

Smart Tourism Development Post Earthquake and Covid 19 Pandemic in West Nusa Tenggara

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ABSTRACT

One of the strategies that can be used to increase tourist visits after the earthquake disaster followed by the COVID-19 pandemic to West Nusa Tenggara is to utilize and apply information technology which is also known as the concept of smart tourism. This article aims to discuss smart tourism programs and applications in NTB. SWOT and Pest analysis method used to determine the relationship between external opportunities and internal strengths as well as internal weaknesses with external threats. Data was collected from interview with government tourism officer, observation and documentations. The results of the analysis can be used by the government or related parties in determining the direction of tourism development in NTB.

Keywords: Smart Tourism, Tourism Development

INTRODUCTION

The presence of technology has created a new environment in the industrial world including the tourism industry. With the 4.0 technology set up will give disruptive effect on the face of tourism industry. Technological advancements allow cost value (more for less) to achieve, experience value (personalized) where technology creates the creation of services and products to meet customer's individual requirements which will ultimately provide an experience value to the customer, the values (resources sharing) platform. Platform Connect those who need a service with those willing to provide it and to direct new sources of data to those who can act upon it.

By utilizing the advancement of ICT such as big data, internet, cloud computing, and artificial intelligence tourism selling value can be improved. It encourages the development of tourism trends in a number of countries in the world where they begin to prepare for the development of technology-based tourism or also known as smart tourism or tourism 4.0. Smart tourism destination refers to a platform that integrates information on tourism activities, consumption of tourism products and the status of tourism resources delivered to the tourists, companies and organizations through a wide range of user devices (Huang & Li, 2011).

The principle of SMART Tourism destinations is to improve the tourist travel experience, provide a smarter platform for collecting and distributing information related to tourist



destinations, efficient allocation of tourism resources and to integrate tourism service providers at the micro and macro levels with the aim of ensuring that the benefits of the sector will be distributed to the local community (Put-Van den Beemt & Smith, 2016).

The term smart tourism has been submitted by various organizations including China's State Council of Chinese Central Government, United Nations World Tourism Organization (UNWTO) in 2009 (Huang & Li, 2011) and by The Organization for Smart Tourism in the UK in 2011 (Li et al, 2016). Smart tourism concept emerged as development of smart city development concept. Fundamentally, the concept of smart tourism has three characteristics which are (1) presenting the merger of tourism industry with information and communication technology, (2) The social interaction between tourists and local residents, and (3) the connection between various stakeholders related to the development of tourism industry (Park, Lee, Yoo & Nam, 2016).

Meanwhile, according to Koo, Yoo, Lee, and Zanker (2016), smart tourism consists of four core components. The first component is related to the various infrastructures and technologies that must be provided (Internet, data analysis, virtual reality, mobile). These components relate to a wide range of business models to demonstrate how the smart tourism value should be generated. The man-machine interaction component is related to how visitors can use a wide range of services to obtain the quality of tourism services through interaction among tourists, connected objects, and based on real-time data analysis. The last component is system and management, evaluating how smart tourism values can be optimized and managed strategically at every level of tourism and individual organizations.

The smart tourism tool is a combination of hardware, software and mobile network that allows interactivity among travelers, stakeholders and physical objects. This device can facilitate the access of tourists in real time information. Tracking and collecting data using this system allows stakeholders to make decisions about the management of areas of tourism destinations can be done effectively and efficiently.

For the success of smart tourism development, it needs to pay attention to important elements such as tourist attraction homepage, smart vehicle-scheduling, personal-itinerary design, free Wi-Fi, smart cards, intelligent-guide system, crowd handling, mobile payment, tourist-flow monitoring, online information access, travel safety protection, e-Tourism recommendation system, and real time traffic broadcast (Wang, Li, Zhen, & Zhang, 2016). There are four aspects to evaluate smart tourism, there are smart infrastructure, smart management, smart service and smart marketing. The pandemic of Covid-19 affects these four aspects (Tingdan, Zhijun & Jun, 2021).

Several advanced countries in Asia increase their selling value of their tourism industry by implementing smart tourism such as South Korea, China, Taiwan and Japan. (Widjaja, Hery & Taringan, 2016; Gretzel, Sigala, Xiang, & Koo, 2015; Wang, Li, & Li, 2013). Similarly, Indonesia, one of the contributors of the country's revenues comes from the tourism sector. Tourism is one sector that is the mainstay of the government to generate regional income and expansion of employment opportunities, in addition to introduce national and regional identity and culture. Tourism development can be done



by expanding and utilizing the potential of regional tourism (Rawung, Salindeho & Maniri, 2019). Some tourist destinations in Indonesia also started to implement smart tourism.

