



The impact of COVID-19 on the tourism sector in Indonesia

Aninda Restikadewi^{*1}, Evandi Syahrul Ramadhan¹, Ayya Agmulia Asmarani Islam^{1,2}

¹*Faculty of Economics and Business, Universitas Sebelas Maret, Indonesia*

²*Center for Fintech and Banking, Universitas Sebelas Maret, Indonesia*

Abstract

The purpose of this research is to find out how COVID-19 pandemic impact Indonesian tourism sector. By investigating some secondary sources, we find that the number of tourist arrivals in Indonesia fell by 71 percent during the pandemic. In addition, foreign exchange earnings through industry and tourism in 2020 decreased by 81 percent at \$3.2 billion compared to 2019 of \$16.9 billion. On the other hand, this study found that government policies such as social restrictions taken by the government greatly affected the Indonesian tourism sector. The tourism sector that is most affected is the sector that is directly related to the presence of foreign tourists and domestic tourists, such as MSMEs, hotels, and the culinary industries. The government needs to periodically evaluate the policies taken so that the tourism sector can also continue to run as it should while still complying with health protocols.

Keywords: COVID-19, tourism sector, Indonesia

1. Background

The COVID-19 pandemic has changed the entire world order from all sectors. All sectors were paralyzed by a new virus, at which time scientists worldwide were competing to research from which country this virus is originated. This virus first appeared in Wuhan, China, in early 2020. This virus began to enter Indonesia in March 2020. The spike in cases continued to occur, which caused several policies to be taken quickly by the government in order to suppress the rate of increase in cases in Indonesia. However, government policies are still outpacing the spread of COVID-19, which is also caused by people who do not all understand the very chaotic situation caused by this new virus.

The central government cooperates with local governments to implement policies in the form of social activities on a smaller scale, so that community mobility supervision is more effective. This makes the government take an approach to attend significant social events, where the public is forbidden to the world. As a result of this, the economic sector is paralyzed, and the tourism sector is no exception. The tourism sector is one of the sources of foreign exchange for the country through foreign tourists visiting Indonesia. Indonesia is famous for its extraordinary natural wealth and cultural diversity, a valuable cultural heritage. This is what attracts foreign tourists to explore all the riches of Indonesia that they do not find in their country. The tourism sector is synonymous with associations of people who have the same goal: on vacation to seek entertainment, where everyone is always side-by-side. Even though the spread of this virus is very massive, physical distancing and social distancing must be enforced. This is in stark contrast to the condition of the tourism sector. As a result, the tourism sector is one of the sectors most disadvantaged by the COVID-19 outbreak.

* ✉ Corresponding author at Jl. Ir Sutami No 36, Kentingan, Jebres, Surakarta, Jawa Tengah, Indonesia. Email: anindarestika@gmail.com

The tourism industry is one of the world's largest markets; until the earth meets a pandemic in the 21st century, COVID-19. The research conducted by Uğur and Akbıyık (2020) aims to present travelers' reactions during the pandemic trend outlined by adopting text mining techniques. The results of this study reveal that the tourism sector is susceptible and easily affected by the global crisis. The crisis that began with the emergence of COVID-19 became the focal point for travelers, even though it was still a local dimension. Almost on the same day, travelers decided to cancel or postpone their trip, with the news spreading. Cancellation of travel plans first became the agenda of tourists, from keywords; trip cancellations were mentioned in 40.81% of cases. It is evident that tourism will be one of the industries most affected by the COVID-19 pandemic. However, this analysis offers insight into the speed and size of the effect. This finding indicates the sudden entry of the tourism sector.

Yang *et al.* (2021) used statistical point of change analysis to investigate the impact of the COVID-19 pandemic on community mobility in tourism cities. Based on the collected data sample containing the mobility time series of nine tourist cities in three place categories (Retail and Recreation, Parks and Transit Stations), the study found that apart from the observed reduction in mobility in all categories of places, most cities experienced a three-phase pattern. In addition, a time lag between the decrease in mobility and the application of the lockdown was detected, indicating that the latter is not a reason for people to reduce movement. Furthermore, the reduction in mobility was less significant in the Park and appeared earlier at the Transit Station. These findings provide valuable insights into how the tourism, hospitality, and travel sectors are affected by crisis events. This study uses statistical point of change analysis to investigate changes in mobility in tourism cities during the COVID-19 pandemic.

