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DETERMINANTS OF THE STRATEGY OF TOURISM BUSINESS DEVELOPMENT IN THE REGIONAL ECONOMIC AND SOCIAL DESTINATION

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Abstract: The article considers the determinants of the strategy of tourism business development in the regional economic and social destination, which are implemented according to the criteria for assessing the quality of components of the tourist flows. The purpose of the study was to implement these determinants and to develop the mechanism of regulation of the development of tourist business in regional economic and social destination of market type. An approach to the concept of a tourist product as a set of properties that determine its usefulness and form value and attractiveness for tourists was used allowing the reliability of its assessment as a commodity with the definition of promising areas of change in consumer behavior in regional blocs and their interaction with neighboring territories. The multi-attributive model of a tourist product in a regional economic and social destination was used. During the study, the necessity to form an optimal price mechanism for tourism products, which will give market regulators a targeted and less costly self-development of business structures in the tourism sector was found. The development of tourism business can help to create affordable conditions for continuous improvement of the business climate and competition. It was proved that the existing tools for assessing the tourism business are the levers of indirect influence on the state economy.

Key words: tourist business, regional economic and social destination, cross-border cooperation, tourist product, tourist flows

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INTRODUCTION

Ukraine occupies one of the leading positions in Europe in terms of the level of valuable natural potential, able to meet the needs of travelers, and thus attract domestic and foreign tourists. It arouses interest in the country as a strategic partner that is able to ensure the development of international tourism for health, educational, leisure or other purposes without the implementation of paid activities (Trusova et al., 2020a). Ukraine's virtually unlimited tourism potential is currently unable to compete with developed tourism countries, due to the lack of cooperation between regions in selecting priority segments of the tourism market and creating functional tourist areas. This issue is especially acute in the border areas of Ukraine, which through the implementation of various forms of international cooperation, are able to develop the market of tourist services (Gorina et al., 2019; Trusova et al., 2020b) This, in turn, requires public authorities to address the needs of tourism businesses and the formation of new management mechanisms in an open international space. Prospects for Ukraine in the development of tourism business are geopolitical location, natural, historical, and cultural resources to ensure the maximum influx of tourists and meet their needs through an extensive network of tourist infrastructure in the regions of Ukraine (Trusova et al., 2020c; Hrynko et al., 2021). Spatial integrated forms of economic cooperation within the international space intensify the solution of national security problems, providing a powerful impetus for effective collective action for the development of tourism business. This leads to the emergence of a new system of interaction between the subjects of economic and social relations at the regional level, in which there is economic exchange and

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joint use of material, financial and human resources. Entities of tourist activity, territorial communities, local executive bodies, public organizations with relevant institutions of other states and international organizations to implement joint decisions in the field of tourism business form a tourist infrastructure with an extensive system of tourist routes in the territories and near it (Antonenko and Mykhailichenko, 2011; Biletska, 2011). At the same time, economic and social destinations in the tourism industry create favorable conditions for effective use of tourist and recreational potential of the country in the context of the concept of balanced development and increase the positive impact of the industry on socio-economic development of the regions (Carvache-Franco et al., 2022; Dutta et al., 2021).The theoretical foundations of the tourism business in the international environment are covered in the scientific works of economists, political scientists (Framke, 2002; Goeldner et al., 2000; Leiper, 1979; Lew, 1987). A significant contribution to the study of methodological principles of strategic management of tourism development in the spatial international system has been made by Antonenko and Mykhailichenko, 2011; Sazonets and Stoian, 2013. The priority of our study is the implementation of the determinants of the strategy of tourism business development in the regional economic and social destination of the country, which is based on criteria for assessing the quality of components of the tourism product and tourism flows.

MATERIALS AND METHODS

The practical interpretation of the tourism business is usually limited by the amount of effective demand for tourism products and guest services. At the same time, like any other, this business must include three subsystems as: demand, which is formed by a set of consumers; the offer which is formed in tourism by a number of the enterprises on accommodation of tourists, food, the organization of leisure, etc., and also tourist intermediaries; tourist product. The tourist product in the regional economic and social destination of the country embodies a complex set of different goods and services required by the consumer (tourist) to carry out the planned trip to a particular destination (Gürdoğan, 2022). Given this, the cost chain of guest services in the tourism business in the regional economic and social destination of the country is characterized by three main factors:

– heterogeneity: the tourist business in the territory consists of a large number of ancillary enterprises (tourist attractions, hotels and other accommodation, tourist intermediaries, bars and restaurants, transport, etc.), which jointly provide tourists with guest services;

– pluralism: there is no single tourist product (even for the same destination), because different requirements of the tourist as a consumer in the regional economic and social destination of the country are satisfied by different sets of tourist goods and guest services;

– spatial variance: while consumers (demand) are located in one geographical area of the country, tourism products and guest services (supplies) are located in another area (where the tourist product is actually consumed), with the exception of travel intermediaries who normally work in the countries of origin of tourist flows.

Localization of tourist activity and formation of local tourist business determines a clear demand for a tourist product and its belonging to a certain regional economic and social system of the country, which is a place of tourist destination. It is within the region that tourism businesses are investors in economic and social destinations, as they have tourist and recreational resources and are a kind of complex tourism product with its own image, brand in the market. Their interaction in the region is in two directions:

– The target direction is to provide the needs of the population for guest tourism services, as a result of which distribution and consumer relations are formed between the producers of the tourist product in the regional economic and social destination and its consumers. In this case, both consumption and production of tourism products are territorially unlimited borders, i.e. any tourism business entity can develop and market any product, and consumers anywhere in the world can use it (Liu et al., 2020).

– Resource direction – ensuring the consumption of natural resources (conditions and resources) and cultural and historical resources in the regional economic and social destination by tourists. This is manifested in the formation of recreational connections. The parameters of these relationships (direction, magnitude, stability, etc.) depend on the uniqueness of the proposal, developed based on the uniqueness of resources. That is, theoretically, the spatial distribution of a unique offer in a regional economic and social destination is unlimited, as it attracts consumers from all over the world to resorts in neighboring countries. Then the formation of recreational relationships begins to be influenced by limiting factors in the optimization of consumer relations (distance, cost, comfort).

These features significantly affect the formation of the territorial structure of the tourism business, determining its dualistic nature (Kislali et al., 2020). This approach is due to the specifics of the tourist product, because it is primarily a consumer market (Moscardo, 2020). This allows us to highlight the inclusiveness of the functionality of the local tourism business in the regional economic and social destination of the country (Figure 1). Understanding the target guidelines of customers, the motives of their tourist and recreational activities allows to ensure compliance with supply and demand for tourism products, and as a result, increase the competitiveness of both individual enterprises and the tourism industry as a whole by meeting customer needs for certain tourism products (Chernega, 2021). To form methodological bases for assessing the competitive position of a tourist product in a regional economic and social destination, it is advisable to proceed from the concept of a tourist product as a set of properties that determine its usefulness and form value and attractiveness for tourists. The application of such an approach to the tourist product, in terms of its perception by consumers, allows the reliability of its assessment as a commodity with the definition of promising areas of change in consumer behavior in regional blocs and their interaction with neighboring territories. This is due to the effect of reducing barriers to the international movement of factors of production within the bloc, which stimulates cooperation in the tourism business and ensures the mobility of citizens (Liu et al., 2020). Directions of international cooperation of countries within the regional blocks of economic and social destination for the development of tourism business are shown in Figure 2.

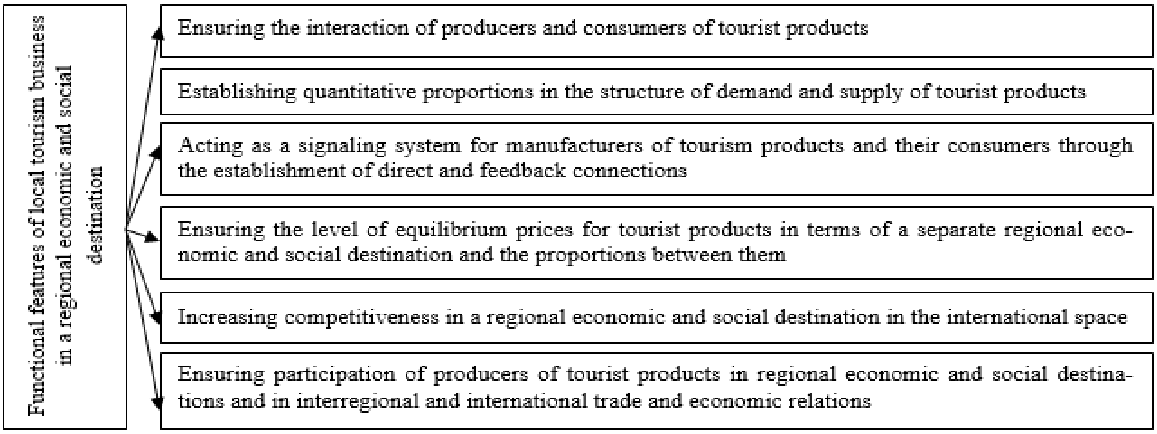

Figure 1. Inclusiveness of the functionality of the local tourism business in the regional economic and social destination (Source: Built by the authors according to Moscardo, 2020)