West Nusa Tenggara is as one of the world's halal tourist destinations and one of five super priority destinations in Indonesia. Mandalika, special economic zone of West Nusa Tenggara, is one of the five super priority tourist destinations being developed by the government of Indonesia. Mandalika not only has beautiful beaches, but also natural scenery, culture and the development of Mandalika is also directed to support automotive-based tourism and sports such as surfing and MotoGP. Apart from Mandalika, the development of super priority tourism on the island of Lombok will be followed by Senggigi, three Gilis, Rinjani, the South Coast Area, Samota, Ampenan Old town and 99 tourist villages. The tourist villages divided into 6 categories, 9 Ekraf tourism villages, 14 cultural tourism villages, 24 natural tourism villages, 18 agro tourism villages, and 34 marine tourism villages.

In the midst of the rapid development of tourism, West Nusa Tenggara has managed to become one of the world's favorite destinations, it is unfortunate that tourism has experienced crisis lately. The number of tourist visits to West Nusa Tenggara has decreased drastically in recent years. In 2015, the number of tourist visits reached 2.51 million people, in 2016, it increased to 3.1 million people, in 2017, it reached 3.8 million people yet in 2018, it fell to 2,8 million people. This decrease was due to the earthquake that hit West Nusa Tenggara in 2018. When the number of visits began to increase again by 3.7 million people in 2019 during the recovery period after the earthquake. West Nusa Tenggara was hit by another disaster, it is pandemic of Covid-19, since march 2020. This makes tourism of West Nusa Tenggara slumped again and the number of tourists has fallen significantly.

The existence of a pandemic has changed the behavior of tourists and has a negative impact on their mental (Aman, Abbas, Mahmood, Nurunnabi & Bano, 2019; Bauer, et. al., 2021; Park et al., 2019; Jaffar Abbas, et al., 2021). Prospective tourists will think twice about taking trips to tourist attractions. The existence of an outbreak, the fear of contracting the COVID- 19 virus and the desire to avoid contracting the virus while traveling have made them cancel their tour plans (Mamirkulova et al., 2020; Avery, 2017; Meadows et al, 2019). In the new normal period, increasing stress in the face of a pandemic and boredom due to strict restrictions from various countries make people who want to travel to domestic tourist destinations compared to abroad. A survey conducted by Pegi Pegi on 900 respondents showed that 91% of respondents made domestic destinations the main choice and the choice of nature tourism or anti-crowd places and culinary tourism became the most popular tourist destinations. This preference for domestic or close-to-home tours is a good advantage for revitalizing the tourism sector.

Innovation and diversification of promotional activities and programs supporting the recovery of the tourism sector must be carried out. The development of tourist object is carried out with a more focus through the systematic arrangement and development of various tourist objects by completing all the supporting facilities (Runtunuwu,2020). In addition to innovation in fulfilling the Cleanliness, Healthy, Safety and Environment (CHSE) Protocol which is integrated among access, amenities and attractions, the



acceleration of digitization must also be utilized optimally. Business actors in the tourism sector are required to be able to adopt digital technology quickly in order to survive in the midst of a pandemic. For example, using electronic word of mouth about destination existed can lead better customer's attitudes were formed and this positive attitude will lead to the purchase of a destination (Pour, Darani & Ali, 2020). The smart tourism concept can be further applied in rebuilding slumped tourism as has been done by South Korea, Vietnam and Australia by implementing the use of Big Data.

This article is trying to discuss the analysis of smart tourism in West Nusa Tenggara by using SWOT analysis and PEST. How is the program and application of smart tourism in West Nusa Tenggara, assuming that tourism in West Nusa Tenggara can be one of the world's tourist destinations that has a competitive advantage by implementing smart tourism concept in the development of its potential tourism.

RESEARCH METHOD

The method used in this research is a qualitative method, where data is obtained from observations, interviews directly with tourism officials and from other secondary data such as scientific articles, government policies, websites and other documents. Data analysis techniques using SWOT analysis (analyzing strengths, weaknesses, opportunities and threats) and PEST analyses (analysis of the external environmental factors of the business covering the areas of politics, economics, social and technology).

RESULTS AND DISCUSSION

Tourism and ICT at NTB

West Nusa Tenggara Province is one of the provinces in Indonesia that has two islands, Lombok and Sumbawa, which are not only rich in minerals, but also has the natural and cultural beauty of the Sasak tribe, Samawa and Mbojo (SASAMBO). It is also called the Pearl of the east. West Nusa Tenggara is strategically located in terms of the golden triangle of tourist destinations in Indonesia (east of Komodo Island, north of Toraja and the west of Sulawesi). Noticing the tourism potential owned by West Nusa Tenggara, the government of Indonesia established it as the gateway to Indonesia's tourism in the Master Plan of accelerating economic development of Indonesia (MP3EI).

