Tourism sector in Bukittinggi: Analysis of tourism competitiveness before and after COVID-19

Fadhilah Syawal [a,1,*], Alpon Satrianto [a,2]

[a] Department of Economics, Faculty of Economics and Business, Padang State University, Indonesia
[1] syawalfadhil4@gmail.com*; [2] alponsatrianto@fe.unp.ac.id

* corresponding author

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ABSTRACT

The tourism industry, a crucial service sector, has been significantly impacted by the global pandemic, Covid-19. This impact has not only affected the development of tourism but also the regional economy. Bukittinggi, a key tourism city in West Sumatra, now more than ever, requires a competitive analysis to ensure its continuous growth. This research is aimed at analyzing and comparing Bukittinggi's tourism competitiveness before and after Covid-19. The research, a quantitative descriptive study with an exploratory research design, utilizes Competitiveness Monitor analysis. The data, sourced from BPS, BKD, and Bukittinggi Tourism Office, is secondary. The research results present the comparative results of the Tourism Competitiveness Analysis of Bukittinggi city as follows: a). PCI before Covid-19 was greater than after Covid-19; b). EI competitiveness before Covid-19 was higher than after Covid-19; c). HTI after Covid-19 was higher than before Covid-19; d). IDI after Covid-19 is higher than before Covid-19; e). OI after Covid-19 is higher than before Covid-19; 6). HRI after Covid-19 is higher than before Covid-19; f). TAI Value competitiveness index after Covid-19 is higher than before Covid-19; g). SDI before and after Covid-19 is equal. This research explains comparison of Bukittinggi's tourism competitiveness before and after Covid-19. The contribution of study are: a). consideration on improving tourism sites; b). Tourism management needs to be carried out in an integrated manner; and c). The government is expected to conduct more repairs and maintenance on tourism locations to increase visitor comfort when traveling.

1. Introduction

The tourism industry is one of the crucial service sectors to be part of development policy. The tourism industry is considered important because it can generate foreign exchange, generate trillions of rupiah transactions, create jobs and increase product growth for the country. In order to enhance the tourism sector, it is necessary to analyze the tourism competitiveness so that it can continue to be developed (Kamaruddin et al., 2019). The tourism sector competitiveness can be defined as the capacity of tourism businesses to attract foreign and domestic visitors to a particular tourism destination. A region can create and package a competitive tourism sector so that it will have a positive impact on tourism growth (Nantavisit & Pongsakornrungsilp, 2024), increase potential regional income (Purwono et al., 2024), and has multiplier effect on labor absorption (Khasanah & Kurniawan, 2024). Improvement of tourism competitiveness can be achieved through the effective use of existing resources and improving management capabilities (Hanafiah & Ali, 2024). An increase in the competitiveness of tourist destinations will enhance its attractiveness, so that it can increase the number of tourists visiting. The tourism industry also provides revenue for the government through

hotel and restaurant taxes, entertainment taxes, parking taxes, accommodation taxes and other taxes. In addition, the tourism industry also encourages investment in infrastructure in tourism sites, such as road improvements, maintenance of museums, monuments, tourist areas and the development of shopping centers (Damanik & Purba, 2020; Hidayah et al, 2024).

Bukittinggi City is one of the tourist icons in Indonesia, located in the province of West Sumatera. The city is the main center of tourism development in West Sumatra due to its natural and cultural characteristics that possess its own attratctiveness for local and foreign tourists. There are many attractions that can be visited in Bukittinggi, such as Ngarai Sianok, the icon of Bukittinggi Jam Gadang, Fort de Kock, Kinantan Wildlife and Cultural Park, and others, not only providing natural attractions, Bukittinggi is also a place for shopping tours, as well as being used as a meeting/conference place for professional purposes. The presence of hotel industries greatly enhance the facilities for this cause. These are several out of many reasons why Bukittinggi is designated as the Main Tourist Destination Area in West Sumatra, thus showing the importance of the City of Bukittinggi's position as the Tourism Center in West Sumatra to date (Sentosa & Satrianto, 2017). However, since the Covid-19 outbreak effect the world and Bukittinggi, it has a significant impact on various sectors, one of which is the tourism sector. This impact has caused the tourism sector in Bukittinggi City on decrease in number of visitors and automatically reduce local revenue. The decline in turn resulted in the temporary closure of tourist attraction locations, which ultimately had an impact on the economic income of workers in the tourism sector. Such as hotel, restaurant, and travel businesses that cannot run business as usual (Kernshi & Waheed, 2021).