Figure 2. Directions of international cooperation of one country with neighboring countries within the regional blocks of tourism business (Source: Built by the authors according to Kotler et al., 1993; Bihus, 2012)

The experience of a number of regional integrated units, which are interconnected with the tourist economic and social destination and ensure the development of business in the country, shows that such associations have a direct and indirect impact on the development of the international market for tourism products. At the same time, expanding the boundaries of the tourism business, going beyond the territory to increase potential, requires the use of natural resources, biological and landscape diversity, minimizing the negative impact on the environment, ecology, culture and society. Increasing respect for natural ecosystems and biological resources, using the socio-cultural authenticity of the local population to preserve their cultural heritage and traditional values, intercultural understanding and promoting tolerance allows tourism businesses to ensure viability, long-term economic activity and socio-economic benefit. The division of the international market for the promotion of tourism products between countries stabilizes employment, provides income and social services to local communities and helps to overcome poverty. From the standpoint of a set of consumer characteristics, the tourist product offered in the regional economic and social destination is a multi-attribute product, which embodies a multi-attribute model. The basic provisions of this model are (Romero and Tejada, 2020):

– Consumers perceive a particular tourism product as a set of its characteristics, the importance of which is determined by a complex set of objective and subjective factors. When choosing a tourist product, consumers pay more attention to its shortcomings.

– For different consumers, the weight of different characteristics may differ significantly. From a methodological point of view, it is possible to assess the differences between the importance of different characteristics of the tourist product, their specificity and emphasis. The most important characteristics of a tourism product are those that are first perceived by potential consumers when they assess the attractiveness of the product.

– When choosing a tourist product, consumers are guided by certain ideas about its existing characteristics. Representations are formed under the influence of one's own experience of the product and are not an objective assessment, as the representations of a particular person may be formed as a result of selective perception or unconscious distortion of facts.

– The consumer consciously or unconsciously evaluates the usefulness of each key characteristic of the tourist product as a commodity. Utility is described by the utility function, which characterizes the level of expected satisfaction from the consumption of the product itself and its specific characteristics-attributes. The formation in the product of a “winning” combination of key characteristics with the highest level of usefulness makes it the most attractive from the point of view of the consumer.

– Assigning a level of usefulness to a tourist product allows consumers to identify their level of satisfaction with the level of availability of a certain characteristic in the product.

– The attitude of consumers to the tourist product is based on information and is formed as a result of their conscious or unconscious evaluation. The multi-attributive model of a tourist product in a regional economic and social destination is structurally formed from a set of elements listed in Table 1.

Table 1. Components of the multi-attribute model of the tourist product in the regional economic and social destination (Source: Built by the authors)

Objective properties – describe reality	Attributive characteristics	Evaluation of characteristics		Consumer value	
		weight (priority)	presence (perception)		
$B1_i$	X1	P1	H1	U1	U
$B2_i$	X2	P2	H2	U2	
…	…	…	…	…	
Bn_i	X_n	P_n	H_n	U_n	

Assessment of the importance of the characteristics of the tourist product is carried out on an interval scale. The effective (integrated model) of the tourist product is formed from the components of utility and its total utility. The attributive characteristic of the tourist product determines the benefit, the utility that the customer wants to get from the consumption of the product. The value of the attributive characteristic for an individual is determined by a combination of two main factors that form the basis of the evaluation system: the weight (priority) of the characteristic and the perception of its presence. Subjective assessment of the value of individual characteristics of the product by different consumers characterizes the total utility of this attributive characteristic. It is defined as the product of the perception of the presence and importance (priority) of characteristics (Lew, 1987; Antonenko and Mykhailichenko, 2011).

$U_{ji} = P_{ji} \times H_{ji}$ (1) where, U_{ji} – individual utility and characteristics of the tourist product from the point of view of the *j*-th person; H_{ji} – assessment of the j-th person's perception of the presence of the *i*-th characteristic in the tourist product; P_{ji} – assessment of priority and characteristics for the *j*-th person.

The total utility of a tourist product from the point of view of an individual tourist is assessed as follows (Lew, 1987; Antonenko and Mykhailichenko, 2011):

$U_{jy} = P_{j1} \times H1 + P_{j2} \times H_{j2} + \ldots + P_{jy} \times H_{jy} + \sum_{i=1}^{y} P_{ji} \times H_{ji}$ (2) where, U_{jy} – the total utility of the tourist product in terms of individual *j*-th; H_{ji} – assessment by the *j*-th person of the level of the available *i*-th characteristic in the tourist product, points; P_{ji} – assessment of the importance (priority) of the *i*-th characteristic for the *j*-th person; *y* – the number of defining attributive characteristics in the tourist product.

Attributive characteristics of the tourist product are independent features, so the integrative model of its utility has the form (Antonenko and Mykhailichenko, 2011; Lew, 1987):

$SZ_{jy} = \frac{U_{ji}}{SO_{ji}}$ (3) where, SZ_{ji} – integrated utility or level of satisfaction of the *j*-consumer in the *y*-number of characteristics of the tourist product; SO_{ji} – the sum of estimates of the importance of the characteristics of the tourist product for the *j*-th individual is determined by formula (4) (Lew, 1987; Antonenko and Mykhailichenko, 2011):

$SO_{jy} = P_{j1} + P_{j2} + \ldots + P_{jy} = \sum_{i=1}^{y} P_{ji}$ (4) The use of such an approach to the evaluation of the tourist product makes it possible to determine the average indicators of the total utility of all the characteristics of the tourist product (SZ_{aver}).

This criterion characterizes the competitiveness of the tourist product and allows from the consumer's point of view to assess and analyze the attractiveness of its use in the regional economic and social destination as a whole and its main components (general condition of tourist services; quality of accommodation; quality of food; quality of excursion service, entertainment and other additional services). Authors are note that the most important is the assessment of the components of the tourist product, which gives an idea of its competitiveness. This allows to make decisions about improving certain defining characteristics of the regional tourism product (Lew, 1987; Antonenko and Mykhailichenko, 2011):

$SZ_{aver} = \sum_{i=1}^{y} SZ_{aver_i}$ (5) Assessing the competitiveness of a tourism product in a regional economic and social destination provides an overall assessment of the development of the tourism business. Unlike the initial subjective assessments from the point of view of individual consumers, such an assessment can be considered objective because it is based on weighted averages. High values of the level of satisfaction with the tourist product in the regional economic and social destination of the country indicates a higher probability of its choice by the client – the tourist.

RESULTS AND DISCUSSION

Demand for tourism products is particularly sensitive to security and health issues, and the industry is very sensitive to changes in the international political situation, natural disasters and epidemics (terrorist attacks, disease outbreaks, epidemics, tsunamis, volcanic eruptions, floods, landslides, hurricanes). These events lead to a sharp decline in the number of tourists in vulnerable countries or regions. Tourists' concerns about health risks are growing. Infectious diseases, in particular, have a direct impact on the choice of tourist destination. In today's conditions, this situation can be viewed on the positive side, as due to the closure of most borders, which makes it impossible to travel around the world, the number of domestic tourists is growing. Thus, according to Figure 3, the dynamics of tourist flow in Ukraine for 8 years (2013-2020) proves that the number of domestic tourists in 2013 was more than 0.7 million people. However, in 2014-2015, the number of domestic tourists decreased rapidly and since 2016 there has been a tendency to gradually recover, which is gaining momentum. The largest number of domestic tourists in 2020 was – 0.52 million people. Given this trend, we can predict that in 2021 the indicators of domestic tourism will increase at least twice.

This is facilitated by the global pandemic COVID-19, which blocks international tourism, which is projected by the World Tourism Organization (UNWTO) to last from three to five years. This will provide an opportunity to develop domestic tourism business, where residents can better get to know their country, visit local history, health, cultural and historical sites, enjoy recreational resources, which in turn will lead to economic, social and health effects. At the same time, this is a clear example of the hysteresis effect, which makes it impossible to return the tourist flows of previous years under the impact of factors that influenced the development of tourism business in Ukraine (annexation of Crimea and occupation of Donetsk and Luhansk regions, global pandemic COVID-19).