To support the development of tourism, government established 6 priority models of tourism development in support of the economic growth and welfare of the West Nusa Tenggara community. The six models of West Nusa Tenggara's mainstay and strategic tourism is the development of tourism of small islands, the development of Mandalika Special Economic Area, the development of Rinjani UNESCO Global Geopark, the development of Tambora Geopark Nasional, the development of halal tourism, the expansion and establishment of 99 Tourism Village.

The strategic Program of tourism development of West Nusa Tenggara in accordance with the local regulation Number 7 of 2013 on the district Tourism master plan 2013-2028 which emphasizes on 4 aspects of regional tourism development that is tourist destination, tourism marketing, tourism industry and tourist organization.

Some current tourism flagship programs include the development of Lombok as a halal tourist destination and the first medical tourism in Indonesia, the 99 tourisms village and The Mandalika as a maritime tourist and sport destination. Supporting facilities of various flagship programs West Nusa Tenggara continue to improve from the provision and improvement of infrastructure both for accommodation, public service, the addition of flight routes, the manufacture of new ports, repairs and extension of roads and bridges that connect the islands of Lombok and Sumbawa. In addition to infrastructure, the Government also develops an improvement in the tourist experience by conducting a variety of cultural events and the provision of information centers both online (website, social media, tourism applications) and offline (Information Service center). Although in the course of short-term tourism development, there has been no design in the development of smart tourism in particular, but in some programs and service improvement has led to smart tourism. One of them with the start of developing smart city program in several cities in West Nusa Tenggara.

Data Analysis with SWOT

Data that has been collected in the analysis using SWOT analysis. SWOT analysis is used to help plan strategies and implement strategies to achieve goals. Analysis and diagnosis are conducted on the organization's internal and external environments. Environmental analysis is a process of monitoring conducted by the environmental sector strategy drafting to determine the opportunities (opportunities) and threats, while environmental diagnosis is a managerial decision required by assessing the significant chance and threat data from environmental analysis.

Analysis of Strengths

Smart Infrastructure

Internet network available has reached the entire area of the island of Lombok where the number of Base Transmission Station (BTS) has been built to 52 units and BTS 3G as many as 200 units with a broadband network capacity of 2 Gbps. The local government of West Nusa Tenggara together with stakeholders has prepared several infrastructures to support the implementation of smart tourism, namely the official website of the West Nusa Tenggara Tourism office and social media which is used to continue promoting both in the post-earthquake and during the pandemic. The existence of Halal Tourism Enchantment Application Lombok Sumbawa. It is a one stop shopping owned by West Nusa Tenggara in cooperation with Telkomsel. With that application, people and tourists can get any information related to tourism. For example, complaints against destinations visited, accidents, congestion or conditions in the tourism site. People can also provide a rating for the location or tourist attraction that is visited according to their respective perception. In addition, people can also get information on all the tourism in West Nusa Tenggara, started from destination attraction to information about halal certification in all merchants belonging to the application. People and tourists can also make transactions and reservations in all merchants in the Halal Tourism application. Internet network available in West Nusa Tenggara has reached the entire area of the island of Lombok. To ensure the safety of tourists during the pandemic and anticipate the spread of the COVID-19 virus, the Cleanliness, Healthy, Safety and Environment (CHSE) Protocol which is

integrated among access, amenities and attractions has been implemented. Providing hand sanitizer, providing a place to wash hands, providing masks and gloves as well as smart body temperature checking has been applied to tourist attractions, restaurants, hotels, airports, bus stations, ports, shopping centers and ATMs. In addition, the government in collaboration with the private sector also conducts rapid tests at certain times for free at markets, malls, public roads (drive thru test). Provision of evacuation route signs or guidance at shopping centers and tourist spots, tsunami early warning applications, education related to evacuation methods from earthquakes and tsunamis as well as education related to health protocols during the pandemic through short message service, billboards and LED display (videotron). Making a sign separating the distance between visitors in places where there are queues such as ticket counters at tourist attractions or cashiers at restaurants and shopping centers. The use of barriers made of glass or plastic in the cashier room and ticket counter.

Smart Management

Due to the earthquake and the outbreak of covid-19, people have become more selective in choosing tourist destinations. Travel behavior has changed. People will tend to prefer to visit places with a small level of human interaction. Therefore, the number of tourists, especially during high season, such as holidays at tourist attractions or shopping centers, will be adjusted to the number of tourists. Tourists will prefer to use electronic payments and online ticket purchases. To support service and convenience for visitors, at several tourist attractions, hotels and restaurants provide contactless self- service ticketing (parking, hotel check-in, self-check-in machine in airport, e- boarding pass), traffic information related to routes or areas that closed during the pandemic.