The current COVID-19 pandemic has resulted in global challenges, economic crises, crises in the health care sector and has had a spillover impact on global industries, including tourism and travel, which are significant contributors to the service industry worldwide Abbas *et al.* (2021). The tourism and leisure industry has faced the hardest-hit COVID-19 tourism impacts and lies among the worst-hit global industries. Recreational and internal tourism showed a sharp decline of 2.86 trillion US dollars, which translates to a revenue loss of more than 50%. In a first step, this research explores the consequences and settings of the COVID-19 pandemic and how innovation and change can contribute to the revival of the tourism industry to the next normal. Furthermore, the study conducted by Abbas *et al.* (2021) sets out the steps to observe the proposed mechanism in formulating a recovery strategy for the travel and recreation industry. Thus, this study determines that tourism companies and scholars should consider and change the basic principles, key assumptions, and organizational situations related to the research framework and practice through rebuilding and shaping the tourism sector. In the second step, this research discusses the impact, attitudes, and practices of COVID-19 tourism directly in getting the recreation industry boom and recovery. In the third phase, the study proposes to observe the characteristics and consequences of COVID-19 tourism on travel and tourism research. These findings provide insight into getting the tourism industry operational again and offer helpful advice to government officials, scholars, and tourism companies to reinvest in the tourism industry to get it back to normal.

2. Method

This article uses secondary data over a certain period from various sources. Data sourced from government institutions, namely Kementerian Kesehatan Republik Indonesia, is in the form of trends in new cases of Covid-19 and movements in active cases of Covid-19. The data obtained from Badan Pusat Statistik (BPS) is in the form of data on the development of foreign tourist arrivals and the occupancy rate of five-star hotel rooms. This article is a descriptive study by comparing some of the previously mentioned data for a certain period and then connecting it between the Covid-19 pandemic that occurred in Indonesia and the condition of the tourism sector in Indonesia.

3. Results and Discussion

Development of COVID-19 in Indonesia

Covid-19 cases in Indonesia continue to increase significantly. This is also due to the demographic condition of Indonesia, which has the fourth-largest total population in the world, which is directly related to the population density of one of the islands, namely Java. The increase in cases is concentrated on the island of Java because more than 50 percent of the total population of Indonesia is on the island of Java.

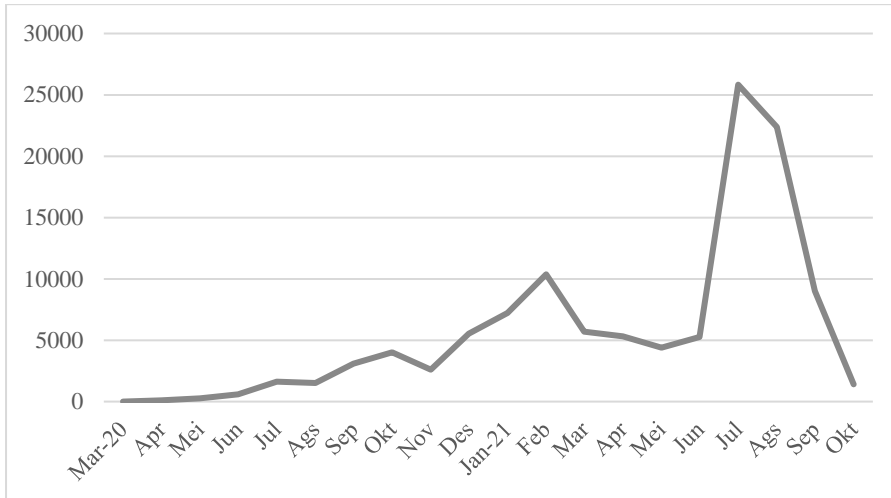


Figure 1 Trends in New Covid-19 Cases until October, 2021. Source : Kementerian Kesehatan, 2021.

In the second quarter of 2020, the addition of new cases was still below 2,500. Then at the end of 2020, precisely in November, it almost touched the number of 5,000 patients. The end of 2020 is a sign of the emergence of the first wave of Covid-19 until its peak in January 2021. The rise of the first wave occurs after the Christmas holidays and the end of the year, which usually Indonesian people choose to spend holidays on vacation. After the case slid, the second wave of Covid-19 occurred after Eid al-Fitr, Indonesian Muslims as the majority religious adherents. The second wave is much higher than the first wave. The condition of health facilities on the island of Java collapsed because hospitals and other health facilities could no longer accept positive confirmed patients, which continued to increase every day.