Rodrik (2018) emphasize the tourism sector is one of the engines of growth of the modern economy. At the end of December 2020, it was confirmed that international tourist arrivals decreased by 72% in the first ten months of 2020 (UNWTO, 2023). Number of industries and business actors arising from tourism development is expected to create a sustainable economy at the national and regional levels. Improving tourism competitiveness could help mitigate the long-term effects of the ongoing global tourism crisis under uncertain circumstances. Foreign tourists have experienced a drastic decline in line with the reduction in international flights (Badan Pusat Statistik, 2021).
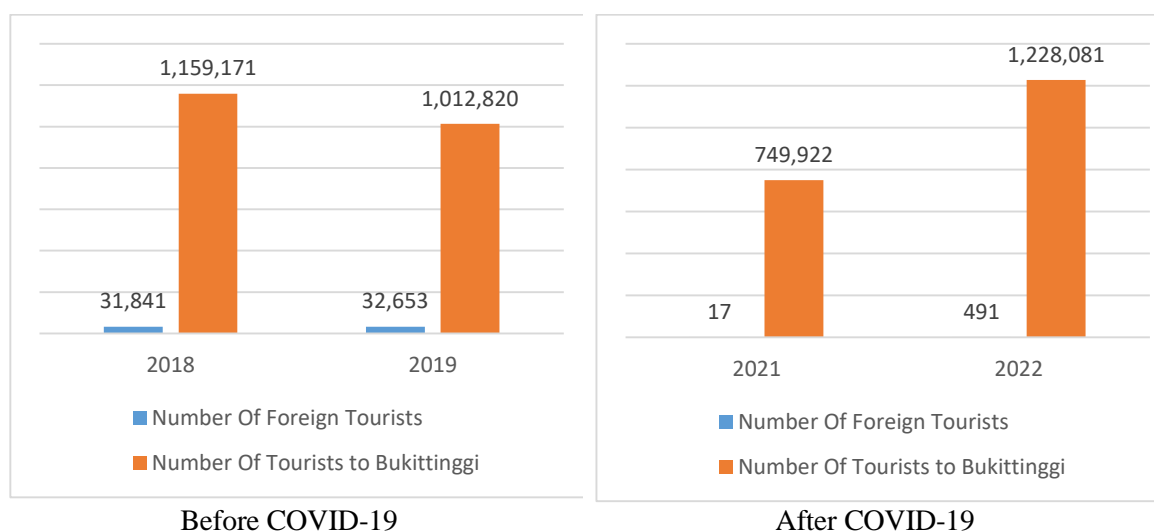

Before COVID-19   After COVID-19
Figure 1. The Number of Visitors to Tourism Objects in Bukittinggi Before and After COVID-19

Figure 1 shows the number of local and foreign tourist visits to Bukittinggi City had increased over time during 2018-2019. The pandemic had caused significant impact that caused the number of foreign visitors to decrease from 32.653 in 2019 to 491 visitors in 2022. Despite the similar increase and decrease of the number of tourists to Bukittinggi before pandemic occured, there was a significant increase in 2018 to 1.159.171 visitors, although in 2019, there was a slight decrease to 1.012.820 visitors. A drastic decline occurred after the COVID-19 pandemic, which decreased to only 749.922 visitors in 2021. As the Covid-19 pandemic ended, the number of tourist visitors to Bukittinggi City reached 1.228.081 in 2022. Several factors that can affect the local revenue from the tourism sector are the number of tourists, parking levies, revenue from tourism sites, occupancy rates, the number of tourism businesses and others. Local revenue can be defined as the revenue that comes from the local region, which is primarily acquired through local taxes, local levies, BUMD (local government owned enterprises), and the results of cooperation with third parties. While tourism may not be the largest contributor to regional income, it holds significant potential to boost local revenue. The following is

the local revenue of Bukittinggi City, West Sumatera from 2018 to 2022. The increasing number of tourists in Bukittinggi City also have an impact on the increase of the local revenue of Bukittinggi City.