Smart Services

Smart services are available to provide satisfaction and convenience for tourists such as the official website which contains information related to tourism in west Nusa Tenggara, information related to accommodation, restaurants, hospitals, shopping centers, transportation and others. In addition, applications to facilitate tourists are also available. It is the existence of Halal Tourism Enchantment Application Lombok Sumbawa. This application makes it easy for people and tourists to get any information related to tourism. For example, to complain destinations visited, accidents, congestion or conditions in the tourism site. People can also provide a rating for the location or tourist attraction that is visited according to their respective perception. In addition, people can also get information on all the tourism in West Nusa Tenggara such as destination attractions and information about halal certification in all merchants belonging to the application. Tourists can also make transactions and reservations in all merchants in the Halal Tourism application.

Smart Marketing

During the pandemic, the government and tourism actors have limitations in marketing and promoting tourism products. The existence of a pandemic encourages marketing and promotion to be done online or by integrating online and offline marketing. NTB tourism promotion is carried out through media platforms using 3rd party services such as e- commerce. The government and stakeholders have used websites and applications to facilitate tourism promotion and marketing. Entrepreneurs in the tourism

sector use mobile apps in real time to offer services and products, price promotions and online orders.

Analysis of Weakness

1. There is no master plan in the development of smart tourism.
2. Lack of government funding allocation to support the development of smart tourism in NTB.
3. There is a gap in the use of ICT in the community, both in the community around tourist destinations and in society in general, government institutions or other institutions or parties related to tourism.
4. Currently there is a blank spot area in West Nusa Tenggara as many as 120 dots. Even if only a few are nil, but the signal is still minimal (H +, 3G), yet 4G so needed a signal upgrade tool at some point.
5. In the development area of KEK Mandalika in central Lombok, there still 15 villages from 139 villages which have blank spot, and 12 villages becomes the location where moto GP will be held.
6. Public tourism information is still limited and less up to date. Information and education related to earthquake response and covid-19 protocol covid is not available on the official web and existing applications.
7. The implementation of ICT in Indonesia to promote tourism is still not optimal. This is sown in the report of The World Economic Forum (WEF) where Indonesia is ranks 91 in terms of the readiness to implement ICT. Based on the results of the recapitulation of the distribution of tourism website in Indonesia, it shows that West Nusa Tenggara is ranked 18 where the distribution of tourism website in Indonesia is 3 with a percentage of 2.3% (Murtadho, et al, 2011).
8. Evaluation in effectiveness of tourism information publication is very rare.
9. The readiness of ICT infrastructure not mature and still constrained funding.
10. The Government is good enough to understand the potential of the region is just not yet a definite program of tourism development towards smart tourism.
11. Integration program of local culture and tourism has been designed and implemented since the last few years has not been implemented optimally.
12. Lack of data even though the mapping of tourism potential has been carried out by the government.
13. The existence of autonomy for each district in the management and development of tourism makes tourism development seem to be developed separately between destinations in one district and destinations in other districts.
14. Limited program and authority of the provincial Tourism office in the Development of tourism program.
15. The data management is not maximized and does not have a tourism-related data bank. To make smart tourism planning in West Nusa Tenggara should get data from various sources.
16. There is a separate authority in tourism development between the institutions that carries out tourism promotion (Tourism promotion Agency) and the government agencies.
17. The lack of human resource in the tourism sector, especially in the field of network and Internet or other skills to support the utilization of 4.0 technology in tourism.
18. There is no monitoring and control system related to the development of smart

tourism.

Opportunities Analysis

1. Nationally, the tourism sector is a priority program, it is also one of 5 priority sectors of development in infrastructure, food, energy, maritime, industrial area and special Economic Area. The new leading sector which is now in the development phase is Mandalika tourism Special Economic Zone. The Mandalika is a marine tourist destination and world class sport destination in Indonesia. In addition to The Mandalika, West Nusa Tenggara also developing and archiving 99 tourism Village as one of the smart destinations.
2. The tourism sector is the largest foreign exchange producer in Indonesia and as one of the local contributors of income. In 2017, economic growth of West Nusa Tenggara reached 7.1% beyond national economic growth (5.6%) Although in 2018 contracted minus 4.56% due to the earthquake disaster.
3. West Nusa Tenggara further established its position as a national tourist destination, as well as investment objectives in the field of tourism in Indonesia. This tourism sector becomes the highest contributor of investment in the region of NTB in 2017 (growth of 22%). The realization of investments in the 1st quarter of 2019 reached Rp. 939.1 billion from both foreign and domestic capital investment (tourism and mining sector).
4. Increasing traveler visits. In 2017, the number of tourists reached 3,508,903 people, in 2018, reached 2,812,379 people (caused by the earthquakes) and 3,706.352 people in 2019.
5. The concept of smart tourism can be used to make tourism a key to development and welfare.
6. Tourism is one of the economic sectors of the largest and fastest growth in the world.
7. Searching for tourist destination in West Nusa Tenggara via online has increased.
8. West Nusa Tenggara is very potential to be a smart tourism destination because it has many tourism objects that are still in the process of exploration and development.
9. Tourism promotion can be done through the travel agency website.
10. Installing CCTV in several tourist destination to monitor tourist traffic and ensure the level of tourist safety.
11. There is an increase in reviews about West Nusa Tenggara tourism on the internet (vlogs, blogs, and TikTok).
12. Promotion through digital Cinema/short film uploaded on YouTube and national and international TV.
13. Digital marketing through partnerships such as Lombok Travel Mart.
14. Using the Ambassador in digital media such as in collaboration with well- known vlogger, international artists and others.
15. Expanding the network of tourism marketing partnerships.