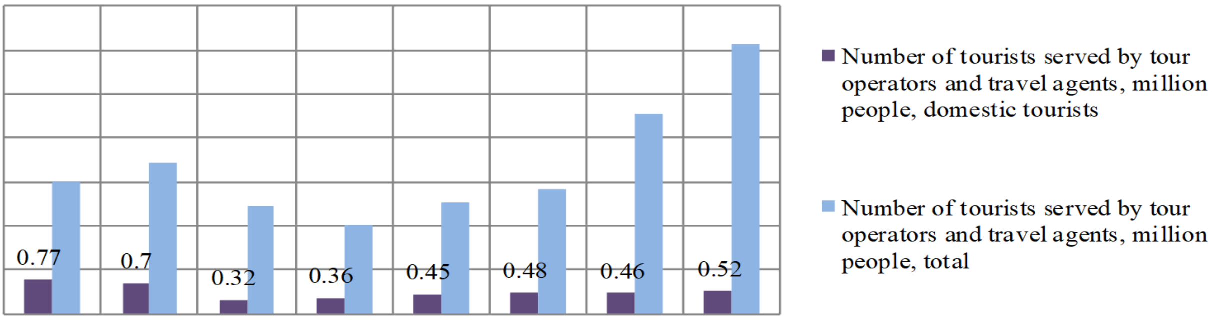

Figure 3. The scale of service of domestic tourists by tour operators and travel agents in Ukraine for 2013-2020
(Source: Built by the authors according to Cherchyk and Kolenda, 2008; The Global Economy, 2021; Tourist Streams, 2021)

Authors should note that the violation of the regional economic and social destination of the country can lead to three negative economic effects: the first is associated with a sharp decline in GDP, a rapid increase in both public and private debt (the emergence of financial instability); the second is related to the uneven blocking of the economy (aviation, tourism, leisure and retail trade in non-food products may experience a long period of stagnation); the third is related to the uneven and significant decline in household development (loss of work and income, isolation hinders the search for alternative jobs, which may be rare).

In order to mitigate the negative effects in the country, the development of tourism business in the regional economic and social destination should provide effective tools. They will effectively use the tourism potential of the territories through the mechanism of its regulation, which should function through three interconnected blocks (Figure 4). The functioning of the tourism business through partnership implies that a set of travel agencies and organizations in this field in the regional economic and social destination enter into relationships with consumers in the process of creating, promoting and selling tourism products and guest services. At the same time, the tourist service is a specific type of socio-economic activity aimed at obtaining a beneficial effect, while meeting the needs of consumers, business owners, employees, the state, society, territory and the natural environment (O'Connor, 2020; Sigala, 2020). In addition, the rational interaction of the state and tourism business structures should be based on the strategy of development of the tourism industry in the regional economic and social destination and include a universal information and analytical bloc with a system of quantitative and qualitative evaluation indicators, which should take full account of tourism potential in a certain area, provide monitoring and control of trends in the tourism industry and the regional tourism market, as well as strategic planning and forecasting of tourism development. The composition of the indicators of the information-analytical bloc through a system of indicators are presented in Table 2.

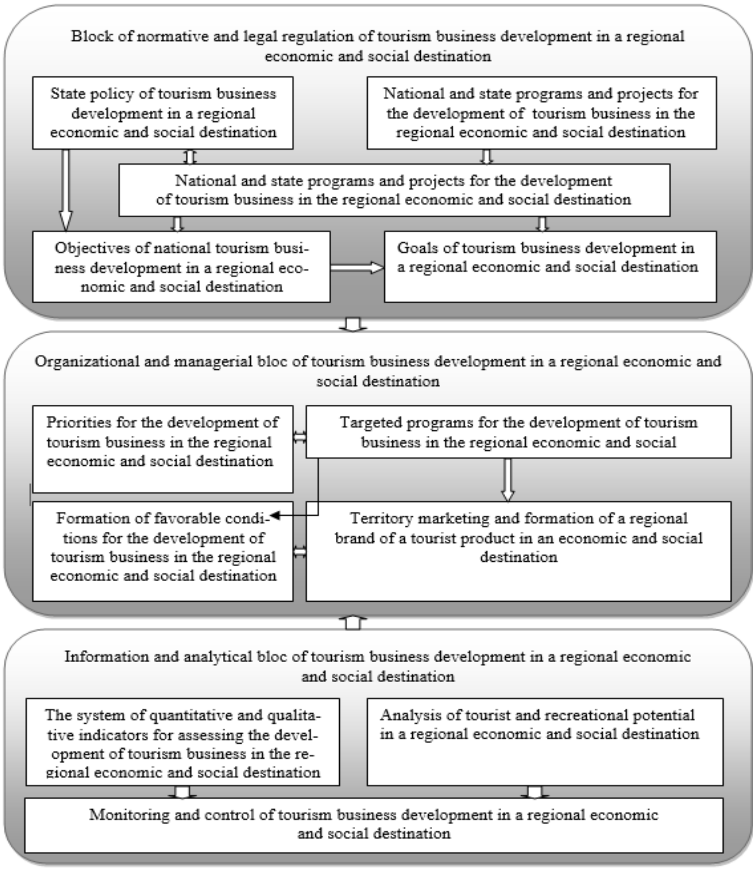

Figure 4. The mechanism of regulating the development of tourism business in the regional economic and social destination of the market type
(Source: Developed by the authors according to Barabanova et al., 2020)

Table 2. The system of quantitative and qualitative indicators of tourism business development in the regional economic and social destination of the country (Source: Authors according to data from Gorina and Barabanova, 2019)

Indicators of investment attractiveness of the tourism business in the regional economic and social destination	Indicators of tourism business development in the regional economic and social destination	Indicators of the state of natural-climatic and ecological subsystems of the regional economic and social destination	Indicators of tourism infrastructure development	Indicators of efficiency of regulation of normative-legal and organizational-administrative subsystem of development of tourist business in regional economic and social destination
GRP, million EUR	Number of domestic and inbound tourist flows in the destination, pers.	Number of natural tourist sites in the destination, pcs.	The level of service for tourists in the destination, points	The level of development of the regulatory framework for tourism business in the destination
The population of the region, pers.	The average length of stay of tourists in destinations using guest services, days	Area of reservoirs, km^2	The level of socio-cultural development of the destination in the international dimension, points	The effectiveness of tourism business regulation in a regional socio-economic destination
Number of operating travel agencies in the destination, pcs.	Number of travel agencies and organizations of the tourism industry in the destination, pcs.	Length of the coastline, km	The level of development of the entertainment and recreation industry, points	The effectiveness of the implementation of regional target programs for the development of tourism business in the destination
Production volume of industrial and agricultural products in the region, million EUR	Volume of paid guest services provided at tourist accommodation, million EUR	Area of protected areas, km^2	Level of development of sports and health infrastructure, points	The effectiveness of marketing the territory in the tourist business of the destination
Retail trade turnover in the regional socio-economic destination, million euros	The average annual number of people employed in the tourist business of the destination, pers.	Duration of the holiday season, days.	The level of international transport accessibility of tourist destinations in the territory, %	The effectiveness of the regional brand of tourist product in the economic and social destination
The amount of budget funding for the destination, million EUR	The average level of wages in the tourist business of the destination, EUR	Average air and water temperatures in the holiday season, deg.	The level of internal transport accessibility of tourist destinations, destinations, %	The effectiveness of the use of information technology in the tourism business of the destination
Total investment inflows into the regional economic and social destination, million EUR	The amount of investment from the sale of tourist guest services in the destination, million EUR	Average humidity, %	The level of development of the transport infrastructure of the regional economic and social destination, points	The effectiveness of the organizational structure of tourism business regulation in the regional economic and social destination
Volume of foreign direct investment in a regional economic and social destination, million EUR	Number of outbound tourists to other regional economic and social destinations and countries, pers.	The level of air pollution in the destination, % concentration of pollutants	The level of safety of tourists in the destination, points	Budget efficiency of tourism business in a regional economic and social destination
The average payback period of investment projects in the region, years	Volumes of tax revenues to the regional budget from the tourism sector, million EUR	The level of water pollution in the region, % concentration of pollutants	Efficiency of using the natural resource potential of the region	Level of development of the tourism monitoring subsystem
Total savings of citizens of the region, million EUR	The average payback period of investment in the tourism business of the destination, years	Number of environmentally hazardous facilities, pcs.	Level of information development	The level of training and retraining in the tourism business of the destination

The general estimation of the criteria of effective development of tourist business in the regional economic and social destination is presented in Figure 5. The defined criteria allow to prevent crisis consequences that are characteristic of risks of social and institutional nature (level of petty and organized crime and violence, terrorism, social, political, religious conflicts, military actions); risks of travel agencies and related industries (transport, sports and trade, which may be dangerous for the tourist, his physical condition and economic interests); low standards of construction of tourist infrastructure (structures, fire resistance, environmental friendliness of materials); "gaps" in legislation, unfair competition and fraud; risks associated with the tourist (fascination with dangerous sports, careless driving, consumption of harmful food and beverages, visiting dangerous places, loss of personal belongings and documents, transportation of prohibited items, travel in an unhealthy condition); risks of a natural nature (ignorance of the natural environment of the destination (flora and fauna), lack of preventive medical care before the trip (vaccination), non-compliance with sanitary norms of food consumption (street food), likelihood of exposure to unforeseen natural disasters. Therefore, financial support is a priority for the implementation of the strategy of tourism business development in the regional economic and social destination, which is carried out at the expense of funds provided by the state and local budgets for the year.