Table 1. Local Revenue of Bukittinggi City Before and After COVID-19

Year	Local Revenue	Year	Local Revenue
	Before COVID-19		After COVID-19
2018	101.935.592.226,00	2021	91.785.460.318,00
2019	111.896.596.611,00	2022	130.797.747.936,00

Source: Direktorat Jenderal Perimbangan Keuangan Kementrian Keuangan (2022).

Table 1 shows that the local revenue of Bukittinggi city has not increased or stayed constant from year to year and has even decreased slightly, likely due to the Covid-19 pandemic. The local revenue increased in the year before Covid-19 occurred and decreased in the years when Covid-19 occurred. One of the sectors that has an impact on increasing local revenue in Bukittinggi City is tourism. The Covid-19 pandemic has prompted the Government of Bukittinggi to focus on strategies and policies to maintain tourism as the priority destination for visitors, while ensuring the health and safety of visitors and residents. The need for a competitiveness analysis of Bukittinggi City tourism is crucial. This analysis will engage stakeholders and provide a roadmap for Bukittinggi to enhance its tourism, thereby impacting various sectors of the economy, natural resources, and human resources in the City of Bukittinggi (Riyanda & Hidayat, 2022). Pandemic Covid-19 effect on decreasing on tourism sectors has the impact to local revenue (Musviyanti et al., 2022), and decreasing on local revenue led to decrease on economic growth (Juwita et al., 2021).

Analysis of tourism competitiveness shows that the highest Human Tourism Indicator (HTI) is the city of Payakumbuh, followed by Pariaman, Local revenueang, Local revenueang Panjang, Solok, Sawahlunto and Bukittinggi as the lowest. The highest Price Competitiveness Indicator (PCI) competitiveness index value is Local revenueang, and the lowest is Bukittinggi. The competitiveness index value of Infrastructure Development Indicator (IDI) in 7 cities in West Sumatera is still low. The highest Environment Indicator (EI) competitiveness index value is Bukittinggi, followed by Local revenueang, Solok, Payakumbuh, Local revenueang Panjang, Sawahlunto and Pariaman as the lowest. The highest Technology Advancement Indicator (TAI) competitiveness index value is Bukittinggi, followed by Solok, Payakumbuh, Local revenueang, Pariaman, Sawahlunto, and Local revenueang Panjang as the lowest. The highest Human Resources Indicator (HRI) competitiveness index value is Local revenueang Panjang, followed by Solok, Local revenueang, Payakumbuh, Bukittinggi, Sawahlunto, and Pariaman as the lowest. The highest Openness Indicator (OI) competitiveness index value is Bukittinggi, followed by Local revenueang Panjang, Local revenueang, Sawahlunto, Solok, Pariaman, and Payakumbuh as the lowest. The highest Social Development Indicator (SDI) competitiveness index value is Local revenueang, and the lowest is Bukittinggi.

Based on data and for comparison, 2018 was a year free from the global impact of COVID-19, while 2019 saw the virus arriving but not yet affecting Indonesia. The year 2020 was the peak of the pandemic in Indonesia. However, the subsequent years, 2021 and 2022, brought significant progress as the country gradually overcame the crisis. This progress in 2021 and 2022 is a reason for optimism and a testament to the resilience of Indonesia. According to Kamaruddin et al (2019) that there were 8 indicators that had increased, while research from Damanik & Purba (2020) shows that there were only 4 indicators that had increased. From the data, we can define that Bukittinggi has the highest value only in several indicators, and has the lowest competitiveness value in several indicators, such as the Human Tourism Indicator (HTI), Price Competitiveness Indicator (PCI) and Social Development Indicator (SDI), despite being well-known as the city of tourism of West Sumatera.

2. Literature Review

2.1. Tourism Sectors and COVID-19

Kubickova (2017) stated that the government's role to increase tourism competitiveness is crucial, as it is needed to improve legal regulations, licensing, taxation, ease of getting busy employees, and to prioritize the development of the travel and tourism industry. The government's effectiveness in marketing and branding to attract tourists, managing fuel prices, aircraft departures, and the number of operating airlines is also key. The competitiveness of a tourist destination is very important in showing and maintaining a global market position and, at the same time, as a promotional medium.

