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RESEARCH ARTICLE

Implementation of Sustainable Tourism and Design of Sustainable Tourism Prototype in Hospitality Industry

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ARTICLE INFO	ABSTRACT
  *Corresponding Author: audanuril@poliwangi.ac.id	This study observes the implementation of sustainable tourism in the Banyuwangi hospitality industry industry. The object of the research is Dialoog Hotel Banyuwangi as the best hotel in Banyuwangi according to the Hotel Association in Banyuwangi (PHRI Banyuwangi). In addition, this research also aims to create a sustainable tourism platform for the hospitality industry. This research method uses a qualitative approach. Data related to the implementation of sustainable tourism at Dialoog Hotel Banyuwangi was collected through observations and interviews with human resource development manager. After obtaining the data, the researcher analyzed the score of the implementation of sustainable tourism at Dialoog Hotel Banyuwangi and created a sustainable tourism platform for the hospitality industry. The result of this study shows that of the 43 criteria and 167 sustainable tourism indicators according to the Global Sustainable Tourism Council (GSTC), Dialoog Hotel Banyuwangi has implemented 95% of these criteria and indicators. The result of the sustainable tourism platform can be accessed freely through the https://www.indikatorpariwisatahotelberkelanjutan.my.id/ . Through this platform, users can easily find out the score of the implementation of sustainable tourism in a hotel without calculating it manually.

INTRODUCTION

The growth of the tourism sector in one region will bring many benefits to other sectors. The tourism industry provides a multiplier effect or multiple effects for other fields. When a tourist spends a certain amount of money to visit a tourist attraction, then there is a great chance that the tourist will spend some more money for his needs at the tourist attraction. This is an example of a form of double effect in the tourism sector. Through this multiplier effect, the tourism sector is able to improve the economy and create a wider range of jobs (Elistia, 2020)

According to Research Industry Data in the second quarter of 2023, the performance of the hotel and other lodging industries per quarter has decreased. As for the annual growth until the second quarter of 2023, it has experienced considerable growth (Research, 2011-2023) .The hotel industry contributes a fairly high income to national income. This is also a positive impact of increasing tourism activities in Indonesia. Hotels or other types of lodging are one of the main components that tourists need when carrying out tourist activities. Therefore, the high level of tourism activities in an area will also have an impact on the high demand for hotels. Hotels are also one of the variables that a tourist considers when deciding to travel. When an area has adequate accommodation, there is a high chance that the area will become a tourist destination.

As a festival city, Banyuwangi is a tourist destination that continues to grow and develop. The natural and cultural potential that Banyuwangi Regency has made Banyuwangi Regency never stop presenting new tourist attractions and tourist attractions that satisfy tourists. Technically, tourism development in Banyuwangi Regency is carried out through the Banyuwangi Festival which has been

held since 2012 (Irawan, 2015). The Banyuwangi festival is a series of activities to promote the natural and cultural tourism potential of Banyuwangi Regency through various events, such as the Banyuwangi Ethno Carnival, Beacch Jazz Festival, Gandrung Sewu Festival, and so on. The increasing enthusiasm of tourists for tourism treats in Banyuwangi Regency has a positive impact on accommodation facilities in Banyuwangi Regency, such as hotel, homestay and guest house.

The Sustainable Development Goals of Banyuwangi Regency include three dimensions, namely economic growth, social inclusion and environmental protection (Banyuwangi, 2021). Sustainable Development Goals (SDGs) are development that maintains the sustainable improvement of the community's economic welfare, development that maintains the sustainability of people's social life, development that maintains the quality of the environment, and development that ensures justice and the implementation of governance that is able to maintain the improvement of the quality of life from one generation to the next. Banyuwangi tourism is one of the largest regional tax contributors. Therefore, tourism needs to be upgraded to sustainable tourism so that the tourism sector in Banyuwangi remains and can become the mainstay of Banyuwangi Regency.

The hotel industry in Banyuwangi Regency is increasingly showing a positive phenomenon. In 2019, hotel taxes were quite high and exceeded the target set in Banyuwangi Regency. To support the SDGs and sustainable tourism, the hotel industry must also be aware and concerned about the concept of sustainable tourism. This can be applied through several stages, namely the analysis of the implementation situation or readiness of the Banyuwangi Regency hotel industr towards the concept of sustainable tourism, the creation of policies or models that support sustainable tourism in the hospitality industry and the implementation and evaluation of the implementation of these policies and models.

The implementation of sustainable tourism in the Banyuwangi Regency hospitality industry is a first step for the Banyuwangi Regency hospitality industry, so it urgently needs high support and commitment. Hotels, local governments and hotel guests must jointly support by complying with and slowly implementing sustainable tourism indicators. Sustainable tourism indicators in the hospitality industry have been created by the Global Sustainable Tourism Council (GSTC). To make it easier for hotel managers to see, analyze and evaluate the readiness of hotels to implement sustainable tourism, a prototype of sustainable tourism in the hospitality sector is the right solution. With this prototype, managers can find out the value of implementing sustainable tourism that has been implemented in their hotels as well as indicators that need to be improved.

This research is a new research that has never been done before. Research related to sustainable tourism in the hospitality industry is very rare because the concept of sustainable tourism is widely known and applied in tourist destinations. Meanwhile, in the hospitality industry, the concept of sustainable tourism has only been developed by Global Sustainable Tourism Council (GSTC). Research related to the influence of accommodation on sustainable tourism has been conducted with the title Analysis of The Relationship of Tourist Accomodation With Sustainable Tourism in Banyuwangi (Sugiarto, et al., 2024). Meanwhile, the research that will be carried out is a new research that focuses on the application of sustainable tourism in the hotel industry.

Based on the sustainable tourism indicators in hotels according to the GSTC, each hotel that is a research sample will be analyzed for the application of each of these indicators. Each hotel will see the value or score of the implementation of sustainable tourism at the hotel. The results identify the implementation of sustainable tourism in the Banyuwangi Regency hospitality industry. Furthermore, the creation of prototypes will be carried out using the prototyping method.