Analysis of Threats

1. Competition with other provincial tourism and even other countries.
2. Online transaction payment and security features.
3. The display Graphics Online Marketing of other areas which are more attractive.
4. Information on the website is rarely updated and does not consistently display



- information related to disaster mitigation, health protocol and information related covid-19 in tourism destination.
5. The inclusion of foreign cultures contrary to ancestral culture.
 6. Implementation of ASEAN Free Trade Area (AFTA) and ASEAN Framework Agreement on Services.
 7. The lack of funding can hinder the implementation of smart tourism.
 8. Immature smart tourism planning.
 9. The impact of Covid19 virus and natural disasters hinder the development of tourism.
 10. Lack of support, commitment and active role of government, related institutions and the community in the development of smart tourism can affect the sustainability of ICT-based tourism.
 11. Limited ability of the government to provide free internet access in public places and places of attraction.
 12. Incomprehensive, not well-targeted, and disintegrated branding strategy.

The Ministry of Tourism and Creative Economy not only focus on tourism branding to achieve target of tourist visit but also needs to set clear targets, the attraction should be clear to whom so that the target is not only increasing the quantity of foreign tourist, but also the quality of the tourists.

SWOT Analysis

<ol style="list-style-type: none"> 1. Easy access to search tourism object information online that can later increase tourist visit. 2. Improving NTB economy through Smart Tourism 3. Developing tourism objects through smart tourism. <p>(S-O)</p>	<ol style="list-style-type: none"> 1. Creating Integrated tourism applications 2. Optimizing of NTB tourism official website, social media account used for tourism promotion and tourism related information provider NTB 3. Increasing the number of tourism websites and completing the features of the website such as FAQs and chat rooms and always update the existing input. 4. Increasing the ranking of NTB tourism search traffic with the optimization of Search Engine Optimization (SEO) on the NTB tourism website. 5. Increase Tourist Information Center in each city and district or strategic location to facilitate tourism information related to tourism, culture, accommodation, transportation and other public facilities 6. Minimizing the provision of ICT support facilities among region
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	<ol style="list-style-type: none"> 7. Prepare ICT conscious community to support smart tourism. 8. Assisting the Government by providing data needed by tourists 9. Creating an integrated tourism system to facilitate the transfer of data such as website consists of the hotel, airline, travel agent and restaurant information 10. Cooperation between NTB tourism Office, National Tourism Promotion Agency of NTB with travel agent in tourism promotion and increase the traffic rankings of NTB tourism. 11. Making digital cinema-related culture as tourism promotion media. 12. Integrating halal tourism with smart tourism <p>(W-O)</p>
<ol style="list-style-type: none"> 1. Improving the comfort and ease of tourism by improving the facilities in tourist destinations or tourist attractions. 2. Increasing market share by using smart marketing concept such as using digital marketing through social media, website, and Android application. 3. Establishing cooperation with media (Google, YouTube, and Instagram), local television, national and foreign, and print media (magazines, newspapers). <p>(S-T)</p>	<ol style="list-style-type: none"> 1. The availability of tourism - related data and other supporting data. 2. Integrating between smart city and smart tourism program 3. Due to the cultures of West Nusa Tenggara is a part of tourism attraction, therefore, it is necessary to integrate the local culture and tourism data. 4. Surveying the potential culture 5. Being transparent in doing data publication 6. To improve the quality of services in tourism, it needs to co-ordinate and collaborate between businesses and local governments. <p>(W-T)</p>

PEST Analysis

PEST analysis is an analysis of business external environmental factors covering the areas of politics, economics, social and technology (Ward and Preppard, 2002, pp. 70-72). PEST analysis is used to assess the situation, marketing plan or idea. This analysis can describe new opportunities or threats for the company.

