

A New Strategy Approach to Sustainable Tourism Development: Moving Beyond from Pandemic Outbreak Through Tourism Technology

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ABSTRACT

The prolonged Covid-19 pandemic has impacted many industries around the world, tourism is without exception. Famously known for its abundant natural resources, Indonesia is currently facing huge losses in its tourism sector, one of which is in Patengan Village, West Java. A model of community-based tourism has been developed to encourage local communities to recover from the impact of the pandemic. However, it was not enough to only focus on one element. A more holistic strategy that also takes technology into account needs to be designed, to ensure that Patengan Village is able to survive this pandemic, cope up with the current situation, and sustain itself in the long run. A sustainable tourism development strategy is then developed, by taking into account three important dimensions: economic, environmental, and social. In order to do this, a SWOT analysis was conducted by collecting all the data and information from all stakeholders: government, local communities, private sectors, and tourists. The data were collected using a different range of methods such as FGD, observation, and survey questionnaires. Once the SWOT analysis was done, a new strategy to be used further by Patengan Village was all set, combining both technology and sustainable development concept of being holistic, futuristic, and interrelated (integrated), i.e by implementing technology system due to its possible impacts for the tourism and economic sectors.

Keywords: Sustainable tourism development, Community based tourism, SWOT, Covid-19, Technology System.

1. INTRODUCTION

The Covid-19 pandemic has undeniably affected many industrial sectors all over the world, one of which is the tourism industry in Indonesia. At the end of 2020, around 15 million workers in this sector were projected to be affected by the Covid-19 pandemic [1]. This undoubtedly affected Indonesia's Gross Domestic Product (GDP) since tourism is its fourth-largest contributor [2]. A huge impact was also felt in Bandung District, West Java, in which during the first few months of 2020, the tourism industry had to close and potentially suffered huge losses, and even went bankrupt [3], including one of the most known tourist destinations in this region, Patengan Village that dominated the number of tourist visitors in Bandung District by 89% in 2018 [4]. Thus, it is imperative to suggest real possibilities for sustainable and inclusive improvement [5].

Patengan Village is one of the villages located in Bandung District, West Java, Indonesia. It is well-known for its abundant natural resources (from tea plantations, craters, hot springs, waterfalls, lakes, valleys, to deer captivity) [6], making it a center of attraction for tourists, both local and international. Geographically, its location is also very strategic, considering it is not very far from the capital city of Indonesia, Jakarta, where people cannot find many natural attractions to get away from their week-days activities.

To help Patengan Village recover from the impact of the pandemic, a study has been conducted to encourage the locals to apply Community Based Tourism (CBT) by developing a model [7], where the tourism activities in a certain area are run and managed by the locals (community) [8]. However, it is not enough to face this prolonged pandemic. A more holistic strategy has to be designed to help Patengan Village, one that will not only be effective in terms of economy and in a short period of

time but also will ensure the sustainability of the tourism and be able to preserve the natural resources. This new strategy also has to consider the rapid development of technological factor that has affected many businesses, tourism is no exception [9]. This is aligned with the vision of the Ministry of Tourism and Creative Economy / Agency for Tourism and Creative Economy Republic of Indonesia to create Indonesian tourism that is advanced, competitive, sustainable, and prioritizing local wisdom by 2024 [10]. It is also in line with Act No 10 of 2009 about Tourism which states that tourism should aim to improve the welfare of people around the area, increase economic growth, solve unemployment problems, and at last, conserve nature, environment, and resources [11].

To achieve sustainable tourism, development in three dimensions needs to be done, namely economic, environmental, and social impacts [9]. All stakeholders (government, community, private sectors, and tourists) need to be aware of the importance of sustainable tourism development to ensure its success [12]. On the other hand, sustainability could not be achieved unless one is willing to adapt to the constantly changing environment. To be able to present in the business, Patengan Village also needs to follow the technological development that is rapidly increasing [8]. The development should also consider marketing as one of the vital aspects to create not only economic benefit but also sustainable tourism [13] [14], [15].

Therefore, this study highlights the need of creating a more comprehensive strategy of sustainable tourism development in Patengan Village, by conducting focus groups discussions (FGD) with government representatives, community, and private sectors. Participant observations were also conducted in order to gain a deeper insight. Besides, tourists of Patengan Village were involved in this study by participating in online surveys to gain an understanding of their experience while visiting tourist destinations in the village. All data and information collected were processed using SWOT analysis to generate a sustainable tourism development strategy that could be used by Patengan Village in the future.