This research is divided into two concepts. The first concept is research related to the application of sustainable tourism in the hotel industry in Banyuwangi. Technically, tourism development in Banyuwangi Regency is carried out through the Banyuwangi Festival which has been held since 2012 (Irawan, 2015) . The Sustainable Development Goals of Banyuwangi Regency include three dimensions, namely economic growth, social inclusion and environmental protection (Banyuwangi, 2021). The second concept output is in the form of a sustainable tourism prototype in the hospitality industry that can be used in general and is not limited to being applied at the Banyuwangi Hotel Dialoog only.

MATERIALS AND METHODS

The method used in this study is two methods to produce two outputs in this study. The method used to produce the first output uses a qualitative approach. According to Abdussamad (Abdussamad, 2021), qualitative research is a study that examines the condition of natural sites using triangulation data collection techniques and the results of qualitative research emphasize relevance rather than generalization. Qualitative research is research based on observation of a natural place to interpret and understand reality and emphasize meaning and meaning by describing and highlighting the meaning and information collected during research (Sekarsari, 2022) (Sekarsari, 2022). A research informant is someone who provides the information needed related to this research. To determine the research informant, the researcher uses the purposive sampling technique, which is to select the research informant according to the the needs of researchers. The informant used in this study is the Human Resources Development Manager of Dialoog Hotel Banyuwangi. The location of this research is Dialoog Hotel Banyuwangi which is one of the 4-star hotels in Banyuwangi which is the hotel with the highest room rate in Banyuwangi and implements sustainable tourism compared to other hotels in Banyuwangi.

A research instrument is a tool used in research to gather the information that the researcher needs. In this study, the research instruments are in the form of observation sheets and interview sheets. The observation sheet was used by the researcher to observe the implementation of sustainable tourism at Dialoog Hotel Banyuwangi according to the sustainable tourism indicators in the hospitality sector made by GSTC. The interview sheet was used by the researcher in exploring information on the implementation of sustainable tourism at Dialoog Hotel Banyuwangi and compared with the information obtained by the researcher according to the observation sheet. The data collection techniques in this study are in the form of observation and interviews. This is a data triangulation technique using different data collection techniques to test the validity of the data.

After obtaining the information needed by the researcher, data analysis is then carried out. The data analysis technique in this study is divided into three activities, namely data reduction, data presentation and conclusion drawn. In data reduction activities, researchers classify data to remove unnecessary parts and organize the data so that it is possible to draw a final conclusion. In the data presentation activity, the researcher presented the data in graphs and narratives so that the information could be read more clearly and then draw research conclusions. At the conclusion drawing stage, the researcher verifies the data that has been reduced and presented to then make a conclusion which is the output of the first concept of this research.

To get the output of the concept of these two studies, the researcher used the Software Development Life Cycle (SDLC) method. SDLC components include system planning, system analysis, system design, system implementation and operation (Arum & Nugroho, 2017). There are several stages in the SDLC, namely software needs analysis, design, program code creation, testing and maintenance. At the stage of software needs analysis, the collection of needs or information that will be implemented in this software is carried out. After knowing the needs or information of the software, the next stage is the design stage. In the design process, a flowchart or algorithm is formulated to create a sustainable tourism platform for the hospitality industry so that it can be used by users. In the third stage, namely the creation of program code, the design is converted into a programming using a programming language. At this stage, a computer program is produced that can run according to the design made. The next process is the testing of the software program. System testing is important to ensure quality and ensure that the functions of the software run correctly (Ijudin & Saifudin, 2020). In the final stage, namely maintenance, adjustments are made to the software so that it works according to the needs and conditions of the existing reality (Setiany, et al., 2021).

This sustainable tourism platform of the hospitality industry is website-based so that users can access the platform by logging into the website address. In creating this website, there are several environments that are needed, namely,
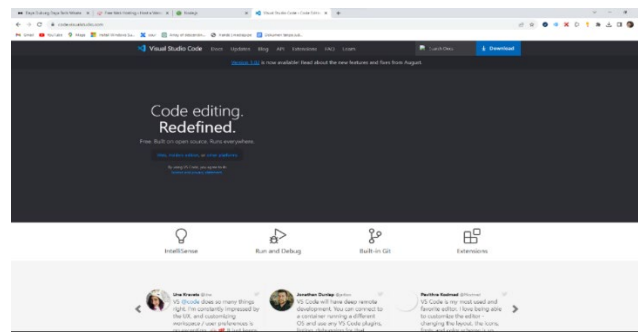
1. Visual studio code

Figure 1: Visual studio core

Visual studio code is the code editor used in the creation of this website, here are the versions used in the creation of the website
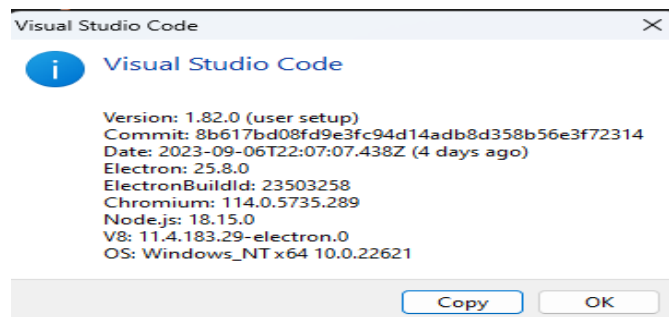

Figure 2: Visual studio core version

2. Node JS

Node.js is a runtime environment for JavaScript that is open-source and cross-platform. With Node.js we can run JavaScript code anywhere, not just limited to the browser environment.
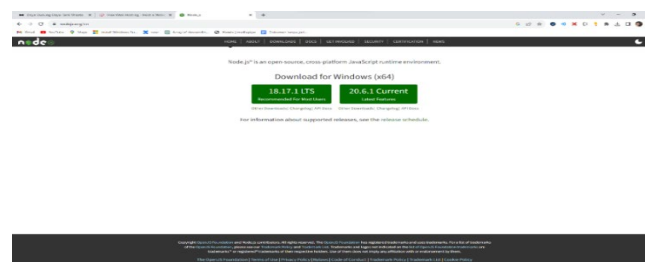

