Seasonal Patterns of Foreign Tourist Visits to Samosir

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Abstract. The seasonal pattern of tourist visits is an important factor to consider when developing tourism marketing policies. This study attempts to determine seasonal trends of visitor visits to Samosir over the last three years using the seasonality ratio, Gini coefficients, and seasonality index as calculating methods.. This research shows several things. initial, tourist visits to Samosir show an insignificant level of variation, and similar patterns of seasonal variation are found in 2018, 2019, and 2020. Second, tourist visits to Samosir have a relatively even distribution per month with low seasonality or the difference between tourist visits. foreign countries per month have a negligible difference in worth Third, the peak season for tourist visits to Simanindo occurs in January, June, and December, with a significant increase over the preceding month, and the decline slows as the off-peak season approaches. As a result, specific resource allocation and marketing tactics are required to optimize each seasonal phase.

Keyword: Samosir, Seasonality Index, Tourist Visits

1   Introduction

Tourism is one of the the world's largest and fastest-growing industries [1]. Indonesia has a wealth of natural, cultural, and different customs and is the main capital in tourism [2]. In addition, Indonesia is one of the world's countries. that makes tourism one of the priority sectors of development Tourism is used as a potential source of foreign exchange and a significant source of employment [3]. In this decade, based on the benchmark of the number of foreign tourist visits, Indonesian tourism continues to grow every year. According to the Central Statistics Agency [4], foreign tourist visits to Indonesia in 2019 were recorded at 16.1 million or grew by 1.88% and most tourists came from Malaysia, Singapore, China, Australia, and Timor Leste [4] Kuala Namu International Airport, was listed as one of the airports that received visits from abroad in Indonesia in 2019. This shows that North Sumatra has started to improve tourism, especially in the aspect of international tourists. In addition, geographically, Samosir

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Island has a strategic location, which is between the Indonesian archipelago which has very unique natural and cultural beauty and has unique customs so that it can be developed into a tourist destination. This causes Samosir Island to have a high attractiveness to serve as the focus of tourism studies.

Many economic activities on Samosir Island are related directly, or indirectly, and are induced by the existence of tourism services so that economic activities widely absorb labor [6]. Employment in the tourism sector that is directly related can be found in hotels, restaurants, travel tour services, souvenir sellers, and others, as well as needs due to the indirect impact of the tourism sector. The flexible nature of the tourism sector and keeping up with the times make the opportunity for new job openings to be greater and demand high. This means that the tourism sector in Samosir plays a role in absorbing labor or creating jobs [6] so that the attention of the regional and central governments to this sector is very large.

Samosir Island is one of the destinations with a complete tourist destination because it has natural and cultural attractions that are equally strong. Compared to other provinces in Indonesia. Seasonality in tourism is important to discuss because it creates economic and social problems and has an impact on service quality in the tourism industry [5]. To market a destination, it is necessary to understand the seasonal nature of a specific market more accurately to provide appropriate tourism products/services [7]. An understanding of seasonal patterns in tourism is essential for the efficient management of tourism facilities and infrastructure. Seasonal patterns are very important for destination managers to make decisions regarding the distribution of infrastructure resources and human resources they have

It is undeniable that tourism is seasonal [8]. Thus, the main obstacle commonly encountered in destination development is the temporal or seasonal concentration on the demand aspect [7]. The negative effect is that tourist destinations can be filled with tourist activities and activities during a certain period and also allow no tourist activities at all in other periods of the same year. This means that, at one time, the number of tourists or visitors in an area can be more than the area can accommodate [12]. Therefore, a solution is needed to control the number of tourists and distribute them in the hope of reducing the crowds that occur [15]. This certainly affects the destination management to meet the needs of tourists, maintain the quality of the destination, accommodate the interests of stakeholders, and do not disturb the surrounding community, especially destinations that are in direct contact with local communities.