2. OBJECTIVES

Based on the phenomenon explained, the objective of this study is to develop a sustainable tourism development strategy for Patengan Village, which takes technology implementation into account, by utilizing SWOT analysis. The new strategy hopefully can help Patengan Village's tourism survive, not only the Covid-19 pandemic but beyond. This study will also generate a better understanding from all of the stakeholders' points of view regarding tourism activities in Patengan Village.

3. LITERATURE REVIEW

3.1. Sustainable Tourism Development

Sustainable development is a key concept of development. According to WTO [5], it is defined as "a development that meets the needs of present tourists and host regions while protecting and enhancing opportunity for the future". To achieve successful sustainable tourism development, stakeholders must be involved in order to expand the economy because it has a huge capacity to distribute wealth, contribute to the advancement of emerging economies, and generate income [16], [17].

There are seven main indicators [18] to measure sustainability issues in tourism: workplace creation, business vitality, quality of life and water, waste segregation, energy-saving, and the enthusiasm of the surrounding community. The path to more sustainable tourism consists of a collection of small steps; however, the most important thing is consistency. The first step to build sustainability in the tourism business is identifying the problem. Then, it is necessary to prepare a plan for key steps and strategies. According to [19], sustainable tourism development is to reduce poverty, by respecting socio-cultural authenticity and responsibly using environmental resources, not only by encouraging but also by facilitating and empowering communities to be able to take part in the production process and obtain various direct benefits from tourism activities.

3.2. Community Based Tourism

Community-based tourism (CBT) emerged in the 1970s and was built with the concept of sustainable development because it emphasizes a more comprehensive and equitable development in terms of local community participation [20], [21]. The International Labor Organization defines CBT as a form of business or tourism organization managed by a community; income comes from services offered by the community and tourists can experience the culture directly provided by the community [22]. Furthermore, Spenceley states that CBT is "a project or program, or a collective action, of a group of people in a community who join and decide to participate and develop a small to medium scale local tourism industry" [23].

3.3. Destination Management Organizations

DMO is a complete integrated tourism management system. It has 5 functions; (1) as an economic driver in generating local revenue, employment, and tax revenue that contribute to regional economic growth, (2) as a community marketer in visualizing tourist destinations and tourist activities so that they become choice of visitors, (3) as an industry coordinator that has a clear focus on obtaining results from industrial growth from tourism, (4) as a quasi-public representative that represents the opinions about the tourism industry

enjoyed by visitors, and (5) as a community builder to improve the quality of life [24].

DMO is responsible for the development of tourist destinations in order to achieve a good return on investment, market growth, product quality, brand variety, and benefits for all parties [19]. There are three important components in DMO, namely (1) coordination of tourism stakeholders, (2) destination crisis management, providing oversight of the system through the implementation and management of the program, and (3) destination marketing, spearheading the DMO component. The success of DMO is determined by how marketing destinations can attract as many visitors as possible [25].

3.4. SWOT Analysis

SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) is a research method to analyze the internal and external conditions of certain objects. Also known as SWOT matrix, SWOT analysis has been widely used in business and has also been extended to natural resource management to systematically assess a decision, project, or policy direction [22]. It has also been used to assess sustainable tourism by [26], [27].

4. METHODOLOGY

Primary data were collected in three ways, namely survey questionnaires, Focus Group Discussions (FGD),

and participant observations. FGDs were conducted on several stakeholder groups, namely local communities, private sectors, and government authorities who are active in the field of park management regarding conservation and tourism aspects. Questionnaires were distributed to tourists who have visited Patengan Village. Meanwhile, secondary data were collected from many sources such as government regulation, reports of related ministry, journal articles, and books.

The data collected were processed using SWOT analysis. It was divided into analyzing the internal factors (strengths and weaknesses) and the external factors (opportunities and threats). Two different matrixes were applied: External Factor Estimate Matrix (EFEM) and Internal Factor Estimate Matrix (IFEM) to calculate each factor based on its importance [26] [28]. The factors were assessed using a coefficient between 0 to 1, in which 0 was not important, and 1 was the most important. The more important and more effective the factor to the sustainability of tourism development, the higher the score. The factors were also given a score between 1 to 4, in which 1 was very weak, 2 was weak, 3 was strong, and 4 was very strong. Finally, the scores of each factor were multiplied to gain the final scores. The sum of all total scores determined whether the strength was higher than weakness (for IFEM) and the opportunity was higher than the threat (for EFEM) if the sum of the total scores is higher than 2.5 [26].