At the same time, funds for the implementation of targeted programs within one territory are redistributed for the implementation of cross-border cooperation programs of the country. The tools for the implementation of such programs are the European Neighborhood Policy for 2014-2020, the Danube Transnational Program for 2014-2020, bilateral agreements concluded by Ukraine with partner countries. In this case, financial support is provided subject to co-financing in the amount of not less than 10% of the total project funding from the local budget or other sources (Table 3).

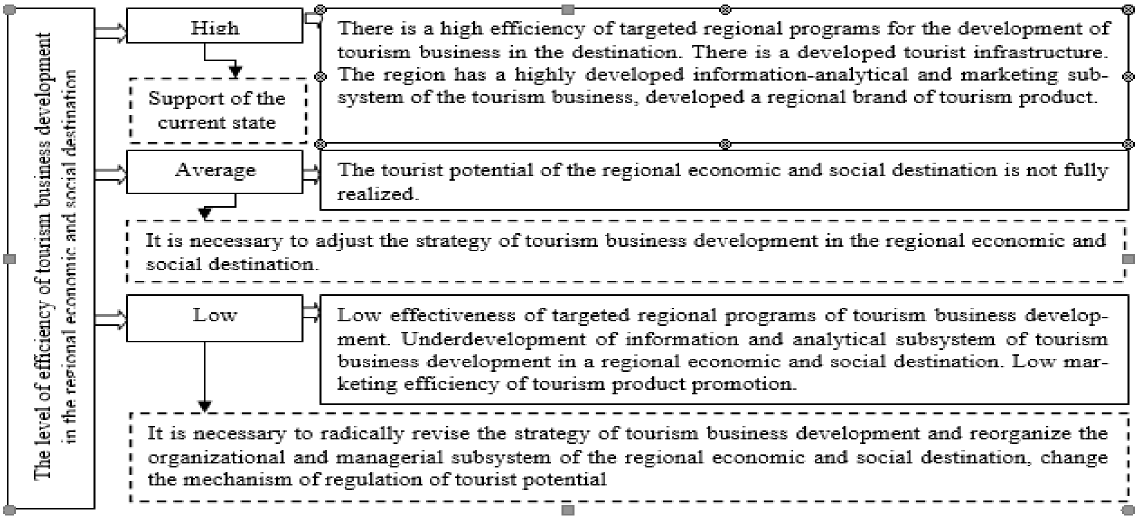

Figure 5. Criteria for assessing the level of effective development of the tourism business in the regional economic and social destination (Source: Developed by the authors according to Gorina et al., 2020; The UNWTO Tourism Dashboard, 2021)

Table 3. Border cooperation of Ukraine with Euroregions in the framework of the European Neighborhood Policy for 2014-2020 (Source: Authors according to data from Rosalina et al., 2021; Tourist Streams, 2021)

Name of the program	Regions of Ukraine participating in the program	Budget
Poland – Ukraine – Belarus	Volyn, Zakarpattia, Lviv regions – as the main regions; Rivne, Ternopil, Ivano-Frankivsk regions – as additional regions	175.799 million EUR
Hungary – Slovakia – Romania – Ukraine	Zakaarpattia, Ivano-Frankivsk regions – as the main regions; Chernivtsi region – as an additional region	73.952 million EUR
Romania – Ukraine	Odessa, Chernivtsi, Ivano-Frankivsk and Zakarpattia regions – as the main regions; Vinnytsia, Ternopil and Khmelnytsky regions – as additional regions	60 million EUR
Black Sea Basin Partner countries – Armenia, Azerbaijan, Bulgaria, Greece, Georgia, Romania, Moldova, Turkey, Ukraine	Odessa, Kherson, Mykolaiv, Zaporizhzhia and Donetsk regions	39.039 million EUR (from the European Neighborhood Instrument ENI + European Structural Development Fund ERDF) + 10 million EUR from the IPA Pre-accession Fund

Unfortunately, the underestimation of the role of cross-border cooperation (CBC) between Ukraine and the EU at the level of its perception by central, regional and local executive bodies of Ukraine as a branch of foreign economic activity in territorial (spatial) development leads to unregulated coordination and functionality of tourism business without using strict control. In accordance with Ukrainian legislation, tourism cooperation strategy (TCS) is considered one of the activities of the state, delegated to local authorities, which does not coincide with the provisions of EU legislation, which defines it as an element of regional policy for tourism development in economic and social destinations. For example, in Poland, the recognition by the voivodship of the subjects of the tourist sphere and the right to implement the regional policy of the state and the EU on the development and promotion of the tourist product in the economic and social destination is of fundamental importance. At the same time, in the Ukrainian regions this right remains with the state administrative units, to which certain powers can only be delegated by central state authorities (Rosalina et al., 2021).

Authors believe that the following steps are needed to improve the regulatory framework of the TCS: adoption of regulations after careful expert training and public discussion; clear definition of regulatory functions related to the development of cross-border cooperation and development of tourism business between different public authorities; prevention of institutional and legal conflicts in terms of regulating cross-border cooperation of regions in the context of decentralization of state power; institutional and legal support of the system of cross-border cooperation at the level of local communities and self-governing institutions for the development of tourism business; determination of criteria for evaluating the effectiveness of cross-border cooperation and introduction of relevant statistical indicators and indicators of tourism business development; improving the mechanism for coordinating the powers of local governments; in the preparation and approval of tourism projects (Hafurova and Siuiva, 2021). The state budget annually takes into account the costs of ensuring the implementation of measures related to the adaptation of Ukrainian legislation to EU law. As a result, the improvement of the legal framework for the implementation of new regulations for the implementation of the Association Agreement between Ukraine and the EU will encourage the intensification of foreign economic activity of regions and development of tourism business, development of tourism infrastructure, free labor and tourism migration, exchange of best practices in the environmental, economic spheres of activity. The development of existing and the formation of new tourist Euro regions will contribute to attracting new investment in the national economy and will intensify cross-border activities between regional economic and social destinations.

Thus, in order to improve the financing mechanisms of TCS, we propose: obligatory contribution to the annual State Budgets of Ukraine of co-financing 10% of the amount of specific cross-border cooperation projects for Ukrainian participants in the tourism market; for the objectivity of determining the beneficiaries of cross-border tourism projects, it is desirable to create joint tender commissions with EU institutions and funding on a parity basis selected for the implementation of such projects; adaptation of financial procedures in the field of TCS to EU norms, which will provide an opportunity for more efficient use of funds within the budgets of tourism projects in the cross-border area; improving the system of monitoring the implementation of tourism projects in the cross-border area; creation of an effective system of cross-border statistics on accommodation of tourists and provision of guest services; stimulating legal income from cross-border cooperation in the tourism business (Myronov and Myronova, 2021). For strategic planning of tourism business development in a regional economic and social destination, it is necessary to form a general concept of its evaluation in terms of a systematic approach and analysis of alternatives. That is, it is necessary to do a comparative assessment of the economic and social effectiveness of alternatives for the promotion of tourism as a sector of the tourism business, taking into account their relationship with each other and with other sectors and sectors of the regional economy to take into account the impact of tourism on cross-border cooperation. Since the existing tools for assessing the tourism business are levers of indirect impact on the economy, so taking into account cross-border cooperation in this area will determine the criteria for optimal profits from tourism operators and tourism and its effect in the regional economic and social destination. This criterion ΔInc is generally presented in the following formula (6) (Cherchyk and Kolenda, 2008):

$\Delta Inc = [Inc_1 + (1 + k) \times Inc_2] - C,$ (6) where, Inc_1 – income of tour operators and travel agencies from inbound tourism, including cross-border cooperation; Inc_2– income of tour operators and travel agencies from outbound tourism, including cross-border cooperation; C – costs of tour operators and travel agencies in the region for the development of tourism business in the regional economic and social destination, including cross-border cooperation; *k* – coefficient that takes into account the deduction of part of the income of tour operators and travel agencies from outbound tourism.

Features of the presented methodical approach are the following:

1. Profit from the activities of tour operators and travel agencies $\Delta Inc$is a part of the profits generated in the tourism business of the regional economic and social destination, including cross-border cooperation, which remains in the territory and is used outside the tourism industry. That is, the part of the profit that is directed to the expanded reproduction of the tourism industry itself is not taken into account.

2. Revenues from inbound (Inc_1) and outbound tourism (Inc_2), including cross-border cooperation, are formed from tax revenues from the activities of tour operators and travel agencies, as well as from taxes paid by business structures of the related areas and sectors involved in tourist services. They should also include payment for loans provided by the state for the development of tourism in the regional economic and social destination.

3. The amount of costs (C)takes into account regional investments in the development of tourist infrastructure, including from cross-border cooperation, which are returned after a certain period. Therefore, the sum of profits and expenses must be brought to the initial point in time by discounting them (formula 7) (Cherchyk and Kolenda, 2008):

$\Delta Inc = \frac{\sum_{i=1}^{t}[Inc_1+(1+k)\times Inc_2]}{(1+r)^t} - \frac{\sum_{i=1}^{t} C_t}{(1+r)^t}$ (7) where, r – discounted rate.