In tourism, demand is divided into 3, namely (1) actual demand or people who are visiting a destination; (2) suppressed demand, people who have the potential to be used as actual demand in the future; and (3) no demand or those who are completely unwilling or unable to travel [11]. This demand is influenced by internal driving factors and pull factors from tourist destinations. Several factors that can encourage someone to take a trip include seeking experience or

escaping from routine [16]. Meanwhile, pull factors from destinations that are generally able to influence tourist visits include distance [3], destination image [10] price [16], diversity of attractions, season/climate [14] visa requirements, air connectivity, security aspects [9] marketing programs [15], as well as domestic government policies and tourist destinations related to tourist travel [17].

The seasonality Ratio serves to clarify whether seasonality shows a similarity scheme every year or not. [19] Seasonality indicator is a measure of season width and capacity usage relative to peak month usage. This calculation is usually used to describe the average room occupancy rate because it uses the average calculation of foreign tourists staying in accommodation compared to the entire accommodation capacity. The seasonality index was originally used to estimate demand because it considers data from several previous years based on moving averages that take into account the smoothness of fluctuations and seasonal considerations. However, this calculation cannot be applied to new destinations because it requires data from previous years.

Based on the importance of identifying seasonal patterns of tourism demand, research related to seasonal patterns needs to be carried out, especially on international tourism demand to Samosir Island, as one of the destinations in Indonesia and a contributor to foreign tourist visits. This study aims to identify seasonal patterns of foreign tourist visits to Samosir. This study is expected to provide stakeholders and decision-makers in the tourism development of Samosir with just an overview. particularly related to the aspect of tourism marketing based on seasonal patterns. Thus, stakeholders can allocate their resources more effectively and efficiently.

2 Method

This study uses a descriptive research approach Descriptive research aims to examine and explain a phenomenon or social reality by documenting a wide range of factors connected to the problem and unit under investigation. Secondary data, in the form of statistics on international tourist visits to Samosir Island, was employed. Visits from foreign tourists are an indicator of the tourism season because when managing seasonal patterns, reliable data is needed on the number of tourists [18] Data on foreign tourists visiting Samosir comes from the official website of the Central Statistics Agency of North Sumatra Province with the site address at https://sumut.bps.go.id. The data of foreign tourist visits that will be used is monthly data with a period of 2017-2020 or an observation period of 3 years.

Several methods of calculating the seasonal variation of foreign tourists used in this study include seasonality ratio and Gini coefficient proposed by Lundtorp, and seasonality index proposed by Constantin & Daniela [13].

The seasonality ratio (R) serves to clarify whether seasonality shows a similarity scheme every year or not [19]. The value of the seasonality ratio (R) is between the values of 1 to 12. If the number of visits each month is constant, the value of the seasonality ratio (R) is 1. If the number of visits is concentrated in one month, the value of the seasonality ratio (R) is 12. It can also be said, if the seasonality ratio (R) increases, the seasonality rate also increases [19]. This calculation operates as the largest number divided by the average over a given period. Mathematically, the seasonality ratio (R) is calculated by [19].

$$R = {v_n}/{\bar{v}}$$

where,

$\bar{v}$ is the average number of visitors

v_n is the highest number of visitors (arrivals), and

v_i is the total number of visitors (arrivals) during a certain period.

Based on the same number of visitors each month the ratio is 1. Meanwhile, if all visitors come in month n, the ratio is 12. Thus, increasing seasonal variation will also increase the value of the ratio. Table 1 shows the data of tourists who come to samosir from 2018 to 2020

Table 1. Development of International Tourist Visits to Samosir

Period	2018	2019	2020
January	9.021	4.712	1.737
February	4.327	3.511	836
March	5.362	3.564	335
April	6.594	2.600	Covid - 19
May	7.168	4.435	Covid - 19
June	9.912	5.949	Covid - 19
July	4.055	4.346	Covid - 19
August	4.517	6.989	Covid - 19
September	2.407	5.122	Covid - 19
October	1.433	4.310	Covid - 19
November	3.135	2.379	Covid - 19
December	7.793	3.053	Covid - 19
Total	**65.724**	**50.970**	**2.908**
+/-	**83%**	**-22%**	**-94%**

3   Results and Discussion

The table (table1) above shows that during the 2018-2020 period, or 3 years, foreign tourist visits to Samosir have increased and decreased. In 2018 visits reached 65,724 or an increase of 83% compared to the previous year. In 2019, foreign tourist visits to Samosir were recorded at 50,970 or decreased by -22% and recorded as the highest decline in the last 3 years. In 2020 there were 2908 visits or decrease of -94%. Because the world is hit by the Covid-19 virus, all access into and out of Indonesia is completely closed.