Political Factors

1. Covers legal matters, formal rules and information from the Government and policy.
2. With the enactment of Law number 22 of 1999 about the local government, then the authority to develop the tourism should be located in the region and not only centered in the capital. There is autonomy to develop tourism in their respective areas. The area can promote its own territory to become a tourist destination according to the superiority of their respective regions. Therefore, the area has the opportunity to design the development of desirable tourism such as smart tourism, health tourism and sustainable tourism.
3. Various problems in Indonesian politics such as politicians involved corruption cases, competition among parties of the unhealthy political, fading the values of Pancasila in the life of society and politics, or other problems that can affect the tourism industry. These issues can lead to corruption, collusion and nepotism in the tourism industry.
4. The tourism industry is always at the same age to face the situation and condition of Indonesian politics are unstable.
5. The number of foreign tourists visit may increase with the increase in the number of countries that have easy access to Indonesia without a visa due to the validity of government policy in the form of visa free visit (BVK) policy for 169 countries.
6. From the social aspect, community culture and environmental protection, as well as the post-occurrence conditions of the Earth's disaster and covid-19 outbreaks, tourism development needs to pay attention and adjust again based on the main arrangement in the Law number 10 of 2009 on tourist tourism, and protection component in Law number 26 of 2007 on spatial arrangement, Law number 32 of 2009 on environmental protection and management. Some of the provisions of the law still have substances that have not been responded to. In addition, the government of West Nusa Tenggara and Local government of district and city do not have yet an innovative and progressive policy to implement sustainable tourism that demands the balance of economic, environmental, social and cultural society.
7. Various problems and challenges such as the current condition of NTB tourism industry that is still in the post-earthquake recovery phase and outbreak of covid-19, the competitiveness of destination, the competitiveness of tourism human resources, infrastructure development and the exploitation of other natural resources become a burden that is potentially inflicting violations. To overcome these problems, it needs an integration of various potentials and superior sectors by realizing the Sustainable Development Goals and the basic principles of tourism development in the province of West Nusa Tenggara No. 7 of 2013 about the master plan of regional tourism development of 2013-2028 and setting local regulations No. 2 of 2016 about Halal tourism.
8. Consistency of provincial government and district government is required in the law enforcement (evaluation and formation), implementation of law, policy innovations

and sustainable programs with partnerships or active involvement of the private sector, community institutions, educational institutions, and elements of general public.

Economic Factors

1. Economic factors include all factors that influence the purchasing power of customers and influence the climate of a company's business.
2. Based on the results of the Bank Indonesia Survey (2019), West Nusa Tenggara tourism contributes to low gross Regional domestic product, the contribution of the food and beverage accommodation provider only 1.97%. Foreign tourists who come to the NTB are mostly backpackers, long-term foreign tourists in NTB are relatively few where according to survey of July-August 2019 showed long-term foreign tourists only spend their vacation in 3 days and the average of their expenses in 1 trip around IDR 5.5 million. From the results of the survey also gained a few foreign tourists who shop souvenirs when compared to the archipelago tourists. This could be the result of NTB tourism which is still in the post-earthquake recovery period.
3. To improve the tourism sector in NTB, which has many tourism objects and has the potential to be developed, the government makes West Nusa Tenggara as one of the priority tourism programs. With this program, there is an increase in its special investment in Mandalika for IDR 1.3 billion (real estate investment).
4. West Nusa Tenggara is listed in the Indonesian government program "5 Super Priority tourism destinations". Therefore, the Government has added the budget for the development of the priority tourism destination of IDR 2.98 trillion to IDR 6.34 trillion in the state budget 2020. Additional budget for the development of five super priority tourist destinations will be given to six related ministries or institutions consisting of Ministry of tourism, Ministry of Public Works and People's Housing (PUPR), Ministry of Transportation, Ministry of Forestry and Environment (KLHK), the Ministry of Villages and Regional development disadvantaged (PDT), and the Creative Economic Agency (BEKRAF). Target development of basic utilities and supporting infrastructure (spatial, access and connectivity and other facilities) 5 priority tourist destinations is completed in 2020.
5. The results of mapping assessment of the potential industrial elections of West Nusa Tenggara region mentioned that tourism has the potential to become a source of new economic growth. West Nusa Tenggara's tourism growth is believed to be able to absorb more labor and create a larger economic growth center.

Social Factors

1. Social factors include all factors affecting the need and size of market share.
2. The lack of human resources around destinations. Therefore, the tourism office conducts human resource development programs in rural tourism villages so that people can better support the development of tourist destinations.
3. Tourism provides pressure on improvement of tourism industry, community life pressure, social value change, community culture and degradation of environmental quality.
4. Community leaders, local governments and the community have not played a maximum role in providing the understanding of the influence of incoming foreign cultures that can damage the social life of the local community.
5. As one of the aspects developed in the tourism industry, the management of local



culture is still not optimal.