Thus, management decisions on the development of tourism business in the regional economic and social destination, including cross-border cooperation (including the coefficient *k*) is a temporary function. The basic dependences of costs and revenues on the development of the tourism business in the regional economic and social destination, taking into account cross-border cooperation can be represented as follows: income and expenditure indicators (Inc_1, Inc_2, C) are functions of inbound (TF_1) and outbound (TF_2) tourist flows. Criteria $TF_1$and TF_2 are also temporal functions (formulas (8)-(9) and can be shown as follows (Cherchyk and Kolenda, 2008: 57-58):

$TF_1 = f[SE_{1t}, I_{1t}, P_{1t}]$ (8); $TF_2 = f[SE_{2t}, I_{2t}, P_{2t}]$ (9) where, SE_{1t}, SE_{2t} – estimated indicators of economic and social conditions of the regional destination for inbound and outbound tourist flows, taking into account cross-border cooperation; I_{1t}, I_{2t} – indicators of the level of the development of tourist and service infrastructure of inbound and outbound tourism, as well as marketing activity of tour operators and travel agencies in the regional economic and social destination, taking into account cross-border cooperation; P_{1t}, P_{2t} – indicators of the effectiveness of the promotion of inbound and outbound tourist product on the market of tour operators and travel agencies in the regional economic and social destination, taking into account cross-border cooperation.Indicators I_{1t}, P_{1t} are functions of expenditures C_{1t} of government and local self-government for the development of inbound tourism infrastructure in a regional economic and social destination, taking into account cross-border cooperation. Accordingly, the values I_{2t}, P_{2t} are functions of expenditures C_{2t} of government and local self-government for the development of outbound tourism infrastructure in the regional economic and social destination, taking into account cross-border cooperation.

Assessing the effectiveness of tourism development of the regional economic and social destination, taking into account cross-border cooperation requires the definition of dependencies $Inc_1 = Inc_1(TF_1)$, $Inc_2 = Inc_{21}(TF_2)$ and $C = C(TF_1, TF_2)$, as well as the definition of income and expenses related to TF_1 and TF_2.

The option of formalizing the dependence of income generation on the development of tourism business of a regional economic and social destination, taking into account cross-border cooperation is presented in formula (10) (Cherchyk and Kolenda, 2008):

$$Inc_{1,2} = \sum_i Inc_{1i}[TF_{1t}] + \sum_j Inc_{2j}[TF_{2t}] \quad (10)$$

where, Inc_{1i} – the *i*-th type of income coming to the budget from the development of inbound tourism in the regional economic and social destination, taking into account cross-border cooperation; Inc_{2j} – the *j*-th type of income coming to the budget from the development of outbound tourism in the regional economic and social destination, taking into account cross-border cooperation.

Stimulating the development of tourism business in the regional economic and social destination, taking into account cross-border cooperation requires public authorities and local self-governments to allocate certain funds for these purposes, both directly and indirectly. Most often, such investment is indirect and not always aimed at promoting the tourist product and guest services to consumers. These funds are allocated mainly for the development of the region's infrastructure, which is also used by the tourism sector. To assess the state of the development of the Ukrainian tourism business and compare with world leaders in the field of cross-border tourism cooperation, 9 countries were selected with high performance in the tourism industry worldwide. The countries are selected on a geographical basis (these countries represent all continents), on the difference between models and directions of the development and the degree of influence of states in the regulation of the tourism business. The impact of tourism on the economies of selected countries is shown in Table 4.

Table 4. The impact of tourism of the world countries on the economy (Source: Authors according to data from Country Analysis the World Travel and Tourism Council, 2020; The Global Economy, 2021)

Country	The country's GDP per capita, thousand EUR	Direct contribution of tourism to GDP per capita, thousand EUR	Total contribution of tourism to GDP per capita, thousand EUR	Capital investment in tourism, billion EUR	Average income per month, EUR	Population, million people
Australia	52.25	1.30	5.09	15.81	2231	19.78
Belgium	38.92	0.86	2.13	2.00	2594	9.58
Brazil	9.37	0.31	0.73	19.82	665	173.5
India	1.21	0.024	0.078	27.61	256	1076.9
China	5.61	0.13	0.55	2.65	573	1169.2
USA	42.73	1.20	3.78	124.5	2789	273.5
Ukraine	3.30	0.06	0.17	0.38	235	36.75
France	36.68	1.38	3.29	16.32	2467	54.70
Croatia	11.38	1.19	2.72	0.89	1501	3.59

The direct impact of tourism in sectors of the economy directly related to the formation of the tourist product (hotels and restaurants, spas and health facilities, transport, entertainment industry), while the indirect impact covers a much wider area, including construction, trade, banking and insurance, food industry and other branches of production and social infrastructure (Bovsh et al., 2020; Moscardo, 2020; Pas, 2021). Components of the total contribution of tourism to the country's GDP, according to the World Tourism and Travel Agency (Country Analysis the World Travel and Tourism Council, 2020), determine and ensure the implementation of the spatial distribution of funds in regional economic and social destinations by inbound and outbound tourist flows, which are presented in Table 5.

Table 5. Tourist flows and types of tourism in the world
(Source: Authors according to data from Country Analysis the World Travel and Tourism Council, 2020)

Country	Inbound tourism (arrival)[1], million people	Outbound tourism (departures), million people	The main types of tourism in the country
Australia	6.604	0.698	resort, extreme, ecological, culture, sports
Belgium	7.500	9.500	culture, sports, business
Brazil	5.677	8.119	ecological, resort, adventure, culture appropriate
India	6.578	14.920	religious, culture, beach, business
China	56.739	100.000	cultural and business tourism, medical, ecological, religious
USA	72.540	60.240	culture, resort, business, sports, environmental, entertainment
Ukraine	2.323	2.519	recreational, culture appropriate, rural, ecological
France	84.000	26.000	culture, beach, sports, education
Croatia	10.904	2.280	resort, rural, sports, religious

It should be noted that US inbound tourism is provided by the developed infrastructure of the network of entertainment facilities and geographical location. Inbound tourist flow in Australia is largely based on geographical location, the dominance of extreme and sports tourism is due to the heterogeneity of infrastructural and economic development of the country. Among the countries of the world, it is possible to find certain regularities, which explain a positive direction of tourist streams: tourists of the countries with steady economy prefer among foreign tourist destinations the countries with a similar level of economic development; preference is given to geographically close and/or culturally identical destinations. Countries with positive tourist flows are grouped by a high rate of return on tourism business in regional economic and social destinations, but, in turn, it is not the main sector of income and develops within the national strategy (Australia, France), and countries such as Croatia, where tourism is the main lucrative industry (The UNWTO Tourism Dashboard, 2021). It should be noted that countries with significantly higher GDP per capita (Australia, USA, France) have a positive balance of tourist flows. Ukraine has the lowest ranking positions in the development of tourism business in regional economic and social destinations. In more detail, the components of the rating The Travel and Tourism Competitiveness Index of Ukraine on the main indicators are shown in Figure 6.

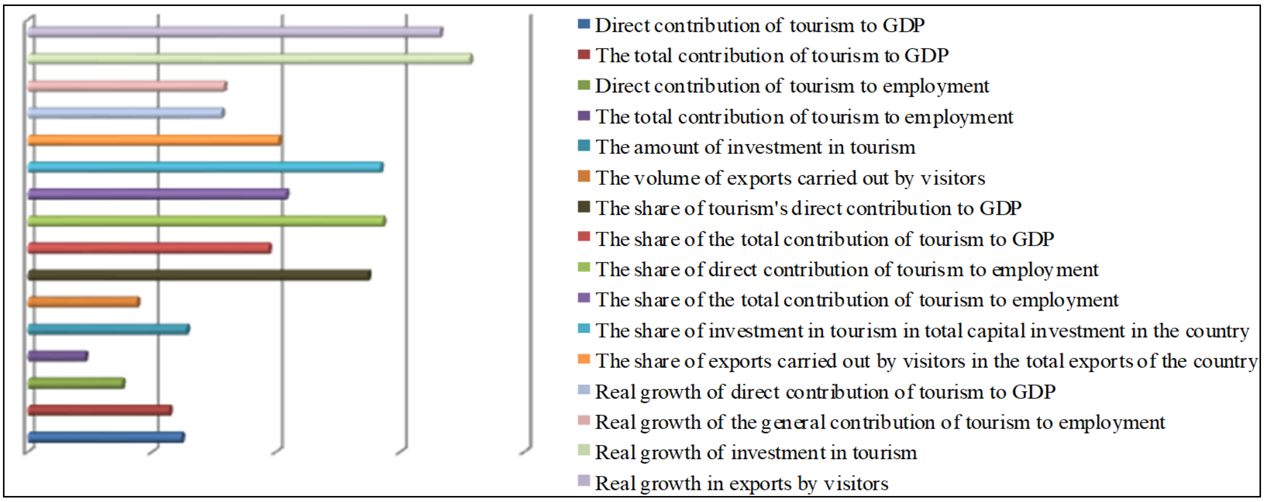

Figure 6. Ukraine in the World Travel and Tourism Council rankings according to the main indicators of the contribution of tourism to the country's GDP (Source: Built by the authors according to Country Analysis the World Travel and Tourism Council, 2020; The UNWTO Tourism Dashboard, 2021)

Thus, the tourism business can become the basis and "locomotive" of the development of a regional economic and social destination, given the cross-border cooperation of Ukraine with countries. For example, Croatia has common features with the country. At the same time, Ukraine lags far behind the leading countries in terms of total tourism business, GDP and population employed in the tourism industry. Among the leading countries in the world in terms of the total contribution of tourism to GDP, the leaders by a significant margin are Spain – 14.3%; France – 9.0% and the USA – 8.7%. The share of Ukraine's tourism business in GDP is 8.0%, behind China (8.5%) and ahead of Japan (6.8%) (Country Analysis the World Travel and Tourism Council, 2020).

