policies regarding the issue of quarantine. The U.S. authorities have announced that fully vaccinated visitors from over 33 countries such as the EU and UK will be permitted back into the country from November if they are vaccinated. Meanwhile, the UK announced that fully vaccinated tourists not on its red list could enter without quarantine. As time goes on, more travel restrictions will be lifted. With the launch of easy travel and entry requirements in all countries, tourists will not be limited because of the long and strict isolation rules. In this way, international travel agencies and all travel institutions in places with great tourist attractions can benefit.

5.3. Gradual recovery and changes in tourism

Because of the different categories of all scenic spots, the direct loss in some places is more severe than in others. Therefore, it is reasonable to predict that the pace of the recovery at different types of spots will be different. Nevertheless, there will be some gradual stages of the recovery.

- First stage: Most tourist attractions will reopen with regulations. For example, there is a maximum limit of tourists every day, tickets should all be booked first, people are required to continue wearing masks and sanitizing their hands. The ticket price at some places might remain low, the same as the ticket price after the pandemic.

- Second stage: The fear of Covid-19 will fade gradually. The presence of the coronavirus stimulates and reminds people of the importance of staying healthy. Therefore, places including eco-tourism attractions with natural views will be the first to recover. The ticket price

![Figure 4: Tourism dependence and growth performance in 2020](image-url)
might increase a bit at some places, but not necessarily the same as the price before the pandemic.

• Third stage: Other places such as historical sites or museums will recover later, and the price might be the same as before the pandemic.

• Fourth stage: Currently, there are few tourist attractions, and agents have launched the service of virtual tours since the problem of Covid-19 cannot be solved within only a few years. Therefore, it is highly likely that virtual tours will be launched later worldwide.

5.4. Recovery in hotels

It is the same as the last part of gradual changes in the tourism industry, and different hotels will recover from the pandemic in different ways.

Resort hotels recover more quickly than other types of hotels because they may provide a broad range of amenities to their customers, such as food, beverages, and room service. Presently, some major hotel brands aim to buy new all-inclusive resorts and expand their recreational offerings. The chief factor for this is that certain hotels cater to distinct categories of visitors. Individuals who are eager to spend more time with family and rest, for example, are more inclined to travel often. As a result, they will be more likely to be attracted, boosting resort sales.

Figure 5 conducted by Krishnan shows different years indicated [14]. The numbers indicate the available rooms with corresponding hotel revenue through curly lines on the vertical axis. Among all types of hotels, the luxury hotel is ranked at the bottom, and the Economy hotel is at the top. This supports the previous argument that resort hotels will recover sooner than all other categories of hotels.

According to the research conducted by Krishnan, revenue per available hotel room falls by 53 percent in 2020 and returns to near pre-crisis levels in 2022 [14]. Figure 6 is shown below.

Figure 6 US hotel revenue per available room
From Figure 6, it is reasonable to predict that the US hotel revenue increases at the rate of 20 dollars per available room soon after 2019 until 2021, and it will increase at the rate of 30 dollars per available room since 2022.

Therefore, as researchers have discussed before, international flights will not be banned soon, and leisure trips will grow quickly after the pandemic compared with business trips. As a result, leisure hotels will lead the recovery trend among all hotels. Therefore, it is promising that the tourism industry will eventually return to its original situation.

6. CONCLUSION

To conclude, the future recovery of the tourism industry is promising because people's demand for travel is still rising over time. Nevertheless, it will take some time to recover before the pandemic, and the pandemic has not yet ended. When we first started preparing this article, we noticed such a piece of news on November 8: “U.S. ends international travel ban, which barred international visitors from 33 countries, including the U.K., South Africa, Brazil and much of Europe, opening the door to vaccinated tourists [15]”. This is undoubtedly good news for the U.S.travel industry, and we were so excited about it. Unfortunately, as this article is about to be completed, the new variant of the new coronavirus called Omicron, which “may be an increased risk of reinfection, as compared to other variants of concern, but the information is limited [16]”, triggered another round of exacerbation of the epidemic in South Africa and gradually spread to the world. Everything seems to be developing in a worse direction again, and the recovery of the tourism industry and the world economy has become pessimistic. In addition, regarding the future of the tourism industry, we mentioned earlier that the government provides loans to airlines to tide over the pandemic, we also believe that the tourism industry will continue rebound from the epidemic’s impact and become better than before.