Despite the excellent growth numbers and the positive outlook, there remains significant untapped potential. This underscores the need for continuous improvements in the tourism industry. Tourism is vulnerable to crises (Fotiadis et al., 2021). Yang et al (2024) stated during the mass pandemic infection period, top-down prevention and control measures were implemented by the Chinese central and local governments, with feasible and regional recovery policies and protocols being adapted according to local situations and for the recovery in the tourism sector by implementing digitalization and tourism close-to-nature concept to attract most visitors.

Gössling et al (2021) argued over the years, many destinations have been affected by natural and artificial crises, leading to the development of various resilience and mitigation tactics and strategies However, the crisis caused by the Covid-19 pandemic is distinct in many ways. Travel bans, hotel closures, and tourism halts have resulted from a massive global economic disaster that has the potential to result in fundamental changes in many segments of tourism. This potential for change challenges us as professionals in the field to adapt and innovate, motivating us to find new solutions and strategies. Additionally, tourism can be viewed as a system, which includes some key elements such as consumers, producers, tourist products (e.g., cultural resources, accommodation, ancillary services, etc.), and the ordering/regulatory bodies that have a key role in planning. Gössling & Schweiggart (2022) emphasizes that tourism is vulnerable not only from Covid-19 but from macroeconomic condition such as issues on new debt and global uncertainty.

2.2. Tourism Competitiveness

Tourism is a number of symptoms and relationships that arise from interactions between tourists from one party, companies that provide tourist services and the government, as well as communities that act as hosts in the process of attracting and serving tourists. In a broad definition, tourism is travel from one place to another, temporary in nature, carried out by individuals or groups, as an effort to find balance or harmony and happiness with the environment in social, cultural, natural and scientific dimensions. Tourism is an industry that is capable of providing rapid economic growth in terms of providing jobs (Khasanah & Kurniawan, 2024), income (Kwabi et al., 2023), living standards (Bui et al., 2020) and activating other production sectors in tourist receiving countries (Hidayah et al., 2024). Buzinde & Caterina-Knorr (2023) emphasizes that tourism has to be sustain in development on three elements, *Social inclusiveness* was accounted for in the findings vis-à-vis the participation of all in development, as well as protection and capacity building for the most vulnerable, *cological inclusiveness* included accounts on ecological limits, just sharing of the responsibility and risks of climate change, and participation of all stakeholders. Accounts on steps taken to protect the most vulnerable to climate change and engage all stakeholders in mitigation were absent and *Relational inclusiveness* included discussions on rule of law; however, wealth redistribution, critical assessment of taxation policies and protection of public resources from privatization were notably absent.

Competitiveness is one of the criteria for determining success and achieving better goals by a country in increasing income and economic growth. Likewise, competitiveness in the tourism sector is the capacity of tourism businesses to attract foreign and domestic visitors to certain tourist destinations (Damanik & Purba, 2020). The World Economic Forum defines competitiveness as a combination of institutions, policies and factors that determine the level of productivity of a country, where the level of productivity will determine the level of prosperity that can be achieved by an economy. The level of productivity also determines the rate of return on investment in the economy which ultimately becomes the fundamental driver of economic growth. In other words, countries that are competitive will tend to have faster economic growth (Juwita et al., 2021). The concept of tourism competitiveness is not only related to the economic sector, but also related to social and cultural aspects. The competitiveness of tourism, which also includes the tourism industry, is a driving factor for economic development for a country. Tourism destinations have been developed at the industrial level, where destination management involves various aspects at the domestic and international levels, including those related to efficiency and market shares through international trade. Competitiveness, in tourism, is designed to increase state income in the long term through multiplier effects (Sesa et al., 2023). Strong competition between tourist destinations requires marketers responsible for promoting places to focus on the factors that create competitive advantages (Wu et al., 2023).

3. Method

This research was conducted in Bukittinggi, West Sumatera, to analyze the competitiveness of the tourism industry of Bukittinggi. The time range of research is 2018-2019 and 2021-2022. These ranges were chosen because from 2018 to 2019 Bukittinggi had not been affected by the Covid-19 virus, while from 2021 to 2022 being post-Covid-19 pandemic, so that the comparison between the "before and after" periods can provide a more complete picture of the state of tourism in the region. This research, conducted with objectivity and impartiality, uses the method of quantitative descriptive research that aims to explain systematically, factually and accurately about the facts and nature of a particular object or population. This research emphasizes theory testing through measuring research variables with numbers and analyzing data with statistical procedures. In this study using the competitiveness variable, the competitiveness of the tourism industry in Bukittinggi is measured through the availability of the potential of the area, both natural, cultural and religious potential.