CONCLUSIONS

Thus, to achieve a strategy of effective development of tourism business in the regional economic and social destination of the country, through planning and forecasting a stable system of tourist flows, it is necessary to form an optimal price mechanism for tourism products, which will give market regulators a targeted and less costly self-development of business structures in the tourism sector. The creation and promotion of a tourist product not only within the framework of domestic regional policy, but also within the framework of cross-border cooperation with the countries of the world will allow the state to distinguish types of socio-economic relations at the local level.

Ensuring the optimal ratio between income and expenses for the promotion of marketing ideas for tourist travel within the border areas will improve the quality of life, activate national and foreign investors in the development of the tourism industry, and make conditions for job creation. In addition, the development of inbound and domestic, rural, ecological (green) tourism will expand international cooperation in the global tourism market, and the introduction of highly profitable tourism services among other sectors of the economy will help harmonize tax, currency, customs, border and other regulations. This will create affordable conditions for continuous improvement of the business climate and competition. Popularization of countries in the world, promotion of qualitative national tourism products in the world information space through the creation of a global information system in the field of tourism and resorts with integration into tourist information networks will develop sightseeing visits to natural areas and resorts for children, youth, the elderly, disabled and low-income citizens by introducing benefits to these categories of persons.

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I CAN'T GET NO SATISFACTION: EXPLORING INDONESIAN GUESTS' SATISFACTION AND SERVICE QUALITY IN SOUTH AFRICAN HOTELS

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Abstract : This study aims to determine whether the dimensions of service quality affect the satisfaction of Indonesian tourists who visit South Africa and use hotel services, as well as to analyse the most dominant factors in influencing Indonesian tourists' satisfaction toward hotels' service in South Africa. The population in this study were Indonesian tourists who had just returned from South Africa and used hotel accommodations. Samples were obtained randomly at the Soekarno Hatta International Arrival Terminal, Tangerang, Indonesia in 2019 before the Covid-19 pandemic. The sample was taken around 100 respondents by using non-probability sampling approach with the accidental sampling method. It is discovered that Indonesian guests are pleased with the service quality of the hotels during their stay in South Africa and that the Indonesia guest's revisit intention quite high. Also, it is suggested that the hotel managements in South Africa need to maintain the elements that have been rated satisfactory by Indonesian guests and need to improve the things that are still lacking. This study contributes an empirical basis in strategic aspect for managing foreign tourists/hotel guests' satisfaction from abroad perspective.

Key words: service quality, consumer's satisfaction, tourism, hospitality, consumer's behaviour

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INTRODUCTION

In the era of globalization, there are more and more products or services that compete in one market due to market openness. So that there is intense competition between producers to be able to meet consumer needs and provide maximum satisfaction to guests, because basically the purpose of a business is to create a sense of satisfaction for consumers. Consumers' satisfaction is a feeling of pleasure or disappointment that arises after comparing the performance of the product thought to the expected performance, where one of the actions to satisfy consumers is to provide the best service to consumers (Jasmani et al., 2020). Lam et al. (2021) argues that service quality can be interpreted as an effort to fulfil consumer needs and desires as well as the accuracy of delivery in balancing consumer expectations. Service quality can be determined by comparing consumers' perceptions of the services they actually receive or get with the services they actually expect or want on the service attributes of a company (Muskat et al., 2019).

Hotel is an accommodation service business in which there are elements of service, comfort, and lodging facilities needed for those who want lodging facilities for vacation and meeting purposes. In the service business, particularly in geotourism sector, the hotel business is also experiencing swift development (Ilieș et al., 2020). In addition, hotel business is a cutthroat business competition, ranging from five-star hotels to special lodgings for studio room, not to mention the competition from the community based online platform such as Airbnb business model (Aznar et al., 2019). The competition in question could be a factor of cheaper room rates, satisfying service to guests, strategic locations, hotel facilities provided and other factors that are able to convince consumers or guests to use the hotel's services (Musa et al., 2019).

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International tourists, particularly Indonesian tourists (henceforth called guests) are best known for their selective behaviours in travelling abroad (Ghorbanzadeh et al., 2021; Kusumaningrum and Wachyuni, 2020; Mahmud et al., 2021; Wachyuni and Kusumaningrum, 2020; Senbeto and Hon, 2020; Teng, 2021; Tse and Tung, 2022; Wijaya et al. 2019), this includes how to choose the destination abroad (Wijaya et al., 2018). According to several studies (Michael et al., 2004; Reisinger and Turner, 1997; Saragih and Jonathan, 2019; Wijaya et al., 2019), most of the tourist are highlighting the importance of service quality, which eventually will influence their satisfaction level.

Along similar lines, Minister of Indonesian Tourism and Creative Economy argue that Indonesian tourist are accounted for around six to seven million people up to December 2020 (Ramadhian, 2020a). This increasing number is a great opportunity to reap the potential financial revenue which can be retrieved from Indonesian tourists alone (Kusumaningrum and Wachyuni, 2020; Wachyuni and Kusumaningrum, 2020), not to mention if the pandemic is under-controlled. If the country of destination and the hotels fail to meet the tourist's satisfaction, particularly from Indonesia, then it is a loss for the country national revenue (Bogale et al., 2021; Chashina et al., 2020). According to Matshusa et al. (2021), geotourism is a type of tourism that conserves and strengthens territorial geographical identity by recognising its unique geological aspects, environment, culture, aesthetics, heritage, and the well-being of its inhabitants. Next, Ramadhian (2020b) argues that South Africa is one of the top-of-mind destinations of Indonesian tourists' preference in overseas in terms of geotourism activities. In the same vein, Putri (2015) asserts that The South African Ministry of Tourism is encouraging overseas tourists, particularly from Indonesia to visit the country more often, as it offers many interesting geotourism programs such as Boulders beach, Cheese Festival, Cape Town Jazz, Klein Karoo Festival and Philippolis Witblits Festival. Hotel activities are renting out rooms, selling food, drinks and providing commercial support services. These supporting facilities are intended to increase the attraction for guests, so that guests are expected to be satisfied with the services provided so that they feel at home and stay long at the hotel. Quality improvement is one of the marketing strategies that emphasizes on fulfilling guest desires. To create a high quality of service, a hotel must offer services that are able to be received and felt by guests in accordance with or exceeding what guests expect. The higher the perceived service quality compared to expectations; the more satisfied guests will be (Sánchez-Pérez et al., 2021).

The satisfaction felt by guests will have a positive impact on the hotel, which will encourage the creation of guest loyalty and the reputation of the hotel will be more positive in the eyes of society in general and guests in particular (Haeruddin and Haeruddin, 2020; Hussein et al., 2018). Therefore, every hotel needs to make an effort to understand the values that guests expect and, on that basis, then try to fulfil those expectations as much as possible. Efforts to achieve overall guests' satisfaction are indeed not easy, that it is not a reality if a company expects no dissatisfied guests. But of course, every company must try to minimize guest dissatisfaction by providing better service. And at the same time, companies need to pay attention to dissatisfied guests in order to manage guest's personal experiences.

Hence, it is a call to contribute by answering the gap in the extant literature to help decision makers in the hotels to understand the guest' personal experience and apply such proper strategies in order to be able to increase their global competitiveness. More so, as argued by Ugwuanyi et al. (2021), the dimensions of guest's experiences demanding context-specific studies and "the exploration of the relationship between guest experience and satisfaction continues to evolve" (2021: 408), therefore, it is vital to pursue further understanding. Furthermore, understanding that guest's experience is individualized and unique, it is fair to offer a study which highlight the personal perception of guests from an emerging hotel industry considering that values, believes, background, and attitude vary across country and nations (Knutson et al., 2009). Moreover, realizing that guests' satisfaction is a distinctive personal experience, then it is fair to propose a study from overseas guests, whose different values, background, beliefs, and nationalities.