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REFERENCES

[1] Škare, Marinko, et al. “Impact of Covid-19 on the Travel and Tourism Industry.” Technological Forecasting and Social Change, vol. 163, Feb. 2021, pp. 2–2., https://doi.org/10.1016/j.techfore.2020.120469.
[2] Dean, Grace. “Hand Sanitizer Prices Have Jumped by a Massive 53% in the US during the Pandemic, as Accusations of Pricing Gouging Continue to Roll In.” Business Insider, Business Insider, 17 Nov. 2020, https://www.businessinsider.com/hand-sanitizer-prices-price-gouging-bleach-toilet-paper-face-masks-2020-11.
[3] Assaf, Albert, and Raffaele Scuderi. “Covid-19 and the Recovery of the Tourism Industry.” Tourism Economics, vol. 26, no. 5, 2020, pp. 731–733., https://doi.org/10.1016/j.t wee.2020.100786.
[4] Sharma, Gagan Deep, et al. “Reviving Tourism Industry Post-Covid-19: A Resilience-Based Framework.” Tourism Management Perspectives, vol. 37, 2021, p. 1., https://doi.org/10.1016/j.tmp.2020.100786.
[5] Travelweek Group. “The Latest Statista Data Shows Covid-19’s Impact on the Hotel Industry.” Travelweek, 17 Mar. 2021, https://www.travelweek.ca/news/the-latest-statista-data-shows-covid-19s-impact-on-the-hotel-industry/.
[6] Abbas, Jaffar, et al. “Exploring the Impact of Covid-19 on Tourism: Transformational Potential and Implications for a Sustainable Recovery of the Travel and Leisure Industry.” Current Research in Behavioral Sciences, vol. 2, Nov. 2021, pp. 4–5., https://doi.org/10.1016/j.crbeha.2021.100033.
[7] TLC Trip Record Data.” TLC Trip Record Data - TLC, https://www1.nyc.gov/site/tlc/about/tlc-trip-record-data.page.
[8] "Q1 2021 Trip.com Group Ltd Earnings Call - Final." Fair Disclosure Wire, May 18, 2021.ProQuest,http://proxy.library.stonybrook.edu/login?url=https://www.proquest.com/wire-feeds/q1-2021-trip-com-group-ltd-earnings-call-final/docview/253568605/se-2?accountid=14172.
[9] Itzkowitz, Laura. “How Luxury Hotels Are Dealing with the Coronavirus Pandemic.” Architectural Digest, 22 Apr. 2020, https://www.architecturaldigest.com/story/luxury-hotels-during-coronavirus-pandemic.
[10] Borko, Seth, et al. “The Travel Industry Turned Upside down: Insights, Analysis, and Actions for Travel Executives.” McKinsey & Company, 22 Sept. 2020, https://www.mckinsey.com/~/media/mckinsey/industries/travel%20logistics%20and%20infrastructure/our%20insights/the%20travel%20industry%20turn
“Covid-19 and the Aviation Industry: Impact and Policy Responses.” OECD, 15 Oct. 2020, https://www.oecd.org/coronavirus/policy-responses/covid-19-and-the-aviation-industry-impact-and-policy-responses-26d521c1/.

2020: Worst Year in Tourism History with 1 Billion Fewer International Arrivals. World Tourism Organization, 28 Nov. 2021, https://www.unwto.org/news/2020-worst-year-in-tourism-history-with-1-billion-fewer-international-arrivals.

Milesi-Ferretti, Gian Maria. “The Covid-19 Travel Shock Hit Tourism-Dependent Economies Hard.” Brookings, Brookings, 17 Aug. 2021, https://www.brookings.edu/research/the-covid-19-travel-shock-hit-tourism-dependent-economies-hard/.

Krishnan, Vik, et al. “Hospitality and Covid-19: How Long until ‘No Vacancy’ for Us Hotels?” McKinsey & Company, McKinsey & Company, 5 Nov. 2020, https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/hospitality-and-covid-19-how-long-until-no-vacancy-for-us-hotels.

Josephs, Leslie. “Pandemic Milestone: U.S. Ends International Travel Ban, Opening the Door to Vaccinated Tourists.” CNBC, CNBC, 8 Nov. 2021, https://www.cnbc.com/2021/11/08/covid-vaccine-us-ends-international-travel-ban-opens-door-to-vaccinated-tourists.html.

“Update on Omicron.” World Health Organization, World Health Organization, 28 Nov. 2021, https://www.who.int/news/item/28-11-2021-update-on-omicron.