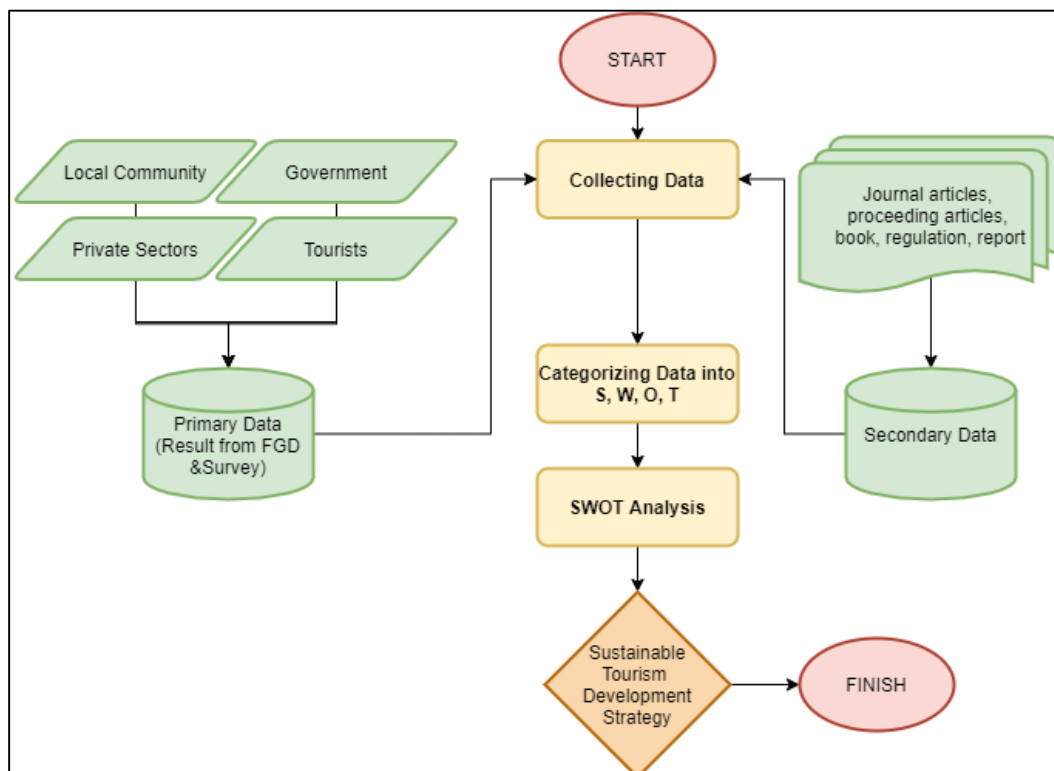


Figure 1 Research Process

5. RESULT

The primary and secondary data were collected in the first step. The primary data were obtained by conducting an FGD through an online platform (due to pandemic) on June 28th, 2021, and a survey questionnaire to 128 participants who have visited Patengan Village. The information of the participants involved is shown in Table 1.

Table 1. Participants of FGD

Name of Participant	Occupation	Length of Work
Moheem	(Government Representative) Bandung Regency Tourism and Culture Official	>12 years
H. Asep Amir	Head of Patengan Village (Local Community) Head of Citizen Association 04	>10 years >10 years
Ayep	(Local Community) Head of Citizen Association 16	2 years
Iwan	(Local Community) Head of Hamlet	>10 years
Ridwan	(Local Community) Head of Youth Organization for Patengan Village	1 year
Husep	(Private Sector) Employee of Situ Patengan	7 years
Dede	(Private Sector) Employee of Walini Hotsprings	>10 years

Name of Participant	Occupation	Length of Work
Madru	(Private Sector) Employee of Cimanggu Hotsprings	>10 years
Faisal	(Private Sector) Employee of Cibuni Crater	>10 years
Wendi	(Private Sector) Employee in Rural Office	6 months
Andriana	(Private Sector) Travel Agent	>10 years

All data were then categorized into both external (opportunities and threats) and internal (strengths and weaknesses) categories. After that, SWOT analysis was conducted using two different matrixes mentioned previously. Both of the matrixes are shown in Table 2 and 3 respectively.