Due to the aforementioned reasons, this study will focus on Indonesian guests who stayed in Hotels in South Africa. Also, in this study, guests' satisfaction will be measured through 5 dimensions (tangible, reliability, responsiveness, assurance, empathy) based on Parasuraman et al.'s theory (1988). This present study contributes to the field of knowledge on guest's satisfaction, particularly in tourism field and hotel service sub-sector in exploring guests' experience in post-purchase evaluation. Moreover, this present study examines the service quality and its relationship with guests' satisfaction and their revisit intention. The following section will present the review of literature.

LITERATURE REVIEW

Service Quality

The quality of service is an essential aspect for the company in order to thrive and gain consumer's loyalty (Hussein et al., 2018). Consumption patterns and lifestyles of consumers compel organization to provide excellent quality services. The company's success in providing quality services can be determined by the service quality approach that has been developed by Parasuraman et al. (1988). Service Quality is how far the difference between the expectations and reality of guests for the service they receive. Service Quality can be identified by comparing guest perceptions of the service they actually receive with the actual service they expect. Service quality is the main thing that is seriously considered by the company, which involves all the resources owned by the company. The definition of service quality is concentrated on meeting the needs and desires of guests and the accuracy of delivery to balance guest expectations. According to Maria et al. (2020), service quality is the expected level of excellence and control over the level of excellence to meet guest desires. If the service received is as expected, then the service quality is perceived as good and satisfying. If the service received exceeds guest expectations, then the service quality is perceived as ideal.

Conversely, if the service received is lower than expected, then the service quality is considered poor (Ju et al., 2019). People always expect that hotel services must provide good and satisfying services for every guest. Guests want better facilities from the hotel, the responsiveness, ability, and sincerity of hospital staff. Thus, the hotel is required to always try to improve services to patients. Guests as guests will be satisfied if the perceived performance is in line with their expectations, otherwise they will be disappointed if the perceived performance is below their expectations. Furthermore, guests will be very satisfied if the perceived performance exceeds their expectations. In this regard, to win satisfaction and loyalty, hotel guests’ satisfaction becomes an important thing to be managed more seriously (Hussein et al., 2018). Companies must start thinking about the importance of more mature guest service programs through service quality. What data can be exploited so that guest satisfaction can be exceeded properly, because guest satisfaction is not only obtained from the quality of the products they consume, but also from the services provided by the company to its guests. Guests not only want certain services, but also in the right level and quality of service. Companies need to pay attention to or even prioritize orientation to serve guests that can satisfy guests. Parasuraman et al. (1988) define service quality as a comparison between the services expected by guests and the services they receive. The main factors that affect service quality are the expected service and the perceived. Then the good or bad quality of service is not based on the perception of the service provider but based on the guest's perception of the process as a whole. Perception of service quality is a guest's belief about the service received or the service experienced (Parasuraman et al., 1988). Service quality can be seen from the dimensions of reliability (ability to fulfil promises), responsiveness (responsiveness in providing services), assurance (ability to provide service guarantees), empathy (ability to understand guest desires), and tangibles (physical appearance of services) (Parasuraman et al., 1988), which called as SERVQUAL (Service Quality).

Guests’ satisfaction

Nowadays, attention to guest satisfaction and dissatisfaction has increased because basically the purpose of a company is to create a sense of satisfaction for guests. The higher the level of guest satisfaction, it will bring greater profits for the company, because guests will repurchase the company's products. However, if the level of satisfaction felt by the guest is small, then there is a possibility that the guest will switch to a competitor's product. According to El-Adly (2019), satisfaction is a person's feelings of pleasure or disappointment that arise after comparing the performance (results) of the product thought to the expected performance. While Wu and Gao (2019) state that satisfaction is an emotional state, their post-purchase reaction can be anger, dissatisfaction, irritation, neutrality, joy and pleasure. Satisfaction is influenced by the comparison of perceived service with expected service, and as a guest's short-term emotional reaction to the performance of a particular service. Guest satisfaction with a product or service, is actually something that is difficult to obtain if the service company or industry does not really understand what is expected by guests. For products or services with the same quality, it can provide different levels of satisfaction for different guests. Therefore, a company must always pay attention to the quality of products and services provided to guests.

Relationship among Variables

In this study, guests’ satisfaction is influenced by five dimensions of service quality, namely: tangible, reliability, responsiveness, assurance, and empathy. The following is an explanation of the relationship between the independent variable and the dependent variable.

- Tangible relationship with guest satisfaction. According to El-Adly (2019), because a form of service cannot be seen, cannot be smelled and cannot be touched, the aspect of physical appearance becomes important as a measure of service. Guests will use the sense of sight to assess the quality of service. Good physical evidence will affect guest perception. At the same time, this aspect is also one of the sources that influence guest expectations. Because with good physical evidence, guest expectations are higher. Therefore, it is important for the company to find out how far the most appropriate physical aspect is, which still gives a positive impression on the quality of service provided but does not cause guest expectations that are too high so that it can meet guest needs and provide satisfaction to guests.
- Relationship between Reliability and Guest Satisfaction. According to Wu and Gao (2019), reliability is the ability to provide services in accordance with what was promised accurately and reliably. Performance must be in accordance with guest expectations which means timeliness, the same service for all guests without errors, a sympathetic attitude, and with high accuracy. Fulfilment of promises in service will reflect the credibility of the company.
- Responsiveness Relationship with Guest Satisfaction. According to Wu and Gao (2019), responsiveness is a response or alertness in helping guests and providing fast and responsive service, which includes alertness in serving guests, speed in handling transactions and handling guest complaints. Responsiveness or responsiveness given by service providers will increase the satisfaction felt by guests., and if the hotels let guests wait, it can lead to negative perceptions of service quality.
- Assurance Relationship with Guest Satisfaction. Wu and Gao (2019) define assurance as knowledge of the right product, politeness of employees in providing services, skills in providing information, ability to provide security and ability to instil trust and confidence in guests. According to Maria et al. (2020), assurance incorporates the ability of employees for their knowledge of the product appropriately, hospitality, attention and courtesy, skills in providing information, the ability to provide security in utilizing the services offered and the ability to instil guest trust, the nature of trustworthiness of the staff, free from danger, risk or doubt. Assurance which includes the knowledge and skills of employees in serving guest needs, employee ethics, and security guarantees from the company for guests when visiting hotels. The existence of a security guarantee from a company will make guests feel safe and without any hesitation. In addition, the guarantee from a company will affect guest satisfaction because what the guest wants can be fulfilled by the company, namely with the knowledge and skills of the employee. Politeness and friendliness of employees will make guests feel valued so that they are satisfied with the services provided by the company.

• Empathy Relationship with Guest Satisfaction. According to El-Adly (2019), empathy is attention by giving a sincere and individual or personal attitude given by service providers to guests such as the ability of employees to communicate with guests and the company's efforts to understand guest wants and needs. Where a company is expected to have a sense of understanding and knowledge about its guests, understand specific guest needs, and have a comfortable operating time for guests. Therefore, it can be concluded that empathy is the special attention given by individuals to all guest needs and complaints, and good communication between employees and guests. With special attention and good communication from employees to guests, it will affect guest satisfaction, because guests will feel cared for by the company if their needs and complaints are responded to properly by the company.

METHODS

This research employs a quantitative method. Respondents in this research were Indonesian tourists who had just returned from South Africa and used hotel accommodations in the country. Samples were obtained randomly at the Soekarno Hatta International Arrival Terminal, Tangerang, Indonesia in 2019 before the Covid-19 pandemic. Researchers waited on the International Arrival terminal and waited on the flight from South Africa and distributed the questionnaires while the respondents were waiting to collect their luggage. The sample was taken as many as 100 respondents using the non-probability sampling technique with the accidental sampling method. The methodology flowchart of the study is illustrated as follows:

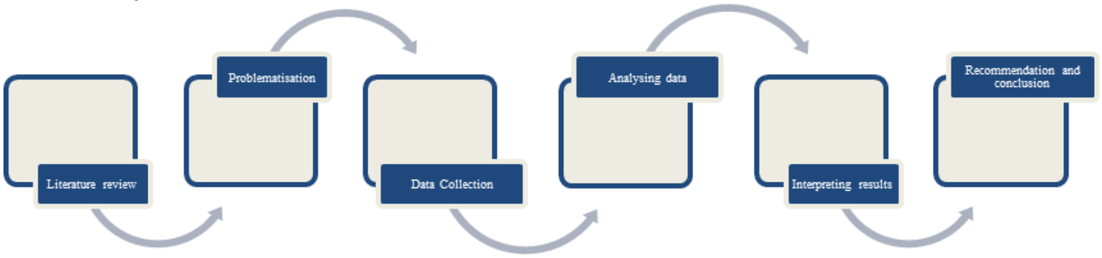

Figure 1. Methodology flowchart

Moreover, the questions in the questionnaire are based on indicators of satisfaction level that are influenced by personal experiences during their visit in South Africa. The questionnaire items were measured on a 5-point scale ranging from Strongly Disagree (1) to Strongly Agree (5) to with a middle point (3) to show Neutral response. The respondents' demographics are as presented in following figures.