Table 2. Paramaters, Data Types and Competitiveness Monitor Indicators

No	Parameters	Data Type	Definition
1	Human Tourism Indicators (HTI)	• Number of Travelers • Total Population	Indicate of achievement of development economy region due to tourist arrivals
2	Price Competitiveness Indicator (PCI)	• Number of Tourist • Average Hotel Rate • Average Tourist Stay	Prices of commodities consumed by tourist while traveling
3	Infrastructure Development Indicator (IDI)	• Length of Road Paved • Long Good Quality of Road	Demonstrate road development, improved sanitation facilities and increased population access to clean water facilities
4	Environment Indicator (EI)	• Total Population • Area	Showing quality environment and awareness resident in maintain their environment
5	Technology Advancement Indicator (TAI)	• Use of Internet Network • Total Population	Shows development of modern infrastructure and technology
6	Human Resources Indicator (HRI)	• Number of Illiterate Population • Number of People with Elementary, Junior High, High School, Diploma and Bachelor	Quality of human resources in destination areas
7	Openness Indicator (OI)	• Total Tourist • Total Local Revenue	Level openness destination to international trade and international tourist
8	Social Development Indicator (SDI)	• Duration Average Tourist Stay	Showing comfort and saferty of tourist in traveling

Source: Kamaruddin et al (2019)

Table 2 shows the tourism competitiveness indicators by using eight indicators, for each measurement indicators as follows:

A. Human Tourism Indicator (HTI)

This indicator shows the achievement of regional economic development due to tourist arrivals in the area. The measurement used is the *Tourism Participation Index* (TPI), which is the ratio between the number of tourist activities (coming and going) and the total population of the destination area. In this research, the measure used is TPI, with the formula:

$$TPI = \frac{The\ Number\ of\ Tourist\ in\ the\ City\ of\ Bukittinggi}{Population\ in\ the\ City\ of\ Bukittinggi} \tag{1}$$

B. Price Competitiveness Indicator (PCI)

This indicator shows the price of commodities consumed by tourists while traveling such as accommodation costs, travel, vehicle rental and so on. The measurement used to calculate PCI by Purchasing Power Parity (PPP). The proxy used to measure PPP is the average minimum hotel rate which is a worldwide hotel.

$$PPP \tag{2}$$
$$= Number\ of\ Foreign\ Tourist\ .\ Average\ Hotel\ Rates\ .\ Average\ Length\ of\ Stay$$

C. Infrastructure Development Indicator (IDI)

This indicator shows the development of roads, improved sanitation facilities and increased access of the population to clean water facilities. It is difficult to measure the IDI, so the *Competitiveness Monitor* (CM) proxies the IDI with *income* per capita of the population (the ratio of total local revenue to total population). The total own-source revenue can be used to allocate infrastructure so that it can be adequate.

$$IDI = \frac{Number\ of\ Good\ Quality\ of\ Road\ in\ Bukittinggi}{Number\ of\ Road\ in\ Bukittinggi} \tag{3}$$

D. Environment Indicator (EI)

This indicator shows the quality of the environment and the awareness of the population in maintaining their environment. The measurements used are the CO2 emission index and the population density index (the ratio between population and area). While there is no data on the CO2 emission index, the population density index is used to calculate EI. A large population can help the government to be aware of the surrounding environment.

$$EI = \frac{Population\ in\ the\ City\ of\ Bukittinggi}{The\ Area\ in\ Bukittinggi} \tag{4}$$

E. Technology Advancement Indicator (TAI)

This indicator shows the development of modern infrastructure and technology as indicated by the widespread use of mobile telephone internet and the export of high-tech products. The measurement used is telephone index (ratio of telephone line usage to population).

$$TAI = \frac{Internet\ User\ in\ the\ City\ Bukittinggi}{Population\ in\ the\ City\ of\ Bukittinggi} \tag{5}$$

F. Human Resources Indicator (HRI)

This indicator shows the quality of the region's human resources so that it can provide better lessons to tourists. The HRI measurement uses an education index consisting of the ratio of the population that is free of illiteracy and the ratio of the population that has elementary, junior high, high school, diploma and bachelor's degrees.