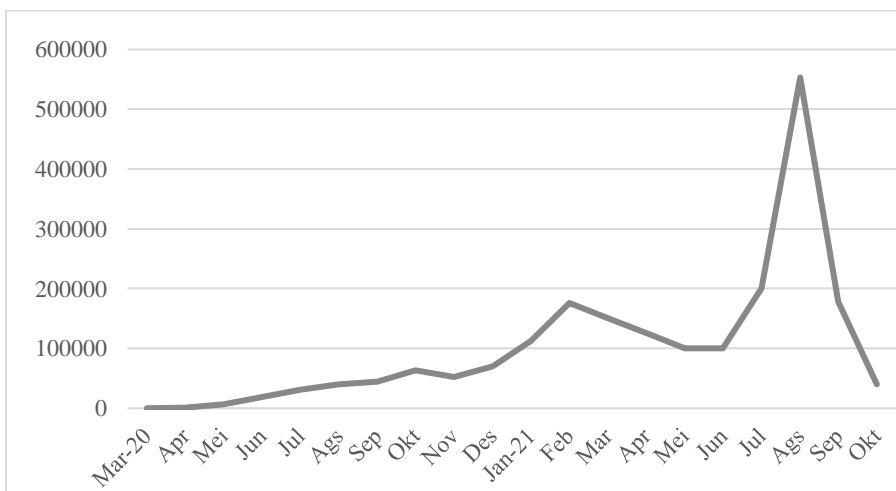


Figure 2 Trends in Total Active Cases of Covid-19 until October 28, 2021. Source : Kementerian Kesehatan, 2021.

In 2020, the government adopted a policy of converting various places that can be converted into residences for treating patients who were confirmed positive for COVID-19 and the construction of an emergency hospital as an initial step to prepare for the Covid-19 waves that might occur at any time. The first wave of positive cases has almost touched the 200,000 active cases. It turns out that the number has tripled in the second wave in mid-July 2021 to more than 550,000 active cases. The death rate increased sharply because the condition of the entire hospital was complete. There were no rooms available for handling critically positive confirmed patients. In September, active cases began to decline, and on October 28, 2021, there were 12,440 active cases in Indonesia.

Government Policy in Handling COVID-19

(1) Health Protocol (Kompas.com, 2021a)

This policy was carried out when Covid-19 first appeared in Indonesia, namely in the first quarter of 2020. This policy has not had a significant impact on the tourism sector. The health protocol emphasizes behavioral changes that must be implemented by the community or called the new normal. In this new average era, people are required to do 3M, namely wearing masks, washing hands with soap, and keeping a distance (away from crowds). In addition, offices have started implementing Work From Home (WFH), teaching and learning activities are carried out online, and restrictions on the number of public transport passengers.

(2) PSBB (Kompas.com, 2021a)

The government has adopted a large-scale social restriction (PSBB) policy to suppress and control the spread of this virus. PSBB is a restriction on the movement of everyone who will enter or leave one area to another. Educational institutions, tourist attractions, and shopping centers are temporarily closed until the number of additional cases of Covid-19 decreases or can be controlled. In addition, restrictions on the number of passengers on public transportation are still being carried out in this policy. The tourism sector is getting worse with this policy. Any violators of this policy will be penalized. Supervision of this policy involves state apparatus, namely the TNI and Polri. This policy lasts until the end of 2020.

(3) PPKM binding and level (Kompas.com, 2021a)

The government introduced a new policy in early 2021 as a substitute for PSBB, namely PPKM. PPKM volume I is enforced from January 11 to 25, 2021. PPKM or the Enforcement of Restrictions on Community Activities still has the same goal as the PSBB: to reduce the number of positive cases of Covid-19 and increase the percentage of recovered patients who are confirmed positive for Covid-19. The implementation of the PPKM policy is different in each of them depending on the parameters that the government has set. There are four aspects: the number of active cases, the number of deaths from Covid-19 cases, the recovery rate, and the availability of hospital wards for Covid-19 patients. Initially, eating and drinking activities were allowed to be carried out at the dining area, limited to 25 percent of the total capacity. The rest had to be taken away or wrapped and brought home. Then for areas with high-level PPKM status, restaurants or restaurants are prohibited from providing seats for on-site dining facilities, only serving to take away orders. Offices must also enforce Work From Home employees by 50% of the total employees, and the rest can work in the office.