Figure 3: Node JS

3. PHP

Figure 4: PHP

The application of sustainable hotel tourism indicators is built by 2 components, namely display or front end components that use Visual Studio Code, and system components or back ends that use PHP language. PHP (Hypertext Preprocessor) is an open source programming language that is generally used to build dynamic and interactive web applications. PHP can be combined with other front end programming languages, so it is one of the languages that is suitable for combining with front end Node.js.
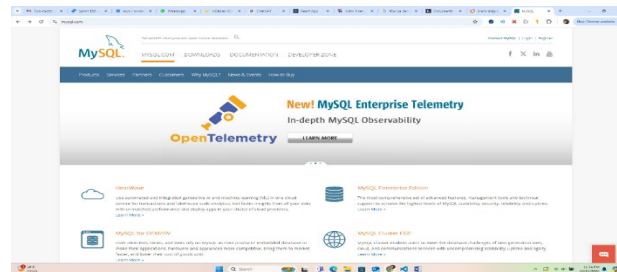
4. Database MySql

Figure 5: Database MySql

MySql is a management system that is useful for managing databases on a website. The app is open source (free to download and allowed for general use). On this website, MySql functions to store user data, and store the history of answers that have been answered by the user.

5. Server

Hoster.co.id is a hosting service provider, this service provider is cocock to be used as a prototype application, with the support of services from Hostinger, which is an internationally leading website service provider, so the Hoster service provider is suitable for use in this application.
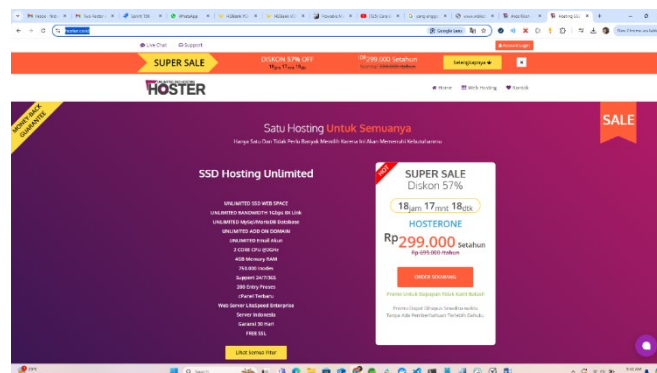
RESULTS

This study produced two outputs, namely the score of the implementation of sustainable tourism indicators for hotel industry criteria at Dialoog Hotel Banyuwangi and the website-based sustainable tourism platform for hotel industry criteria.

In the first result, the following will describe the results of observations and interviews in the form of scores on the implementation of sustainable tourism indicators and hospitality industry criteria at Dialoog Hotel Banyuwangi. The indicator is based on criteria formulated by The Global Sustainable Tourism Council (GSTC). They are organized around four main themes: effective sustainability planning, maximizing social and economic benefits for the local community, enhancing cultural heritage, and reducing negative impacts to the environment. They have applicability to the entire tourism industry.

Dialoog Hotel Banyuwangi is one of the hotels in Banyuwangi which was built in 2015 and began to open in 2018. The location of Dialoog Hotel Banyuwangi is in the Klatak Neighborhood, Kalipuro District with an area of about eight hectares, with a building area of four hectares so that about four hectares are green open areas. Dialoog Hotel Banyuwangi's commitment is contained in the following motto: "Dialoog Banyuwangi is committed to building more responsible and socially conscious tourism by raising awareness of the vital importance of green hospitality and sustainability. We've

made efforts to save energi and resources, minimise waste and plastics usage, promote local culture and empower the local community integral to our resort to create a positive long-term impact on the planet and people."

Based on this commitment, Dialoog Hotel Banyuwangi always pays attention to the sustainable tourism aspect. Through observations and interviews with Human Resource Development (HRD) of Dialoog Hotel Banyuwangi, data on the implementation of sustainable tourism at Dialoog Hotel Banyuwangi was obtained.

From the environmental aspect, Dialoog Hotel Banyuwangi has its own wastewater treatment which is a biosystem. Wastewater from Dialoog Hotel Banyuwangi will be treated through a biosystem and stored in a tank to be filtered into clean water that can be used to water plants in the hotel. Every six months, the water quality test is carried out so that the water quality is always maintained. For drinking water consumed by guests, Dialoog Hotel Banyuwangi also has its own production system that is served in the hotel restaurant and in each guest room in environmentally friendly containers and does not use plastic. In addition, Dialoog Hotel Banyuwangi also has an organic garden that grows various types of vegetables for use in the hotel without using chemical fertilizers. Waste processing is also carried out independently at Dialoog Hotel Banyuwangi using magots. The waste produced from various activities at the hotel is then separated into waste that can be sold in the waste bank and organic waste that will be processed into compost used in the garden.

Dialoog Hotel Banyuwangi also has a mini zoo with several goats, chickens and rabbits. These animals are kept and can also be used as hotel facilities for guests who are interested in feeding or interacting with these animals. Every Tuesday, the employees of Dialoog Hotel Banyuwangi are required to do "Keliling Beach", which is an activity to clean the beach area of Dialoog Hotel Banyuwangi.

In each room of Dialoog Hotel Banyuwangi there are LED lights as illuminators and are not given mini bar facilities, this is a form of environmentally friendly action by paying attention to the use of electricity and water. However, a cooler is provided if guests really need it. With the motto "STAY YOU", Dialoog Hotel Banyuwangi is committed to making guests who stay feel at home and comfortable and will return to Dialoog Hotel Banyuwangi.

From social and cultural aspects, the average turnover rate or turnover of employees of Dialoog Hotel Banyuwangi is very low compared to other hotels. Each employee has a service period of more than two to three years. This is because the working environment and culture created at Dialoog Hotel Banyuwangi makes employees comfortable and always happy. However, none of the employees have a certificate of competence in sustainable tourism. Every employee is routinely provided with training on sustainable tourism only without conducting a competency test. Employees at Dialoog Hotel Banyuwangi are optimized to come from the surrounding community and local residents of Banyuwangi. Likewise with new employees, every new employee at Dialoog Hotel Banyuwangi is given training according to the field or department occupied, and given knowledge about sustainable tourism.