$$HRI = \frac{Resident\ who\ are\ free\ from\ Illiteracy\ in\ the\ City\ of\ Bukittinggi}{Number\ of\ Undergraduates\ in\ the\ City\ of\ Bukittinggi} \tag{6}$$

G. Openness Indicator (OI)

This indicator shows the level of openness of the destination to international trade and international tourists. It is measured using the ratio of the number of foreign tourists to the total local revenue.

$$OI = \frac{Number\ of\ Foreign\ Tourist}{Total\ Local\ Revenue\ in\ the\ City\ of\ Bukittinggi} \tag{7}$$

H. Social Development Indicator (SDI)

This indicator shows the comfort and safety of tourists to travel in the destination. The measure of SDI is the average length of stay of tourists in the destination.

4. Results and Discussion

Bukittinggi, the second largest city in West Sumatra Province, Indonesia, is a city steeped in history and culture. It was once the capital of Indonesia during the emergency government of the Republic of Indonesia. Today, it is a vibrant tourist city, known for its cool climate and warm-hearted people. The iconic Jam Gadang, a grand clock tower in the city's heart, is a popular tourist spot, symbolizing the city's unique blend of tradition and modernity. Tabel 3 shows that tourism competitiveness index of Bukittinggi before and after Covid-19 reveals a significant fluctuation. Some indicators show a decrease, while others show an increase. This is in line with the findings Damanik & Purba (2020), who noted that only a few indicators, such as the Human Tourist Indicator (HTI), Price Competitive Indicator (PCI), and Environmental Indicator (EI), had increased.

Table 3. Result of Tourism Competitiveness

Indicator	Year	Index	Average Comparison	
			Before	**After**
HTI	2018	9.00	8.37	
	2019	7.74		
	2021	6.16		8.1
	2022	10.04		
PCI	2018	20.154.766.488.78	20.024.583.277	
	2019	20.668.747.531.74		
	2021	10.760.687		160.777.321.33
	2022	310.793.956		
IDI	2018	30.48	31.13	
	2019	31.78		
	2021	49.15		50.25
	2022	51.35		
EI	2018	5.10	5.14	
	2019	5.18		
	2021	4.81		4.82
	2022	4.84		
OI	2018	0.312	0.301	
	2019	0.291		
	2021	0.185		1.469
	2022	0.753		
HRI	2018	35.90	32.4	
	2019	28.90		
	2021	68.60		50.29
	2022	31.98		
TAI	2018	0.46	0.49	
	2019	0.52		
	2021	0.66		0.67
	2022	0.68		
SDI	2018	1.33	1.33	
	2019	1.33		
	2021	1.33		1.33
	2022	1.33		

Source: data processed

Human Tourist Indicator (HTI) shows that the value was 9.00 in 2018 and 7.74 in 2019, while the average value before the pandemic was 8.37. In 2021, there is a value of 6.16; in 2022, there is a value of 10.04, while the average value after the pandemic is 8.1. From the average results above, it can be inferred that the value of HTI from before to after the pandemic has decreased from 8.37 to 8.1. This proves that the number of tourists who come to the city of Bukittinggi to travel has decreased because COVID-19 has had an impact on the mobility of tourists to Bukittinggi. After all, the city often gets a red zone, so mobility is disrupted—both those who come and those who leave. The Price Competitiveness Indicator (PCI) in 2018 is worth 20,154,766,488.78. In 2019, it was worth 20,668,747,531.74, and the average before COVID-19 was 20,024,583,277. In 2021, it is worth

10,760,687. in 2022, it is worth 310,793,956., and the average after Covid-19 is 160,777,321.33. This data shows that the PCI indicator before Covid 19 is better than after Covid 19. This can happen because COVID-19 greatly affects the overall expenditure of tourists in Bukittinggi from low to high, and the number of visiting tourists is decreasing. Therefore, accommodation and consumption costs should be increased to support Bukittinggi's revenue.