Then, the PPKM policy volume II and so on was looser than the PPKM volume I. The capacity for offices and places of worship was enlarged. Tourist attractions are also slowly opening while still complying with health protocols. The opening of tourist attractions is adjusted to the PPKM level of the area. The closure of tourist attractions can occur at any time if there is a spike in Covid-19 cases in

the tourist area. This is intended so that the conditions of tourist attractions are entirely safe for tourists and do not become a new cluster for the spread of Covid-19.

(4) Vaccination Program and *CareProtect* Application (Kompas.com, 2021a)

This program is carried out by the government starting in early 2021 to form artificial antibodies so that everyone has them without being infected with Covid-19 first. It also has a long-term goal, namely the formation of herd immunity. This vaccine has the benefit of reducing symptoms if exposed to Covid-19 and also reducing the death rate. This program is accessible by the government for Indonesian citizens. According to the type of vaccine used, vaccines in Indonesia are injected twice with a specific period. Several types of vaccines used by the government are Sinovac, AstraZeneca, Moderna, Pfizer, and others. At the beginning of this program, the government had to work extra to prevent fake news about vaccines that made people afraid to vaccinate. Whereas if this is done in an organized manner, then it is not impossible, this virus will become a common virus amid society, so that easing for the sake of easing regulations from the government will be accepted by the community as good news in the community's economic recovery, including the tourism industry which is developing. It tends to cause crowds.

Covid-19 and tourist visit

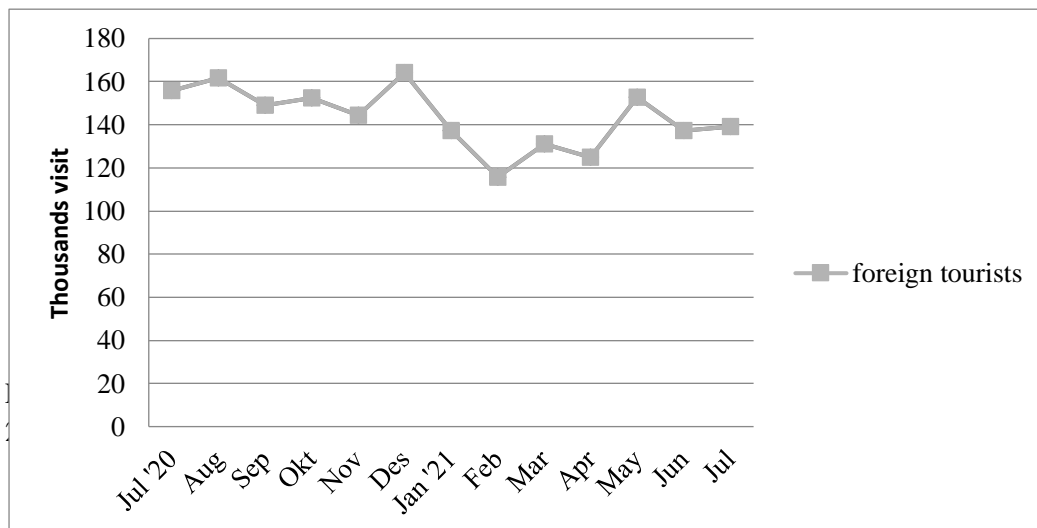
Table 1 generally shows a decrease in the number of tourist arrivals abroad (BADAN PUSAT STATISTIK (BPS), 2021). From January to July 2020, foreign tourist arrivals reached 3.28 million. Then, from January to July 2021, foreign tourist arrivals fell drastically to 940,000. Within one year, the number of foreign tourist arrivals fell by 71 percent. This downward trend has dramatically impacted the country's foreign exchange earnings from foreign tourists.

Table 1. Development of Foreign Tourist Visits.

Time Period	Visitors (in Million)
January-July 2020	3.28
January-July 2021	0.94

Source : Badan Pusat Statistik (BPS), 2021

Unfavorable global conditions, where many lockdown policies have been imposed in several countries such as Australia, Singapore, Japan, and others. The impact of this policy resulted in the entry and exit of foreign tourists being closed. At that time, Indonesia also closed access to Indonesian citizens and foreigners who came from countries affected by the fairly massive spread of Covid-19. The focus of all nations at that time was on the safety of the health of citizens all over the world to suppress the spread of this virus.



atistik (BPS),

Figure 4 is a detailed breakdown of the development of the number of foreign tourists, namely in mid-2020 to mid-2021. From July to November 2020, there was a decline from 155,740 visits to 144,480 visits. Then at the end of the year, in December 2020, there was an increase in the number of 164,080 trips. In early 2021 there was a downward trend until April, which touched 125,000 visits. The month of May experienced an increase of 152,600 thousand visits which then decreased again.