Technology Factors

1. Technological factors include everything that can help in facing challenges and supporting business process efficiencies.
2. Smart tourism can provide easy access to obtain information related to tourism, socio-culture in tourist destination. With smart tourism, tourist attraction, government departments and Information service centers can synergize and integrate in promoting tourism development.
3. The utilization of information technology in tourism development is carried out by inputting data about tourism objects, hotels, and lodging around tourist destinations, events that are often held, cultural uniqueness, local traditions, and travel guide routes.
4. Unavailability of ICT infrastructure to support the development of smart tourism
5. Development of smart city that can support smart tourism has not run optimally and the program in the smart city does not support the development of tourism.

Strategies for Utilizing Tourism Recovery Through Smart Tourism

Based on the swot and pest analysis that has been carried out, the tourism recovery strategy for West Nusa Tenggara can be carried out by taking into account the following points:

1. Giving a priority to programs that support the acceleration of improvement of tourist destinations after the earthquake and covid-19 pandemic by applying the concept of smart tourism and being more serious in implementing CHSE in existing tourist destinations.
2. Strengthening tourism mitigation SOPs that refer to the standards provided by WHO and UNWTO.
3. The budget support and involvement of stakeholders and the community to accelerate the preparation of a smart tourism plan that is in accordance with the tourism topology of West Nusa Tenggara and the implementation of smart tourism programs.
4. The provision of infrastructure that supports the implementation of smart tourism and the recovery and development of disaster-friendly tourism and in accordance with standards.
5. Providing education to the public, industry, business players in the tourism sector and the government regarding smart tourism so that later they will adapt more quickly to programs related to smart tourism, the community and the government can utilize technology optimally and community behavior can lead to a social safety net and have a high awareness to prioritize Health, hygiene and safety.
6. Strengthening regulations related to the entry requirements of foreign tourists to West Nusa Tenggara.
7. Creating tourism models more innovative and interactive such as virtual tourism.
8. Improved smart tourism ecosystem management and coordination among the government, stakeholders and the community.
9. The governance and assurance of digital information security.

CONCLUSIONS

The number of tourists both foreign tourists and local tourists come to visit NTB after the earthquake shows improvement, with various government programs such as development of the Mandalika, 99 Tourism Village, development of NTB to make health tourism destinations and the development of several small islands (Gili) that exist in NTB as a tourist destination is made to create a better economic growth NTB. In order to achieve a maximum result, a better strategy is needed to provide satisfaction and experience for the tourists, not only in term of infrastructure facilities, hospitality, doing some events and security, but also need to be supported by services that can facilitate tourists in obtaining information, ease of dealing, comfortable environment and smooth telecommunication network. To achieve all of those, it is necessary to develop smart tourism program and policies that support the implementation of smart tourism program in NTB, so that the integration is formed, interconnects from various stakeholders of tourism service providers, governments and communities in improving the experience of tourists while in NTB.

REFERENCES

- Aman, J., Abbas, J., Mahmood, S., Nurunnabi, M., & Bano, S. (2019). The influence of Islamic religiosity on the perceived socio-cultural impact of sustainable tourism development in Pakistan: A structural equation modeling approach. *Sustainability*, 11(11), 1-27. <https://doi.org/10.3390/su11113039>
- Avery, E. J. (2017). Public information officer' social media monitoring during Zika virus crisis: A global health threat surrounded by public uncertainty. *Public Relation Review*, 43 (3), 468-476. <https://doi.org/10.1016/j.pubrev.2017.02.018>
- Bauer, A., Garman, E., McDaid, D., Avendano, M., Hessel, P., Diaz, Y., Araya, R., Lund, C., Evans-Lacko, S. (2021). Integrating youth mental health into cash transfer programmes in response to the COVID-19 crisis in low-income and middle-income countries. *Lancet Psychiatry*, 8(4), 340-346. [https://doi.org/10.1016/S2215-0366\(20\)30382-5](https://doi.org/10.1016/S2215-0366(20)30382-5)
- Gretzel, U., Sigala, M., Xiang, Z., & Koo, C. (2015). Smart tourism: Foundations and development. *Electronic markets*, 25,179-188. <http://doi.org/10.1007/s12525-015-0196-8>
- Huang, C., & Li, Y. (2011). Research on smart tourism system under the background of twelfth five-year period smart city. *China's Tourism Research Annual Conference*, 55-68.
- Jaffar, A., Mubeen, R., Lorember, P. T., Raza, S., & Mamirkulova, G. (2021). Exploring the impact of COVID- 19 on tourism: Transformational potential and implications for sustainable recovery of the travel and leisure industry. *Current Research in Behavioral Sciences*, 2, 1-11. <https://doi.org/10.1016/j.crbeha.2021.100033>
- Koo, C., Yoo, K.-H., Lee, J.-N., & Zanker, M. (2016). Special section on generative smart tourism systems and management: Man-machine interaction. *International Journal of Information Management*, 36(6), 1301-1305. <https://10.1016/j.ijinfomgt.2016.05.015>
- Li, Y., Hu, C., Huang, C., & Duan, L. (2016). The concept of smart tourism in the context of tourism information services. *Tourism Management*, 30, 1-8