The Infrastructure Development Indicator (IDI) before Covid-19 in 2018 was 30.48%; in 2019, it was 31.78%, so it was 31.13% on average before Covid-19. Then, the tourism competitiveness index of Bukittinggi in 2021 was 49.15%; in 2022, it was 51.35%. So, the tourism competitiveness index of Bukittinggi City after COVID-19 19, on average, was 50.25%. From the average results above, the infrastructure of Bukitinggi city before and after COVID-19 has increased, namely from 31.13% to 50.25%. This proves that the infrastructure of the town of Bukittinggi has not been affected by COVID-19; the proof is that it has been increased and improved by the Bukittinggi city government. The Environment Indicator (EI) before COVID-19 in 2018 was 5.10; in 2019, it was 5.18, so before COVID-19, it was 5.14 on average. Then, the tourism competitiveness index of Bukittinggi in 2021 was 4.81; in 2022, it was 4.84, so after COVID-19, it was 4.82 on average. This means that the Bukittinggi City tourism competitiveness index in the EI indicator before Covid 19 is better than after Covid 19; COVID-19 does not affect Bukittinggi City's EI and positively impacts Bukittinggi City tourism. The Openness Indicator (OI) before COVID-19 in 2018 was 0,312; in 2019, it was 0,291 and 0,301 on average. In 2021, 0,185, and in 2022, 0,753 was 1,469 on average. This proves that OI pre and post-Covid-19 has increased from 0,301 to 1,469. This means the OI indicator after Covid 19 is better than before Covid 19. This shows that COVID-19 has no effect on OI, and COVID-19, such as markets, does not disrupt some activities in Bukittinggi. Therefore, the competitiveness of the city of Bukittinggi has increased after COVID-19.

Table 3 shows the comparative analysis of the tourism competitiveness of Bukittinggi before and after Covid 19, the competitiveness of Bukittinggi city tourism after Covid 19 is higher / better than before the occurence of the pandemic. The Tourism Competitiveness value of Bukittinggi before Covid 19 is higher in only three determining indicators, namely the Price Competitiveness Indicator (PCI), Environment Indicator (EI), and Human resources indicator (HRI). This relates to the fact that more tourists came to visit before Covid 19 than after Covid 19, although hotel rates before and after Covid 19 are relatively unchanged. In the Environment Indicator (EI), the competitiveness value is worth 5.1, which means the competitiveness ability of EI before Covid 19 is better than after Covid 19, which is only worth 4.81. This is because the population and area of Bukittinggi City increased before Covid 19 compared to after Covid 19. Meanwhile, competitiveness after COVID-19 is higher in three determining indicators. First, the Human Tourism Indicator (HTI) has a value of 8.37 before COVID-19, which is higher than after COVID-19, being only 8.1. This means the competitiveness ability of the HTI is high/good due to the average number of tourists in Bukittinggi City having decreased after COVID-19 compared to before COVID-19. However, in 2021, the number of tourists has drastically reduced. The number of residents also experienced a reduction from before Covid 19. This is because, from comparing the number of tourists who came after and before, both experienced a decrease in indicators; on average, the competitiveness before Covid 19 was still higher than after Covid 19. Second, the price competitiveness indicator before COVID-19 was Rp20.024.583.277, which is higher than after Covid 19, which was only Rp160.777.321.33. Meanwhile, the Environment Indicator (EI) is 5.1, which means that the competitiveness of the EI before COVID-19 is better than after COVID-19 19, which is only 4.81. This is because the population and area of Bukittinggi City increased before Covid 19 compared to after Covid 19. In conclusion, the tourism competitiveness of Bukittinggi after COVID-19 is superior in four indicators, namely IDI, OI, HRI, and TAI.

Another explanation from Table 3, First, the Infrastructure Development Indicator (IDI) before Covid-19 is 31,13 and is lower than after Covid-19, which is 50.25. This means that the competitiveness ability after Covid 19 from IDI is high/good due to the paved road infrastructure, and the road to the tourist destination of Bukittinggi city has a good quality road compared to before Covid 19, which has minimal good quality road infrastructure. Second, the Openness Indicator (OI) after Covid 19 is 1,469, higher than before Covid 19, which was only worth 0,301. Conversely, the number of tourists decreased after Covid 19 but did not cause a decrease in LOCAL REVENUE for Bukittinggi City. LOCAL REVENUE of Bukittinggi city can increase from other sectors besides tourism, such as taxes, levies, and revenue of Bukittinggi city. Third, the HRI after Covid 19 is 50,29, which is better than before Covid 19 which was only worth 32.4. This is due to the increase in the number of illiterate free residentsand the numberof scholars in Bukittinggi City in the year afterCovid

19. Fourth, the TAI competitiveness index value before and after Covid 19 after covid 19 is also better than before covid 19. The competitiveness index value after COVID-19 is 0.67, higher than before COVID-19 19, which was only 0.49. This is because internet network use is increasing in Bukittinggi, which is supported by a lower population than before COVID-19.