5.1. External Factor Estimate Matrix (EFEM)

FGDs and questionnaire surveys result in 7 (seven) opportunity factors that Patengan Village has. Support from the local government and provide many job opportunities show the highest score while the village's strategic location is the lowest. The effectiveness score for the opportunity factors ranges from 3 to 4, showing that those factors are all considered effective and very effective to develop sustainable tourism of Patengan Village. On the other hand, there are 5 (five) external factors of threats. The conflict of interest between stakeholders related to tourism activities holds the highest score of 0.25 while the lowest score of 0.5 is for two other factors. The effectiveness score ranges from 2 to 4. The final score is 3.16 (higher than 2.5) which means that for external factors, the opportunities that Patengan Village has to succeed in developing sustainable tourism are bigger than the threats. Table 2 shows the analysis of external factors.

Table 2. External Factor Estimate Matrix (EFEM)

External Factors	Score	Effectiveness Score	Final Score
Opportunities			
1. Located near the capital of the Province, Bandung district is often chosen to be a tourist's spot for holiday	0.04	3	0.12
2. The market for domestic and international tourism is quite large	0.06	4	0.24
3. There is support for area conservation and sustainability of natural tourism	0.08	4	0.32
4. Internet is massive in this era	0.07	3	0.21

External Factors	Score	Effectiveness Score	Final Score
5. Support from local government	0.10	4	0.40
6. Income generation from tourism to enhance the area conservation	0.08	4	0.32
7. Many job opportunities for the local community	0.10	4	0.40
Threats			
1. The pandemic such as Covid-19 that affects the tourism sector	0.08	3	0.24
2. Pollution and waste caused by vehicle traffic and lack of visitor's responsibility	0.04	4	0.16
3. Most of the tourists' attractions in the area are privately owned	0.05	2	0.10
4. Conflict of interest arises related to tourism activities	0.25	2	0.50
5. Prone to uncertain natural disaster	0.05	3	0.15
Total Score	1	-	3.16

Table 3. Internal Factor Estimate Matrix (IFEM)

Internal Factors	Score	Effectiveness Score	Final Score
Strengths			
1. Various types of tourism activities	0.06	4	0.24
2. Abundant natural resources and green spaces	0.14	4	0.56
3. Strategic mobilization route for tourists	0.08	3	0.24
4. Nice climate and weather	0.04	3	0.12
5. Warm attitude of the locals	0.06	3	0.18
6. Community based tourism is implemented	0.08	4	0.32
Weaknesses			
1. Narrow road-access	0.02	2	0.04
2. Online booking system for tourist activities is unavailable	0.10	1	0.10
3. Lack of awareness regarding eco-tourism	0.03	1	0.03
4. Lack of accommodation such as hotels or guesthouses	0.09	2	0.18
5. Public transportation option is very limited	0.09	1	0.09
6. Lack of professional tourism employee that is well-trained for sustainable tourism	0.21	1	0.21
Total Score	1	-	2.31

5.2. Internal Factor Estimate Matrix (IFEM)

As shown in Table 3, 6 (six) internal factors are considered as the strength of Patengan Village. The

highest score of 0.14 is given to the abundant natural resources and green spaces factor. Meanwhile, the lowest score of 0.04 is given to the nice climate and weather factor. The effectiveness score ranges from 3 to 4. Regarding the weaknesses, the highest score of 0.1 is for the unavailability of an online booking system and the lowest is 0.02 for the narrow road access factor. The effectiveness score ranges from 1 to 2. To sum up, the total score of IFEM is 2.31, which is lower than the cut-off value of 2.5. It means that in the current time, Patengan Village has more weaknesses than strengths to be ready to develop sustainable tourism.

5.3. SWOT Analysis and Strategy Development

According to the process and the outcome of internal and external factors analyses, Patengan Village has more opportunities than threats to create sustainable tourism. However, since its weaknesses are dominant, a more comprehensive and concrete strategy needs to be developed. In line with Reihanian's study [26], Patengan Village might have all the potential to be sustainable, but its tourism sector has not been well-developed and is not ready to support the development of sustainable tourism.