To continue introducing and preserving the cultural values of Banyuwangi, every weekend a compulsive dance performance and cultural market are held involving buskers at Blambangan Park Banyuwangi. With the performance, guests were introduced to Banyuwangi culture, Banyuwangi arts such as songs, music, dances and typical Banyuwangi foods served in the Using accent display as a typical Banyuwangi tribe. The commitment to cultural preservation is also applied to Banyuwangi's typical batik accents in the ornaments and hotel interiors as well as in the restaurant napkins and room facilities at Dialoog Hotel Banyuwangi.

Table 1: Results of observations and interviews on the implementation of sustainable tourism at dialoog hotel banyuwangi

Criteria	Indicators	Result (Applied Point)
SECTION A: Demonstrate effective sustainable management		

A1 Sustainability management system The organization has implemented a long-term sustainability management system that is suitable toits size and scope, addresses environmental, social, cultural, economic, quality, human rights, health, safety, risk and crisis management issues and drives continuous improvement.	a. The Sustainability Management System is clearlydocumented. b. The SM System covers environmental, social, cultural, economic, quality, human rights, health and safety issues. c. The SM System includes consideration of risk and crisismanagement. d. Documentary evidence shows implementation of the SMsystem. e. The SM System includes a process for monitoring continuous improvement in sustainability performance.	a, b, c, d, e
A2 Legal compliance The organization is in compliance with all applicablelocal, national and international legislation and regulations including, among others, health, safety, labour and environmental aspects.	a. An up to date list of all applicable legal requirements ismaintained. b. Certificates or other documentary evidence show compliance with all applicable legal requirements.	a, b,
A3 Reporting and communication The organization communicates its sustainabilitypolicy, actions and performance to stakeholders,including customers, and seeks to engage their support.	a. Regular reports are made available on sustainabilityperformance. b. Sustainability policies and actions are reported in externaland internal communication material. c. Communications contain messages inviting consumer andstakeholder support.	a, b, c
A4 Staff engagement Staff are engaged with development and implementation of the sustainability management system and receive periodic guidance and trainingregarding their roles and responsibilities in its delivery.	a. Evidence is available of staff involvement with the SMSystem. b. Records of courses and on-the-job training, withattendance levels, are available. c. Staff training and guidance materials are available in accessible format (including use of minority languages where needed). d. Staff hold certificates and qualifications in relevant disciplines/skills.	a, b, c, d,
A5 Customer experience Customer satisfaction, including aspects of sustainability, is monitored and corrective action taken.	a. A customer feedback system is in place, together withanalysis of the results. b. Negative feedback and responses made to this arerecorded. c. There is evidence of corrective actions taken.	a, b, c
A6 Accurate promotion Promotional materials and marketing communications are accurate and transparent with regard to the organization and its products and services, including sustainability claims. They do not promise more than is being delivered.	a. Images used in promotion are of actual experiences offeredand facilities provided. b. Sustainability claims are based on records of pastperformance.	a, b
A7 Buildings and infrastructure Planning, siting, design, construction, renovation, operation and demolition of buildings and infrastructure...	Indicators for A7 criteria relate to the buildings and infrastructure associated with the accommodation beingcertified	
A7.1 Compliance ...comply with zoning requirements and laws relatedto protected and sensitive areas and to heritage considerations.	a. Awareness of, and compliance with, laws relating to landuse and activities in the local area is demonstrated. b. All required licences and permits are up to date. c. Awareness of, and compliance with, non-statutory area management plans and guidance (e.g. for particular zones,design, etc.), is demonstrated.	a, b, c

A7.2 Impact and integrity …take account of the capacity and integrity of thenatural and cultural surroundings.	a. Site selection, design and access have taken account of visual amenity, landscape, cultural and natural heritage. b. Site selection, design and access have taken account of theprotection of biologically sensitive areas and the assimilative capacity of ecosystems. c. The integrity of archaeological, cultural heritage, andsacred sites has been preserved. d. The integrity and connectivity of natural sites andprotected areas has been preserved. e. Threatened or protected species have not been displaced and impact on all wildlife habitats has been minimized andmitigated. f. Water courses/catchments/wetlands have not been alteredand run-off is reduced where possible and any residue is captured or channeled and filtered. g. Risk factors (including climate change, natural phenomena,and visitor safety) have been assessed and addressed. h. Impact assessment (including cumulative impacts) has beenundertaken and documented as appropriate.	a, b, c, d, e, f, g, h,
A7.3 Sustainable practices and materials …use locally appropriate and sustainable practices and materials.	a. Local materials, practices and crafts have been used in buildings and design where practicable and appropriate. b. Native and endemic plants obtained from sustainable sources have been used in landscaping and decoration,avoiding exotic and invasive species. c. Plants have been selected for their ability to tolerate prevailing or anticipated conditions eg drought tolerantplants d. Sustainable design, materials and construction practices have been used in buildings, with appropriate certification where possible. e. Waste from construction is sorted and disposed of in anenvironmentally sound manner.	a, b, c, d, e
A7.4 Access for all …provide access and information for persons with special needs, where appropriate.	a. Sites, buildings and activities are accessible to persons withphysical disabilities and other special needs, as appropriateto the nature of the operation. b. Clear and accurate information is provided on the level ofaccessibility. c. Accessibility is certified or checked with relevant experts/user bodies.	a, b, c
A8 Land, water, and property rights Acquisition by the organization of land and waterrights and of property is legal, complies with localcommunal and indigenous rights, including their free, prior and informed consent, and does not require involuntary resettlement.	a. Land ownership and tenure rights are documented. b. User and access rights for key resources, including land andwater, are documented where applicable. c. There is documentary evidence of communication, consultation and engagement with local and indigenous communities. d. Evidence of free, prior and informed consent of local communities is documented, where relevant (showing no involuntary resettlement or land acquisition).	a, b, c, d