Based on 2018 data, foreign tourist visits to Samosir reached 65,724 or an average of 5,477 people per month. When compared to the national achievement of 15,810,305 visits [4], Samosir contributes approximately 0.5% to the overall foreign tourist arrivals. This shows that Samosir has not been widely known by world tourists on the indicators of foreign tourist visits to Indonesia. If there is a fluctuation in foreign tourist visits to Samosir, the impact will be felt at the national level.

Identification of seasonal patterns of foreign tourist visits to Samosir will be carried out through calculations using indicators of seasonal pattern measurements, namely: seasonality ratio, to identify variations in seasonal patterns.

Seasonality Ratio ($\mathcal{R}$)

To find out seasonal variations over the last five years, the seasonality ratio ($\mathcal{R}$) calculation method is used.

Table 2. Calculation of Seasonality Ratio (*R*) Foreign Tourist Visits to Samosir, 2018-2020 Period

Period	*Seasonality Ratio* ($\mathcal{R}$) *per month*												
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	*Seasonality Rano($\mathcal{R}$)*
2018	1.64	0.79	0.97	1.20	1.30	1.80	0.74	0.82	0.43	0.26	0.57	1.24	**1,64**
2019	1.10	0.82	0.83	0.61	1.04	1.40	1.02	1.64	1.20	1.01	0.56	0.71	**1,10**
2020	7.18	3.44	1.38	0	0	0	0	0	0	0	0	0	**7.18**

Using the outcomes of the calculations in the table (**Table** 2), the seasonality ratio (*R*) of foreign tourist visits to Samosir during the period 2018 - 2020 or for the last 3 years is as follows: The value of the seasonality ratio (*R*) 1.64 (in 2018), 1.10 (the year 2019), and 7.18 (in 2020). Thus, during the last 3 years, the value of the seasonality ratio (*R*) is between 1.10 to 7.18. If referring to Karamustafa and Ulama (2010), foreign tourist visits to Samosir each period have an insignificant or low level of variation. Based on these calculations, the results show that the seasonality ratio (*R*) in 2018 - 2019 shows a decline and in 2020 shows a drastic decline. This calculation also identified several similarities in seasonal patterns in 2018 and 2019, namely that all three had almost the same seasonality ratio (*R*).

4   Conclusion

Based on this study, several findings related to the seasonal pattern of foreign tourist visits to Samosir were obtained. the calculation of the seasonality, the ratio found that foreign tourist visits to Samosir showed an insignificant level of variation except in 2020, due to the Covid-19 pandemic. There were also some similarities in the pattern of seasonal variations in 2018 and

2019. The two periods have similarities, namely having a period of above the off-peak season five times in one year.

This research can also be used as input in making policies related to Indonesian tourism marketing, especially those related to the foreign tourist market for Samosir. This study provides information about when is the right time to activate marketing activities and how to position Samosir in the international tourism market. Optimizing activities that can increase the peak season period is important to do so that foreign tourist visits can increase to Samosir having a relatively longer peak season period (more than one month). Packaging of less attractive tourist attractions and services that are not friendly, able to see performances but also being able to participate in several tourist activities, participate in a series of cultural activities, and combine various types of tourism to extend the duration of tourist stay. Optimization of the off-season period (1st off-peak season, and 2nd off-season peak season) can be realized by carrying out marketing and promotional activities to fill the void in the international market during off-peak season periods.

Further research on seasonal patterns is needed to ensure a better understanding of seasonal causal phenomena, quantification of implications, and strategies (Corluka, 2019). The author realizes that this study has limitations so other studies are needed that can enrich the results of this study. Other studies, such as linking the pattern of market visits/demand with socio-cultural, economic, and political conditions, need to be done to see what factors can influence the seasonal pattern of foreign tourist visits.

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