Therefore, SWOT analysis then was utilized to develop 4 types of strategy. First, the SO strategy; Patengan Village can maximize and use its strengths to capture the opportunities. Second, the WO strategy; Patengan Village has to overcome its weaknesses to capture the opportunities. Third, the ST strategy; Patengan Village has to find ways to utilize its strengths in order to avoid or minimize the impact of threats. Last, the WT strategy; Patengan Village has to make a defensive plan to prevent its weaknesses that will make it very susceptible to threats. The strategies gotten from the SWOT analysis are shown in Table 4.

Table 4. Sustainable Tourism Development Strategies for Patengan Village

Type	Strategy
SO	<ol style="list-style-type: none"> 1. Create a comprehensive marketing program to promote various types of tourism (go digital – a website, e-commerce, social media), prioritizing the ones related to nature, to attract tourists from Bandung and Jakarta. 2. Enlarge the area conservation's scale and level by optimizing the local community's role and taking advantage of the potential income from tourists.

Type	Strategy
WO	<ol style="list-style-type: none"> 3. Consider the climate and weather factors when planning tourist activities. 4. Considering the warm attitude of locals, plan a traditional type of tourism to preserve the culture for sustainable tourism development. This will also help to attract more non-domestic tourists. 1. Promote tour packages online. Create a website, social media accounts, or travel e-commerce to help promote Patengan Village faster and attract a wider range of potential consumers. 2. Coordinate with the local government regarding the plan to create sustainable tourism for the area, including training for the local community and employees. 3. Build more accommodation such as hotels, motels, or guest houses for tourists to stay longer. 4. Generate ideas to create tour packages that already include pick-up service from some main points in Bandung such as airport, train stations, etc.
ST	<ol style="list-style-type: none"> 1. Create a tourism system that strictly implements safety and health protocols. It is very possible since most of the tourist areas are in open spaces. To avoid a big impact of possible natural disasters, safety routes and points are also needed to be established. 2. The annual/routine discussion with all stakeholders needs to be conducted. In order to do that, the community can be the one who suggests it to prevent conflict of interest between the parties.

Type	Strategy
WT	3. Build environmental stations and plan the patrols to minimize pollution and avoid waste management errors.
	4. Educate the local community and tourists attractions' staff to maintain cleanliness in the tourist area. Perhaps, establish sanctions.
	1. Use technology to promote virtual tourism activities which also can be used later when the pandemic is over.
	2. Develop roads and routes to avoid the traffic that could create pollution when the holiday season or weekend comes.
	3. Create an aspiration platform for the community to intensively communicate with the government and private-owned business players.
	4. Regulations related to Corporate Social Responsibility (CSR) program for private-owned businesses around the area need to be reviewed. CSR programs better focus on improving the welfare of the environment around the area.

6. CONCLUSION

Patengan Village has great opportunities to become a sustainable tourism area. One of the best potentials is the beautiful landscape and numerous natural resources. However, some issues are found from the FGD sessions that make Patengan Village not fully ready to develop sustainable tourism. The issues have been analyzed using SWOT analysis, and the strategies have been established. The main obstacle found is technology. Whereas, technology is making great strides in providing support to ensure sustainable development across various sectors. Tourism, like any other industry, must strive to innovate for survival in an ever-growing competitive market environment.

To become a sustainable tourism destination, all strategies highlight some important points, such as the importance of technology for promotion activities and developing innovative tourism attraction, conservation-oriented, better infrastructure and accommodation; education and training for all stakeholders including the tourism's staff, the local community, and tourist, the

maximum role of the local community; and increasing environmental and economic awareness.

However, the main strategy proposed to Patengan Village is based on Strengths and Threats (ST) in which the village should establish a virtual tourism system as an innovation of the ICT-based tools to enhance competitive advantage. This strategy should be implemented in the near future considering its possibility and its impact on the tourism and economic sectors. All stakeholders should be involved to ensure that the village able to implement this strategy. It can be concluded that both technology and sustainable development concepts share the common principles of being holistic, futuristic, and interrelated (integrated). Education and training are needed for the tourist attraction's management, staff, and the local community in order to build this system. Hopefully, by implementing this strategy, Patengan Village could survive this pandemic while preparing for another strategy to become a sustainable tourism area.

AUTHORS' CONTRIBUTIONS

NW conceived the original idea by also discussing it with LS and WS. NW participated in the design of the study and performed the literature survey. LS and WS carried out the literature survey and polling and wrote the manuscript. WS conceived of this study and participated in the design. NW, LS, and WS contributed equally to the manuscript, and order was determined by following the commands from NW. All authors read and approved the final manuscript.

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