A9 Information and interpretation The organization provides information about and interpretation of the natural surroundings, local culture, and cultural heritage, as well as an explanation of appropriate behaviour while visitingnatural areas, living cultures, and cultural heritage sites.	a. Information/interpretation material about the natural andcultural heritage of the local area is available and providedto customers. b. Staff are informed and trained about the natural andcultural heritage of the local area. c. Information is provided to customers about appropriatebehaviour in the local area.	a, b, c
A10 Destination engagement The organization is involved with sustainable tourism planning and management in the destination, where such opportunities exist.	a. The organization is a member of the local Destination Management Organization or equivalent body, where suchan organization exists. b. The organization participates in partnerships between localcommunities, NGOs and other local bodies where these exist. c. The organization participates in planning and managementmeetings and activities concerning sustainable tourism in the destination.	a, b, c
SECTION B: Maximize social and economic benefits to the local community and minimizenegative impacts		
B1 Community support The organization actively supports initiatives forlocal infrastructure and social community development. Examples of initiatives include education, training, health and sanitation and projects which address the impacts of climate change.	a. The organization engages with the local community inidentifying needs and opportunities for support and evaluating their potential benefit/impact. b. The level and nature of contributions made to schemes inthe local community is recorded. c. The local community is offered the opportunity to accessthe tourism facilities and services provided.	a, b, c
B2 Local employment Local residents are given equal opportunities foremployment and advancement, including in management positions.	a. The proportion of total employment from persons already residing in the local community is measured and managed. b. The proportion of employment in management positionsfrom persons already residing in the local community is measured and managed. c. Training is offered to local residents to enhance theiremployment opportunities.	a, b, c
B3 Local purchasing When purchasing and offering goods and services, the organization gives priority to local and fair trade suppliers whenever these are available and of sufficient quality.	a. The organization regularly audits its sources of supply ofgoods and services. b. The proportion of goods and services purchased from locally owned and operated businesses is measured and managed. c. The proportion of non-locally owned or operated suppliersthat are fair trade is measured and managed.	a, b, c
B4 Local entrepreneurs The organization supports local entrepreneurs in thedevelopment and sale of sustainable products and services that are based on the area's nature, history and culture.	a. Locally owned businesses are given access to premises andcustomers for commercial activity. b. Where appropriate, the organization provides advice and support to local service providers with whom it engages, on the quality and sustainability of their service. c. Opportunities for joint ventures and partnerships with localentrepreneurs are considered and pursued where appropriate.	-

B5 Exploitation and harassment The organization has implemented a policy against commercial, sexual or any other form of exploitation or harassment, particularly of children, adolescents, women, minorities and other vulnerable groups.	a. The organization has a documented policy against exploitation and harassment of vulnerable groups. b. Action is taken to communicate and implement the policy. c. The organization engages with the local community in working against exploitation and harassment. d. Records of employee ages are kept and show absence of any form of child labour (as defined by ILO). e. The organization supports action against child sex tourism.	a, b, c, d, e
B6 Equal opportunity The organization offers employment opportunities, including in management positions, without discrimination by gender, race, religion, disability or in other ways.	a. The organization has identified groups at risk of discrimination, including women and local minorities. b. The proportion of employees drawn from each of these groups is monitored and is commensurate with local demographics. c. Internal promotion includes members of these groups.	a, b, c
B7 Decent work Labour rights are respected, a safe and secure working environment is provided and employees are paid at least a living wage. Employees are offered regular training, experience opportunities for advancement.	a. The organization demonstrates awareness of, and compliance with, international labour standards and regulations. b. Wage levels are monitored and regularly reviewed against national norms for a living wage. c. Training records are kept for all staff, showing the level and frequency of training received. d. Employee contracts show support for health care and social security. e. Water, sanitation and hygiene facilities are provided for all onsite workers. f. Employee satisfaction is monitored. g. An employee grievance mechanism is in place.	a, b, c, d, e, f, g
B8 Community services The activities of the organization do not jeopardize the provision of basic services, such as food, water, energy, healthcare or sanitation, to neighbouring communities.	a. The organization monitors its impact on the availability of local services. b. A communication/feedback/grievance mechanism is in place for local communities. c. Any reduction in availability of basic services to local communities, identified as the result of the organization's activities, is addressed.	-
B9 Local livelihoods The activities of the organization do not adversely affect local access to livelihoods, including land and aquatic resource use, rights-of-way, transport and housing.	a. Local access to livelihoods is considered in decisions about development and operations. b. A communication mechanism is in place for local communities to report any instance of reduced access to local livelihoods.	a, b
SECTION C: Maximize benefits to cultural heritage and minimize negative impacts		
C1 Cultural interactions The organization follows international and national good practice and locally agreed guidance for the management and promotion of visits to indigenous communities and culturally or historically sensitive sites in order to minimize adverse impacts and maximize local benefits and visitor fulfilment.	a. The organization demonstrates awareness of, and compliance with, existing international, national and local good practice and guidance for tourist visits to cultural sites and indigenous communities. b. The organization engages with communities/sites in reviewing guidance and creating and agreeing additional guidelines as necessary. c. Guidelines are effectively used and communicated. d. Particular measures are in place to avoid inappropriate interaction with children.	a, b, c, d