- Mamirkulova, G., Mi, J., Abbas, J., Mahmood, S., Mubeen, R., & Ziapour, A. (2020). New silk road Infrastructure opportunities in developing tourism environment for resident better quality of life. *Global. Ecology and Conservatiion*, 24, 1-19. <https://doi.org/10.1016/j.gecco2020.e01194>
- Meadows, C. W., Meadows, C. Z., Tang, L., & Liu, W. (2019). Unraveling public health crises across stages: Understanding Twitter emotions and message types during The California Measles Outbreak. *Communication Studies*, 70(4), 453-469. <https://doi.org/10.1080/10510974.2019.1582546>
- Murtadho, A., & Shihab, M. R. (2011). Indonesia e-tourism site analysis: Study of geographical distribution, site classification, and utilization of function and features. *Journal of Information Systems*, 7(1), 13-25. <https://doi.org/10.21609/jsi.v7i1.290>
- Park, S., Boatwright, B., & Avery, E. J. (2019). Information channel preference in health crisis: Exploring the roles of perceived risk, preparedness, knowledge, and intent to follow directives. *Public Relation Review*, 45(5). <https://doi.org/10.1016/j.pubrev.2019.05.015>
- Park, J. H., Lee, C., Yoo, C., & Nam, Y. (2016). An analysis of the utilization of Facebook by local Korean governments for tourism development and the network of smart tourism ecosystem. *International Journal of Information Management*, 36(6), 1320–1327. <https://doi.org/10.1016/j.ijinfomgt.2016.05.027>
- Put-Van den Beemt, W., & Smith, R.G., (2016). *Smart tourism tools: Linking technology to the touristic resources of a city destinations*. Retrieved online from <https://docplayer.net/57659840-Smart-tourism-tools-linking-technology-to-the-touristic-resources-of-a-city.html>
- Pour, R. S. A., Darani, H. R., & Ali, R. (2020). Electronic word of mouth as a motivation tool in searching, using information and travel decision: A empirical study Shiraz. *International Journal of Tourism & Hospitality in Asia Pasific*, 3(2), 1-12. <https://doi.org/10.32535/ijthap.v3i2.818>
- Rawung, S. S., Salindeho, F. S., & Maniri, J. (2019). Analysis of the factor affecting tourist visits in Minahasa district. *International Journal of Tourism & Hospitality in Asia Pasific*, 2(3),1-5. <https://doi.org/10.32535/ijthap.v2i3.591>
- Runtunuwu, P. C. H. (2020). Tourism sector development strategy in North Maluku: A case study of Tidore Island. *International Journal of Tourism & Hospitality in Asia Pasific*, 3(3), 1-8. <https://doi.org/10.32535/ijthap.v3i3.895>
- Tingdan, Y., Zhijun, Y., & Jun, W. (2021). Impact of COVID-19 pandemic on smart tourism. *Advances in Economics Business and Management Research*, 167, 90-93. <https://doi.org/10.2991/aebmr.k.210218.017>
- Wang, D., Li, X., & Li, Y. (2013). China's smart tourism destination: A state of the service-dominant logic. *Journal of Destination Marketing & Management*, 2, 59-61. <https://doi.org/10.1016/j.jdmm.2013.05.004>
- Wang, X., Li, X. R., Zhen, F., & Zhang, J. (2016). How smart is your tourist attraction? Measuring tourist preferences of smart tourism attractions via a FCEM-AHP and IPA approach. *Tourism Management*, 54, 309–320. <https://doi.org/10.1016/j.tourman.2015.12.003>
- Ward, J. & Peppard, J. (2002). *Strategic planning for information system*. England: John Wiley & Sons.
- Widjaja, A. E., Hery., & Taringan, T. E. (2016). Meningkatkan potensi pariwisata Danau Toba melalui konsep smart tourism: Aplikasi dan tantangannya. *Proceedings of the National Seminar on Innovation and Technology (SNITI-3)*, 1598-1602. Retrieved



online from <https://retariganforbranding.files.wordpress.com/2016/12/makalah-andree-e-widjaja-hery-riswan-e-tarigan-meningkatkan-potensi-pariwisata-danau-toba-melalui-konsep-smart-tourism.pdf>