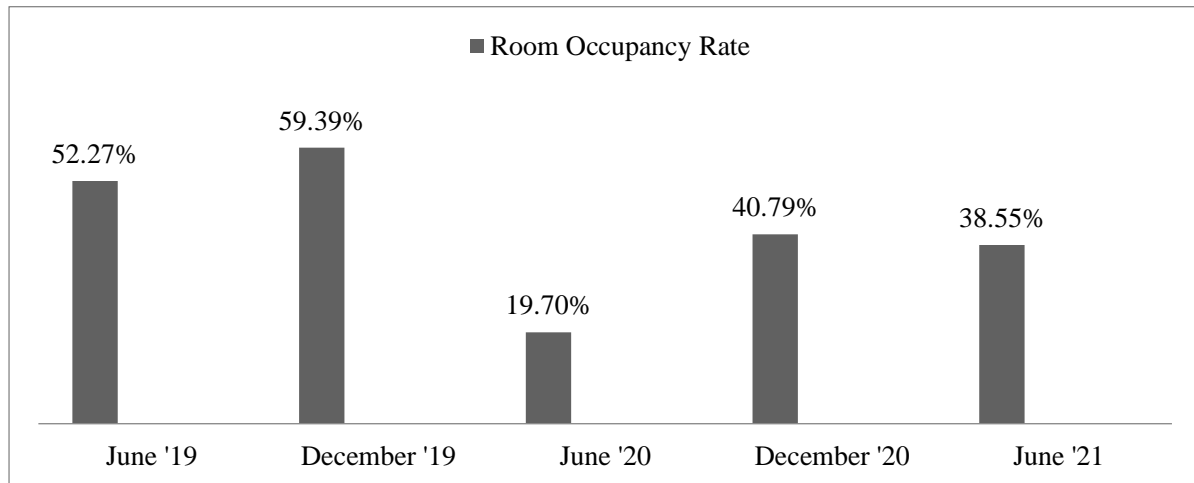


Figure 4. Star Hotel Room Occupancy Rate. Source : Badan Pusat Statistik (BPS), 2021.

The tourism sector greatly affects various industries, one of which is the hotel industry. Graph 3 above shows a decrease in room occupancy rates in star hotels, namely in June 2020, where visitors occupied only 19.70% of hotel rooms. The results are quite different if these conditions are compared to the previous year, namely in June 2019. With a decline of approximately 62% and the condition of Indonesia, which at that time had just begun to experience the first wave of Covid-19, the response of the tourism sector showed paralysis.

Apart from the hotel industry, the tourism sector is also directly related to the culinary and handicraft sectors. The culinary industry is strongly influenced by the number of tourists visiting. If the number of tourists visiting is drastically reduced, the traders in the culinary industry will inevitably feel bitterness. Not much different from the culinary industry, the local handicraft industry has also experienced a decline in income. Tourists who visit are their target market, which if the number of tourists is small, then of course, the fulfillment of the target market cannot occur and results in a drop in the income of handicraft industry traders.

Contribution of the Tourism Sub-Sector to the State's Foreign Exchange Income

The tourism sub-sector has an essential role in increasing the income of a country. Tourism has become an attraction for foreign tourists to vacation, have fun, and some are even interested in investing in Indonesia. Foreign tourists who come to Indonesia need a variety of primary needs such as temporary shelter, food, and clothing. Not infrequently, they also buy goods such as handicrafts from specific regions as souvenirs when they return to their home countries. This directly impacts increasing the income of the food and beverage industry such as restaurants, the hotel industry, and the small MSME industry. The lifestyle of foreign tourists who tend to be above the average domestic tourist is a determinant of increasing the tourism economy in Indonesia. The following are the stages of tourism's economic contribution (LPEM FEB UI, 2018).

First, travel and tourism direct contribution. Direct contributions consist of industry, commodities, and sources of expenditure. Industry consists of several types of services such as transportation services, recreation services, accommodation services and others. Commodities consist

of accommodation, transportation, entertainment, and attractions. The third is the source of expenditure which includes residents' expenses for domestic business travel, exports of goods and services, visitors, and individual government travel expenditures.