C2 Protecting cultural heritage The organization contributes to the protection, preservation and enhancement of local properties, sites and traditions of historical, archaeological, cultural and spiritual significance and does not impede access to them by local residents.	a. The organization makes and records monetary contributions to the protection of cultural heritage. b. The organization provides in-kind or other support forcultural heritage. c. Provision is made for local access to sites.	a, b, c
C3 Presenting culture and heritage The organization values and incorporates authentic elements of traditional and contemporary local culture in its operations, design, decoration, cuisine,or shops, while respecting the intellectual property rights of local communities.	a. Local art/craft is reflected in design and furnishings. b. Living cultural heritage and traditions are evident in cuisine,retail, events and other services offered. c. Copyright and intellectual property rights have beenobserved and necessary permissions obtained. d. The views of the local community have been sought on thepresentation of local cultural heritage.	a, b, c, d
C4 Artefacts Historical and archaeological artefacts are not sold,traded or displayed, except as permitted by local and international law.	a. Any use of artefacts is transparent and/or documented andreported. b. Where artefacts are used, laws and bylaws have beenidentified that permit such use. c. Visitors are prevented from removing or damagingartefacts.	a, b, c
Section D: Maximize benefits to the environment and minimize negative impacts		
D1 Conserving resources		
D1.1 Environmentally preferable purchasing Purchasing policies favour environmentally sustainable suppliers and products, including capitalgoods, food, beverages, building materials and consumables.	a. A documented environmental purchasing policy is in place. b. Preference is given to products and suppliers with environmental certification – notably with respect to wood,paper, fish, other foods, and products from the wild. c. Where certified products and suppliers are not available, consideration is given to origin and methods of growing orproduction. d. Threatened species are not used or sold.	a, b, c, d
D1.2 Efficient purchasing The organization carefully manages the purchasingof consumable and disposable goods, including food, in order to minimize waste.	a. Purchasing favours reusable, returnable and recycledgoods. b. Purchasing and use of consumable and disposable goodsare monitored and managed. c. Unnecessary packaging (especially from plastic) is avoided,with buying in bulk as appropriate.	a, b, c
D1.3 Energy conservation Energy consumption is measured by type and stepsare taken to minimize overall consumption. The organization makes efforts to increase its use of renewable energy.	a. Total energy used is monitored and managed. b. Energy used per tourist/night for each type of energy ismonitored and managed. c. Renewable sources are favoured and the share of renewable energy in total energy supply is monitored andmanaged. d. Equipment and practices are used that minimize energyuse. e. Goals for reducing energy consumption are in place. f. Staff and guests are given guidance on minimizing energyuse.	a, b, c, d, e, f
D1.4 Water conservation Water risk is assessed, water consumption is measured by type, and steps are taken to minimize overall consumption. Water sourcing is sustainableland does not adversely affect environmental flows.In areas of high water risk, context-based water stewardship	a. Water risk has been assessed and documented. b. Where water risk has been assessed as high, waterstewardship goals have been determined. c. Water used per tourist/night per source is monitored andmanaged. d. Equipment and practices are used that minimize waterconsumption. e. Water originates from a legal and sustainable	a, b, c, d, e, f, g, h

goals are identified and pursued.	source whichhas not previously affected, and is unlikely in future to affect, environmental flows. f. Consideration is given to cumulative impacts of tourism inthe locality on water sources. g. Goals for reducing water consumption are in place. h. Staff and guests are given guidance on minimizing wateruse.	

Section D: Maximize benefits to the environment and minimize negative impacts

D2 Reducing pollution

D2.1 Greenhouse gas emissions Significant greenhouse gas emissions from all sources controlled by the organization are identified, calculated where possible and procedures implemented to avoid or to minimizethem. Offsetting of the organization's remaining emissions is encouraged.	a. Total direct and indirect greenhouse gas emissions aremonitored and managed. b. Carbon Footprint per tourist/night is monitored andmanaged. c. Actions are taken to avoid and reduce significant annual emissions from all sources controlled by the organization. d. Carbon offset mechanisms are used where practical.	a, b, c, d
D2.2 Transport The organization seeks to reduce transportation requirements and actively encourages the use of cleaner and more resource efficient alternatives bycustomers, employees, suppliers and in its own operations.	a. Information is provided and promoted to customers on alternative (climate friendly) transport options, for arrival,departure and during their visit. b. Alternative transport options (e.g. bike rental, car sharing,pick-ups) for guests and staff are provided or facilitated. c. Markets accessible by short and more sustainable transportoptions are favoured. d. Local suppliers are favoured and daily operations seek tominimize transport use.	a, b, c, d
D2.3 Wastewater Wastewater, including grey water, is effectively treated and is only reused or released safely, withno adverse effects to the local population or the environment.	a. Wastewater is disposed of to a municipal or governmentapproved treatment system, if available. b. If suitable municipal wastewater treatment is not available,there is a system in place on site to treat wastewater (that meets international wastewater quality requirements) and ensures no adverse effects on the local population and the environment.	a, b
D2.4 Solid waste Waste, including food waste, is measured, mechanisms are in place to reduce waste and, where reduction is not feasible, to reuse or recycle it. Any residual waste disposal has no adverse effecton the local population or the environment.	a. The amount of solid waste disposed per tourist/night ismonitored and managed. b. A solid waste management plan is in place. c. The solid waste management plan includes actions toreduce, separate and reuse or recycle food waste. d. Waste disposal is to a government run or approved facilityand there is evidence that the facility has no negative impact on the environment or local population.	a, b, c, d, e, f
	e. Solid waste disposed is measured by type and goals are inplace to minimize non-diverted solid waste. f. Guidance is given to customers and staff on minimizingwaste.	

D2.5 Harmful substances The use of harmful substances, including pesticides, paints, swimming pool disinfectants, and cleaning materials, is minimized, and substituted when available by innocuous products or processes. All storage, use, handling, and disposal of chemicals are properly managed.	a. An inventory of harmful substances has been made and material safety data sheets (MSDS) are held. b. Action has been taken to source more environmentally friendly alternatives. c. Chemicals, especially those in bulk amounts, are stored and handled in accordance with appropriate standards. d. Visitors are informed about personal use of substances which may be considered harmful to the local environment (such as toxic sunscreens and repellants).	a, b, c, d
D2.6 Minimize pollution The organization implements practices to minimize pollution from noise, light, runoff, erosion, ozone- depleting substances, and air, water and soil contaminants.	a. The potential sources of pollution covered in the criterion have been reviewed and identified. b. The potential sources of pollution covered in the criterion are monitored. c. Action is taken to minimize and where possible eliminate pollution from the sources covered in the criterion.	a, b, c