Meanwhile, the SDI indicator has an average index value of competitiveness that is relatively the same both before the arrival of Covid 19 and after Covid 19. With a TAI value of 0.67 and an SDI value of 1.33 nights.The SDI indicatorboth before and after Covid19 is relatively the same because the average stay of tourists in the city of Bukittinggi each year is only 1.33 nights. This means that the comfortand safety and comfort of tourists has neither decreasednor increased every year both before and after Covid 19. This research specifically focuses on the comparison of tourism competitiveness before and after Covid-19, using the same competitiveness method as in previous research. Its impact on the economy can provide an idea of how high or low the economy of Bukittinggi city was before and after Covid 19.

5. Conclusion

The research shows the comparative results of the Analysis of the Tourism Competitiveness of Bukittinggi. The Human Tourism Indicator (HTI) competitiveness value was 8.37 before COVID-19, which is higher than the value in the period after covid 19, the value being 8,1. Price Competitiveness Indicator (PCI) worth 20,024,583,277 is more significant than after covid 19, only 160,777,321.33. The Environment Indicator (EI) worth 5.14 means the competitiveness ability of EI before Covid 19 is higher / better than after Covid 19, which is only worth 4.81. Then, the Infrastructure Development Indicator (IDI) worth 50.25 is higher after Covid 19 than before Covid 19, which was only worth 31.13. The Openness Indicator (OI) after Covid 19 is worth 1.469, higher than before Covid 19, which is only worth 0.301. Human resource Indicator (HRI) After COVID-19, worth 50.29, is higher than before COVID-19, which is only worth 32.4. In the Technology Advancement Indicator (TAI), the competitiveness index value after Covid 19 is 0.67 higher than before Covid 19, which was only 0.49. Then, the Social Development Indicator (SDI) value, which is the same before covid 19 as after covid 19, is only 1.33 nights. It can be concluded that the competitiveness of Bukittinggi City Tourism, as calculated with the Competitiveness Monitor analysis during Covid 19, is better or higher than before Covid 19. Bukittinggi City's Tourism Competitiveness before Covid 19 was superior in only three determining indicators, namely the Human Tourist Indicator (HTI), Price Competitiveness Indicator (PCI), and Environment Indicator (EI). The Tourism Competitiveness of Bukittinggi City after Covid 19 was superior in four indicators determining competitiveness, namely the Infrastructure Development Indicator (IDI), Openness Indicator (OI), Human Resources Indicator (HRI), and Technology Advancement Indicator (TAI). In addition, the analysis of tourism competitiveness in Bukittinggi city has similar competitiveness values on the Social Development Indicator (SDI) indicator, which has a value of 1.33 nights.

The factors that affect the tourism competitiveness of Bukittinggi city include the number of tourists, population, road development, the LOCAL REVENUE, number of graduates, number of literate people, and number of Internet network users. These factors affect the Competitiveness Monitor indicator before and during Covid 19. COVID-19 is not a reason for Bukittinggi tourism to stay competitive. However, it is necessary to amend improvements in several indicators so that Bukittinggi tourism can develop more advanced and improve the economy of Bukittinggi City even better in the following years. Moreover, Bukittinggi is a very well-known city for tourism and has the potential to enhance the regional and national economies. The contributions of this research are as follows: (1) It can be a consideration in increasing tourism in Bukittinggi. Therefore, the Government needs to improve infrastructure cleanliness and preserve the environment to increase the convenience of tourists in the city of Bukittinggi (2) Maintenance and management of tourism in the city of Bukittinggi needs to be carried out in a structured manner by tourism management to increase tourism competitiveness (3) It is hoped that the Government is more dedicated to carry out more repairs and maintenance on tourism locations to improve the comfort of visitors while traveling in the city of Bukittinggi. Research can be used as information and input for tourist attraction managers in Bukittinggi City regarding the factors influencing tourism competitiveness in Bukittinggi City and formulating policies for managing tourist attractions.

Declarations

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