Second, indirect contributions. It includes investment spending on tourism and travel, joint government spending on tourism and travel, and the impact of purchases from providers of goods and services. Induced Contribution (Expenditures from Direct and Indirect Workers), include clothing, vacation or recreation, food and beverages, housing, and household supplies and equipment. The total contribution of travel and tourism will directly impact Gross Domestic Product (GDP) and employment problems, such as a decrease in unemployment and an increase in the number of jobs.

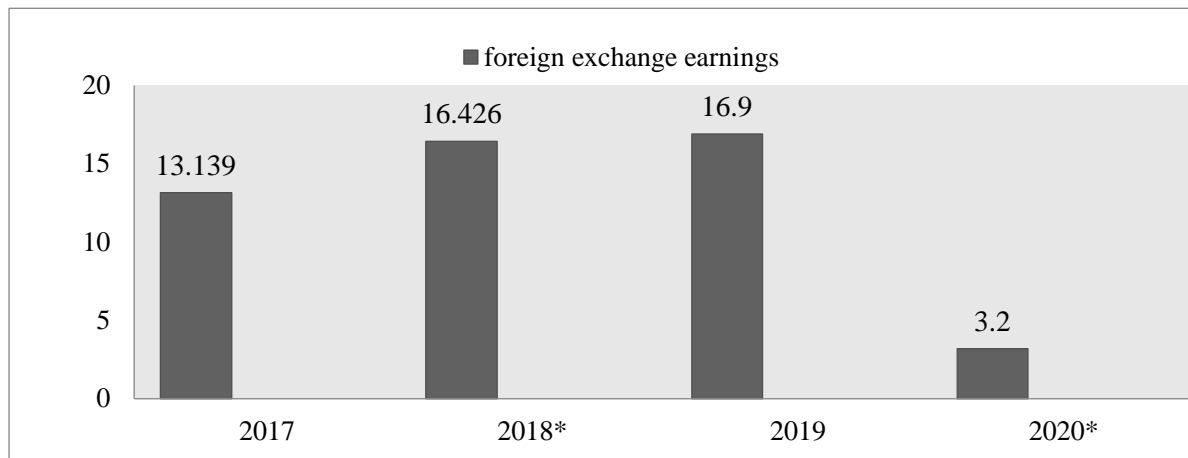


Figure 5. Tourism Industry Foreign Exchange Receipts. Source : Badan Pusat Statistik (BPS), 2021.

Note: the sign (*) in a particular year indicates temporary data that has not been updated by the relevant institution (Badan Pusat Statistik)

Community income through businesses in the tourism industry, such as food and beverage providers, lodging or hotels, as well as MSMEs such as handicraft traders from certain regions. The tourism industry has experienced a significant contraction in 2020. This can be seen in Graph 4, wherein 2020 (temporary data), foreign exchange earnings through the tourism industry fell by 81 percent compared to the previous year (2019) of \$16.9 billion. In 2020, Indonesia was making adjustments in all sectors due to the Covid-19 pandemic. As an unavoidable event experienced by Indonesia as a country with more than 200 million, some people working in the tourism industry suffer huge losses, thus affecting the country's foreign exchange earnings.

According to Sandiaga Uno, as the Minister of Tourism and Creative Economic, the tourism sector experienced a shock caused by a drastic decrease in foreign tourists (foreign tourists). This resulted in the country's foreign exchange earnings collapsing so that many creative workers in this industry contracted approximately one million people (Kompas.com, 2021b). The impact will be seen in the national Gross Domestic Product (GDP).

Analysis of the Impact of Covid-19 on the Indonesian Tourism Sector

If the data available above are put together in one timeline, it can be concluded that Covid-19 has had a negative impact on the tourism industry. The effect that is very clearly seen from Indonesia's foreign exchange earnings decreased drastically from the tourism sector. The government and the Indonesian people have to go through a long process in adapting to this virus. Everything needs to be overhauled for the continued existence of the Indonesian tourism sector. They start from essential services and applicable rules for the achievement of common goals. According to Kristiana *et al.*,

(2021), the Covid-19 pandemic has caused the tourism industry to be in the most challenging period, where the industry is experiencing dormancy.