Section D: Maximize benefits to the environment and minimize negative impacts

D3 Conserving biodiversity, ecosystems and landscapes

D3.1 Biodiversity conservation The organization supports and contributes to biodiversity conservation, including through appropriate management of its own property. Particular attention is paid to natural protected areas and areas of high biodiversity value. Any disturbance of natural ecosystems is minimized, rehabilitated and there is a compensatory contribution to conservation management.	a. The organization demonstrates awareness of natural protected areas and areas of high biodiversity value. b. The organization provides and records monetary support for biodiversity conservation in the local area. c. The organization provides and records in-kind or other support for biodiversity conservation in the local area. d. The property is actively managed to support biodiversity conservation. e. The organization is aware of, and mitigates, activity with potential to disturb wildlife and habitats.	a, b, c, d, e, f, g, h
	f. Compensation is made where any disturbance has occurred. g. Action is taken to encourage visitors to support biodiversity conservation. h. The organization engages with local conservation NGOs.	
D3.2 Invasive species The organization takes measures to avoid the introduction of invasive species. Native species are used for landscaping and restoration wherever feasible, particularly in natural landscapes.	a. Sites are monitored for presence of any invasive species. b. Action is taken to ensure invasive species are not introduced or spread. c. A programme is in place to eradicate and control invasive species. d. Landscaping of sites is reviewed to consider use of native species.	a, b, c, d
D3.3 Visits to natural sites The organization follows appropriate guidelines for the management and promotion of visits to natural sites in order to minimize adverse impacts and maximize visitor fulfilment.	a. The organization is aware of, and complies with, existing guidelines for tourist visits to natural sites. b. Guidelines are used when conducting visits and informing guests. c. The organization engages with local conservation bodies to establish/identify issues concerning visits to particular sites.	a, b, c
D3.4 Wildlife interactions Interactions with free roaming wildlife, taking into account cumulative impacts, are non-invasive and responsibly managed	a. The organization is aware of, and complies with, existing local, national and international regulations and guidelines concerning wildlife interactions, including wildlife viewing. b. The organization engages with the	a, b, c, d, e

to avoid adverse effects on the animals concerned and on the viability and behaviour of populations in the wild.	development and implementation of local codes and guidelines for wildlife interactions, including wildlife viewing, as required, basedon advice of wildlife experts. c. Direct interactions, in particular feeding, should not be permitted, unless specifically sanctioned by internationallyaccepted standards or, where standards are not available, guided by independent wildlife expert advice. d. Measures are taken to minimize disturbance to wildlife. e. Impacts on wildlife wellbeing are regularly monitored andaddressed.	
D3.5 Animal welfare No species of wild animal is acquired, bred or held captive, except by authorized and suitably equippedpersons and for properly regulated activities in compliance with local and international law. Housing, care and handling of all wild and domesticanimals meets the highest standards of animal welfare.	a. The organization is aware of, and complies with, relevantlaws and regulations concerning captive wildlife. b. Existing guidelines for specific tourism activities involvingcaptive wildlife are implemented. c. Personnel responsible for captive wildlife have appropriatequalifications and experience and are fully licensed. d. The organization is aware of, and complies with, relevantlaws and regulations concerning animal welfare. e. There is regular inspection of conditions of captive wildlifeand their housing. f. There is regular inspection of conditions of domestic animals and their housing and handling.	 a, b, c, d, e, f
D3.6 Wildlife harvesting and trade Wildlife species are not harvested, consumed, displayed, sold, or traded, except as part of a regulated activity that ensures that their utilizationis sustainable, and in compliance with local and international laws.	a. The organization is aware of, and complies with, relevantlaws and regulations concerning wildlife harvesting and trade. b. Visitors are informed of regulations concerning wildlife harvesting, consumption and trade and of the need to avoid buying illegal products/souvenirs derived from threatened species of wildlife notified by IUCN or CITES. c. Where hunting activity is legal, it forms part of a scientifically based, properly managed and strictly enforcedapproach to conservation.	 a, b, c

The second research result is a sustainable tourism platform for the hospitality industry. The platform can be accessed freely through the website. The sustainable tourism indicator website for the hospitality industry has the following address or url: https://www.indikatorpariwisatahotelberkelanjutan.my.id/. This website was created using the javascript Node.js and PHP programming languages. Here is the initial view of the website.
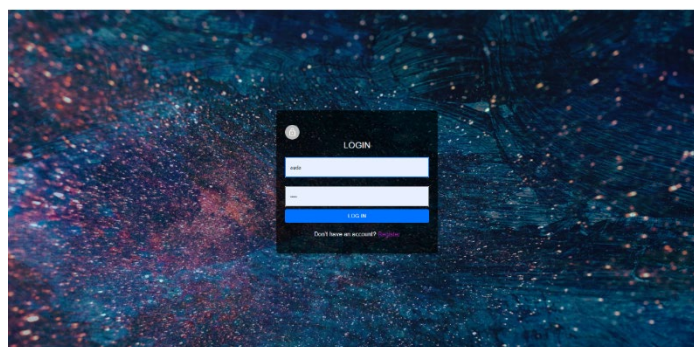

Figure 7: The Initial view of the website

The sustainable hotel tourism indicator website has 4 features. Login Feature, Register Feature, Question List Feature which has 4 modules, and History Feature.

1. Login feature: The Login feature is a feature that aims to validate whether the user can enter the application, also aims to display the history of answers that have been filled in by the user, because each user has a unique code

2. Register feature: The Register feature is a fitter to register new users, so that new users can log in to the application and the data of the user can be stored in the database.

3. Survey feature: The Survey feature is a feature that aims to get data from the answers that users provide, the survey feature here has 4 modules, each of which has different questions from one another, and each question has 2 answer options, namely yes and no. In this application, the user's answers will be tamped on each module, and on the last list of questions in each module there is a submit button, which will display the value obtained by the user in each module. The following is the flow chart of the survey form feature:
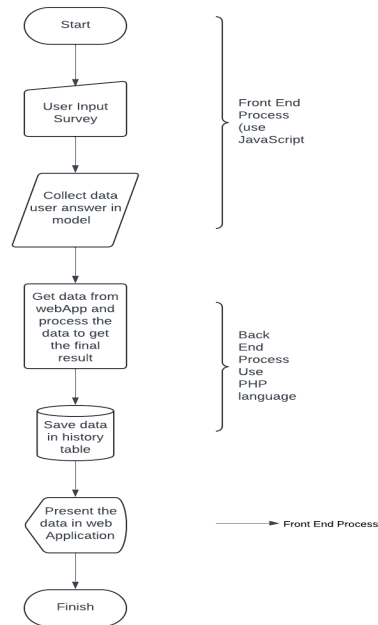

Figure 8: Flowchart of the Survei form feature

Here are the steps to step by step of the survey form feature from start to finish

1. **User input survey**
    - User answers questions from each list of questions
    - Each question list has a unique code, so the application can find out the answer entered by the user
2. **Collect data user answer in model**
    - When the user presses the submit button, then every question that has been answered by the user will be processed into 1 object, in this case the object is called a Model, and this Model is sent to the system back end
3. **Get data from webApp and process data to get final result**
    - The model sent from the webApp will be received by the back end, then the data is sent in the process so that the result is obtained with the following formula:

$$\frac{Number\ of\ Correct\ Answer}{Number\ of\ Question} \times 100\% = Score$$

4. **Save data in history table**
    - After the value data is obtained, then save the value in the database with the table name history_table
5. **Present the data in web application**
    - After the back end process is completed and the data has been stored in the database, the webApp will receive an api response in the form of a value, and this value response is displayed in the web application
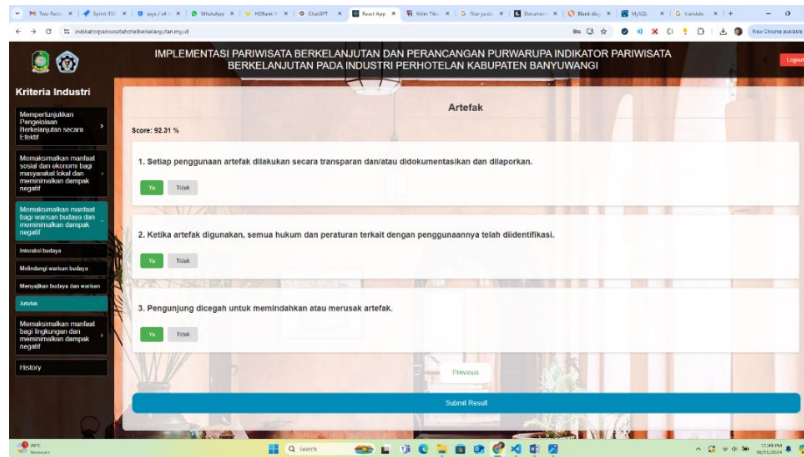
Figure 9: Web application
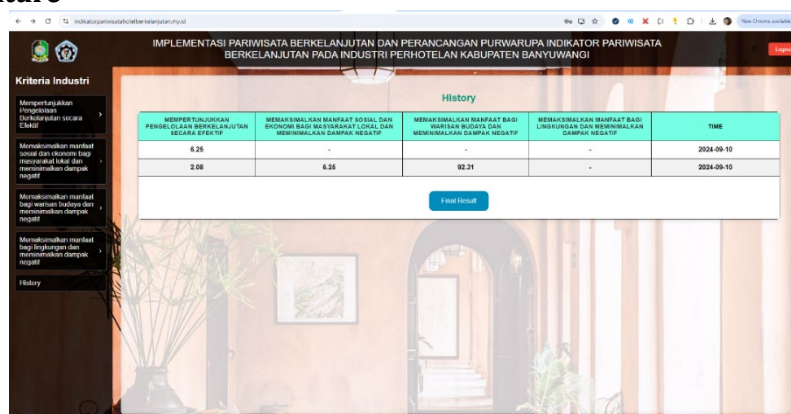
4. The history feature

Figure 10: Implementation score

The History feature is a feature that has the purpose of displaying the history rather than the value that the user has gotten, there are 5 columns in the feature, where the first 4 columns are the values of each module that has been filled in, and the last column is the date when the user got the value.

DISCUSSION

After obtaining the results of observations and interviews, the results were then analyzed with sustainable tourism indicators according to GSTC. For sustainable management criteria, Dialoog Hotel Banyuwangi has implemented a sustainability management system, legal compliance, reporting and communication, staff involvement, customer experience, proper promotion, building and infrastructure, land rights, water and ownership, information and interpretation as well as destination engagement. Thus, for the first criterion, Dialoog Hotel Banyuwangi has implemented all existing indicators.

The second criterion for sustainable tourism for the hospitality industry according to the GSTC is to maximize social and economic benefits for local communities and minimize negative impacts. In this second criterion, there are several indicators that are met, namely support for the community, employment for local communities, purchase of local goods and services, exploitation and harassment, equal opportunities, decent work, and local livelihoods. The indicators that have not been met are local entrepreneurs and community services. This is because there is no feedback or complaint submission mechanism for the local community and there is no opportunity given to local residents to carry out commercial business activities owned by hotel customers.

The third criterion is to maximize the benefits for cultural heritage and minimize negative impacts. In this third criterion, Dialoog Hotel Banyuwangi has implemented cultural interaction, protecting cultural heritage, presenting culture and heritage, as well as artifacts.

The fourth criterion is to maximize benefits for the environment and minimize negative impacts. In this fourth criterion, there are three indicators, namely resource conservation, pollution reduction,

biodiversity conservation, ecosystem and landscape. These three indicators have been implemented at Dialoog Hotel Banyuwangi.

From the results that have been obtained, it can be concluded that Dialoog Hotel Banyuwangi has implemented 95% of all sustainable tourism criteria for the hospitality industry according to GSTC. The criteria that are not met by Dialoog Hotel Banyuwangi are "The organization supports local entrepreneurs in the development and sale of sustainable products and services that are based on the area's nature, history and culture", "Labour rights are respected, a safe and secure working environment is provided and employees are paid at least a living wage. Employees are offered regular training, experience nd opportunities for advancement", and "The activities of the organization do not jeopardize the provision of basic services, such as food, water, energy, healthcare or sanitation, to neighbouring communities".

Dialoog Hotel Banyuwangi does not have space for sales or commercial activities of products from local residents. This is because the policy has not become a priority for the company. The company has special standards for products that can be sold at Dialoog hotel banyuwangi to maintain the satisfaction and comfort of hotel guests. Therefore, this policy cannot be applied at the Banyuwangi Hotel Dialoog. In addition, local residents have different types of jobs and no one has been able to supply the needs of the hotel, so the Banyuwangi Hotel supplies the needs not from local residents. This condition is common in the hospitality industry because of the conditions of different regions. However, with the motto at Dialoog Hotel Banyuwangi, the criteria that have not been met will gradually be met.

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