Community businesses that are included in the tourism industry are also affected by the Covid-19 pandemic, as is the souvenir industry. Covid-19 has harmed souvenir traders in Indonesia's marine tourism areas because they have lost almost 100 percent of the income they should have earned from tourist visits (Arumsari and Yosintha, 2021). The souvenir or souvenir industry cannot be separated from tourist attractions. So it is not wrong if the sale of souvenirs is a supporting business in the tourism industry.

In addition to the souvenir industry, tourism is also synonymous with lodging. Hotels or other types of accommodation are a solution for tourists to spend longer vacation time at tourist attractions. Cool atmosphere, beautiful scenery, and serenity that cannot be felt in a residence mixed with the hustle and bustle of the city. However, the COVID-19 pandemic has hit the tourism and hospitality sector hard. Since this pandemic hit, many accesses in and out of areas have been closed, making tourist visits far from ordinary. In addition, the closure of tourist attractions is also the main reason for the absence of income for this industry, considering that tourists have the sense to stay only because they want to enjoy the atmosphere of tourist attractions that are close to the hotel or lodging place. Hotel managers face uncertainty in today's environmental conditions to survive. Business stakeholders discuss whether the strategies implemented are beneficial, excessive, or detrimental to the hotel business (Japutra and Situmorang, 2021). An example of a decision made by a manager is a reduction in the number of employees. This has both good and bad effects, depending on which side the decision is viewed from.

After the hotel industry, the public transportation industry also has the same lousy impact as the tourism industry in general. Domestic and foreign tourists always use public transportation modes to travel. Usually, the manager has prepared facilities and infrastructure such as transportation tools to transport tourists to tourist destinations in a tourist place. The manager also cooperates with residents to provide everything. This is a form of increasing employment, especially for residents around tourist attractions. Not infrequently, local residents only depend on the tourism industry in their area. However, this pandemic requires them to switch professions to become plantation workers, farmers, fishermen, or even traders. Maybe they had done these jobs before the tourism industry in their area progressed. Tourism workers are currently working outside the tourism sector to survive, but when tourism goes back to normal, they will return to their main job (Kristiana *et al.*, 2021).

There needs to be an emphasis that economic activity is a form of human effort in the context of meeting needs (Dwina, 2020). The ultimate goal is for the welfare and improvement of the quality of human life. A tourism sector is a form of a forum for carrying out economic activities. So the government needs to take policies to overcome the problems caused by the Covid-19 pandemic. Various kinds of stimulus have been given in all sectors, including SMEs. This stimulus is in the form of providing assistance, subsidies, and credit relaxation. Credit relaxation is carried out to ease the obligations of MSME actors in terms of time, not in terms of loan amounts. The provision of direct cash assistance also aims to increase capital for MSME actors to cover the losses they have experienced due to this pandemic.

Promos and advertisements that offer the best prices for tourists who want to vacation. In addition, the government also participates in economic recovery after the Covid-19 pandemic, where domestic tourist visits are continuously encouraged to restore economic conditions in the tourism sector. This is because of the easing of policies that have been carried out by the government, which is based on the condition that the spread of Covid-19 is increasingly under control due to the increasing number of people who have been vaccinated.

Research conducted by Wachyuni and Kusumaningrum (2020) also shows that the value of people's intentions in traveling is higher than the anxiety that will arise when traveling. This travel intention is also influenced by the risk factors experienced by tourists and also the problem of their

perception of life safety when traveling during the Covid-19 pandemic. However, this study provides a new bright spot that the community as a generator of the tourism sector is ready to travel in a new normal era that will continue to comply with health protocols to minimize the addition of Covid-19 clusters from tourist trips.

The recovery of the tourism sector is inseparable from the increasingly sophisticated information technology used to attract potential tourists to decide to travel. Tourism industry players are required to utilize other marketing strategies to market their products creatively. One such strategy is the use of Virtual Reality Marketing or VRM (Subawa, 2021). In addition, the sophistication of information technology can also facilitate the government in supervising the implementation of safe travel and in accordance with government recommendations.

One of the main obstacles faced by MSME actors and informal workers in the tourism sector is caused by the business characteristics of MSMEs and vulnerable casual workers who still have limitations in information technology capabilities—providing training for SMEs. What needs to be done is to improve institutions and use technology. This is done by the government so that casual workers and MSMEs can survive in conditions in the midst of the Covid-19 pandemic.

4. Conclusion

The Covid-19 pandemic has clearly affected the condition of the Indonesian tourism sector. The tourism sector's contribution to the country's foreign exchange earnings has decreased due to reduced tourist visits, both from foreign tourists. This is due to a decrease in operating income from various types of businesses related to the tourism sector, such as the hotel industry, public transportation, the souvenir craft industry, the culinary industry, and others. Physically, tax payments are the main determinant of foreign exchange earnings from foreign nationals.

The role of the government in terms of economic recovery, especially in the tourism sector, is needed to at least improve the condition of the tourism sector. Several strategies can be taken to accelerate the improvement of the state of the tourism sector (Anggarini, 2021). First, Innovation—change is the first step that stakeholders in the tourism sector must take. The changes that are emphasized here are in terms of physical infrastructure in the tourist attractions (Anggarini, 2021). In addition, there are culinary, cultural, and fashion aspects that need an aesthetic touch that requires creative ideas to develop. Second, adaptation—all activities in the tourism sector must change according to current conditions, where humans have to live side by side with Covid-19 (Anggarini, 2021). From this, business actors in the tourism sector must consistently and must implement the health, hygiene, and safety aspects of tourists. The tourists also have to participate in implementing it, because in carrying out this there needs to be a continuous effort between business actors and tourists. The last, collaboration—business actors in the tourism sector and tourists and government intervention are also needed to mediate between the two parties. Policies issued by the government must be in the form of the best decisions to describe the middle point between business actors and tourists (Anggarini, 2021).

This article has some limitations where the data used as important information is incomplete and imperfect, or temporary. This is because the government still has not updated information originating from the situation when COVID-19 hit Indonesia. In addition, the time period taken from this research is relatively short and limited communication with limited updates.

References

- Abbas, J., Mubeen, R., Iorember, P.T., Raza, S. and Mamirkulova, G. (2021), “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*, Elsevier B.V., Vol. 2 No. March, p. 100033.
- Anggarini, D.T. (2021), “Upaya Pemulihan Industri Pariwisata dalam Situasi Pandemi COVID-19”, *Jurnal Pariwisata*, Vol. 8 No. 1, pp. 22–31.

- Arumsari, I.P. and Yosintha, R. (2021), "The Impact of COVID-19 on Souvenir Industry in Indonesia", *Jurnal Kepariwisata Indonesia*, Vol. 15 No. 1, pp. 16–24.
- Badan Pusat Statistik (BPS). (2021), "Badan Pusat Statistik".
- Dwina, I. (2020), "Melemahnya Ekonomi Indonesia pada Sektor Pariwisata, Akibat Dampak dari Pandemi COVID-19".
- Japutra, A. and Situmorang, R. (2021), "International Journal of Hospitality Management The repercussions and challenges of COVID-19 in the hotel industry : Potential strategies from a case study Pandemi of Indonesia", Vol. 95 No. June 2020.
- Kementerian Kesehatan, B.R. (2021), "Data Kasus COVID-19".
- Kompas.com. (2021a), "Setahun Covid-19: Upaya Indonesia Akhiri Pandemi, dari PSBB hingga Vaksinasi".
- Kompas.com. (2021b), "Menparekraf Sandiaga Sebut Devisa Sektor Pariwisata Menurun".
- Kristiana, Y., Pramono, R. and Brian, R. (2021), "Adaptation Strategy of Tourism Industry Stakeholders During the COVID-19 Pandemic : A Case Study in Indonesia", Vol. 8 No. 4, pp. 213–223.
- LPEM FEB UI. (2018), "Kajian Dampak Sektor Pariwisata terhadap Perekonomian Indonesia".
- Subawa, N.S.R.I. (2021), "The practices of virtual reality marketing in the tourism sector , a case study of Bali , Indonesia", pp. 482–483.
- Uğur, N.G. and Akbıyık, A. (2020), "Impacts of COVID-19 on global tourism industry: A cross-regional comparison", *Tourism Management Perspectives*, Elsevier, Vol. 36 No. September, p. 100744.
- Wachyuni, S.S. and Kusumaningrum, D.A. (2020), "The Effect of COVID-19 Pandemic : How are the Future Tourist Behavior ?", Vol. 33 No. 4, pp. 67–76.
- Yang, M., Han, C., Cui, Y. and Zhao, Y. (2021), "COVID-19 and mobility in tourism cities: A statistical change-point detection approach", *Journal of Hospitality and Tourism Management*, Elsevier Ltd, Vol. 47 No. April, pp. 256–261.