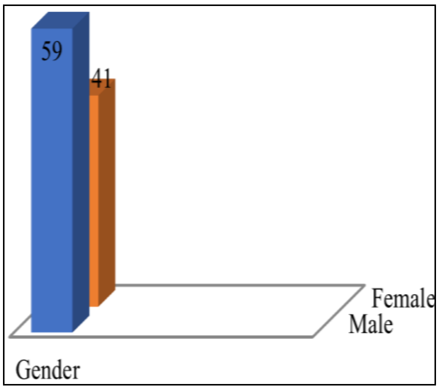

Figure 2. Respondent's characteristics based on gender

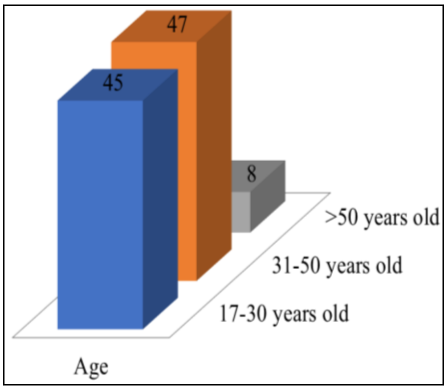

Figure 3. Respondent's characteristics based on age group

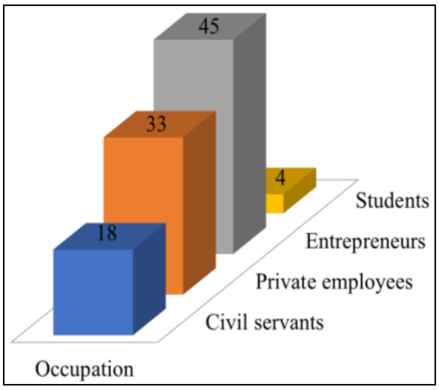

Figure 4. Respondent's characteristics based on occupation

RESULTS

Analysis for survey response index

Based on the Likert's scale which ranges from (1= strongly disagree (SD), 2= disagree (D), 3= neutral (N), 4= Agree (A), and 5= strongly agree (SA)), the mean score of the variables was analysed for each variable. In this research questionnaire, the number of respondents' answers does not start from number 0, but from numbers 1 to 5.

Therefore, the index number generated will start from numbers 20 to 100 with a range of 80. In this study, the three-box method was used, then the range of 80 will be divided by 3 and will produce a range of 26.67.

This range will be used as the basis for determining the index of consumer/guest's perceptions of the variables used in this study (Parasuraman et al., 1998), as 73.36 – 100 will be categorized as **High**, whereas 46.68 – 73.35 will be categorized as **Medium**, and 20.00 – 46.67 categorized as **Low**.

Index of Respondents' Responses to tangible dimension

Tangible evidence shows the location's ability to show its existence to external parties. The condition of equipment, buildings and physical equipment is a form of tangible evidence of the possibility of the high quality of service provided by a hotel. This study uses 4 tangible questionnaire items to measure consumer's perceptions of physical evidence from the

Hotels in South Africa. The following table is respondent's responses to tangible variable. Respondents' responses as shown in Table 1 show that most of the respondents responded that there was a fairly high agreement on the tangible evidence owned by the hotels in South Africa, with a high index value of 83.55. This means that the respondent's response shows a fairly good acknowledgment of the condition of the physical evidence (tangibility) of the hotels. This is supported by the condition of the physical facilities owned by the hotel in the form of a high assessment of the condition of equipment, building conditions, and facilities. Some of the reasons expressed by respondents for their positive assessment of the hotel's buildings and interiors are related to the hotel model that appears different from other hotels, namely showing a beautiful environment full of plants and trees and the beach view it displays because it has a building above the sea. However, several respondents stated that the condition of the hotel was less visible because there was no renovation of the damage and no new innovations were displayed. The cleanliness and comfort of the hotel were also perceived positively by respondents where many of them considered that the convenience of the location could be shown by the cleanliness of the hotel. With regard to hotel facilities, many respondents said that these hotels have complete facilities that are not inferior to other hotels they have stayed in before in another countries. The neat appearance of hotel employees shows that hotel employees can look clean and tidy. This is indicated by the use of clean clothes and always looks neat and attractive.

Table 1. Index of Respondents' Responses Regarding Tangible dimension (Source: Processed data, 2021)

No	Indicator	Score					Freq	Index	Results
		SA	A	N	D	SD			
1	The building and interior of the South African Hotels are nice and attractive	29	61	10	0	0	419	83.8	High
2	South African Hotels are clean and comfortable	35	53	11	1	0	401	84.4	High
3	The facilities offered by the Hotels are complete and as expected	29	59	9	3	0	414	82.8	High
4	The employees and staffs of the South African Hotels look clean, neat and attractive	30	57	12	1	0	416	83.2	High
	Total						1671		
	Mean						417.75	83.55	High

Respondent's Response Index Regarding Reliability

Reliability indicates the company's ability to provide prompt, accurate, and satisfying service. This study uses a 3-item reliability questionnaire to measure consumer's perceptions of service reliability during their stay at the South African Hotels. Respondents' responses as shown in Table 2 show that most of the respondents agreed with the aspect of reliability or reliability of the services provided by the hotels in South Africa, with a high index value of 77.4. This means that respondents get reliable service by South African hotels. Such conditions are supported by the existence of fast and precise service procedures, serious attention, satisfying service and uncomplicated service. Some of the reasons expressed by respondents regarding the speed of the receptionist in service include the time required which is not more than 5 minutes so that guests do not wait too long in service and wait to be served.

Table 2. Respondents' Response Index Regarding Reliability (Source: Processed data, 2021)

No	Indicator	Score					Freq	Score	Results
		SA	A	N	SD	D			
1	The receptionist at the hotels is fast in serving guests	16	66	16	1	1	395	79	High
2	The service procedure or registration for guests of the Hotels is not complicated	16	58	22	3	1	385	77	High
3	The services provided by the Hotels have met expectations/satisfying	19	55	20	6	0	387	77.4	High
	Total						1167		
	Mean						389	77.8	High

Respondents' Response Index Regarding Responsiveness

Responsiveness is the provision of services to guests quickly and responsively. This study uses a 3-item responsiveness questionnaire to measure consumer's perceptions of the responsiveness of South African hotel employees. The following table 3 is the respondent's reaction on responsiveness.

Table 3. Respondents' Response Index Regarding Responsiveness (Source: Processed data, 2021)

No	Indicator	Score					Freq	Score	Results
		SA	A	N	SD	D			
1	The employees and staff of the South African Hotels are responsive to guest complaints	26	41	23	9	1	382	76.4	High
2	The employees and staff of the South African Hotels are always ready to help guests/guests	24	35	33	7	1	374	74.8	High
3	The employees and staff of the South African Hotels are quick to solve problems	28	38	27	7	0	387	77.4	High
	Total						1143		High
	Mean						381	76.2	High

Respondents' responses as shown in Table 3 show that most of the respondents gave a dominant positive response to the responsiveness of the services provided by the South African hotels with a high index value of 76.2. This means that consumer's give a good assessment of the responsiveness of the South African hotels. This is indicated by the attitude of employees who do not discriminate between every consumer, solving every problem is done appropriately and decisively and solving every consumer need is responsively anticipated and without delay. The readiness of hotel employees can also be seen from their agility and speed when consumers need help from employees for guest service and requests, besides that employees can try to solve problems related to performance mismatches or benefits from existing facilities in the hotel.

Respondents' Responses Index Regarding Assurance

Assurance shows the knowledge, courtesy and trustworthiness of service providers. This study uses a 3-item assurance questionnaire to measure consumer's perceptions of the guarantee provided by the South African hotels to its guests. The results of the response to assurance can be described in Table 4 as follows:

Table 4. Respondents' Responses Regarding Assurance (Source: Processed data, 2021)

No	Indicator	Score					Freq	Score	Results
		SA	A	N	D	SA			
1	The employees and staff of the hotels in South Africa are friendly in serving guests / guests	61	36	2	0	1	456	91.2	High
2	The employees and staff of the hotels in South Africa have extensive knowledge	73	23	3	1	0	469	93.6	High
3	Hotels in South Africa guarantee the safety of guests who stay	68	29	0	2	1	461	92.2	High
	Total						1385		
	Mean						461.67	92.33	High

Respondents' responses as shown in Table 4 show that most of the respondents gave a large agreement response to the assurance variable provided by Hotels in South Africa, with a high index value of 92.33. This means that respondents assess the existence of a good guarantee provided by the Hotels in South Africa. This is supported by the presence of friendly employees in providing services, the ability of staffs and employees in their knowledge and providing a sense of security for hotel visitors. The friendliness aspect can be seen from the facial expressions of hotel employees in listening to or responding to requests from guests, so that guests feel respected by hotel employees. On the experience side, employees are considered to have quite good experience in serving and meeting guests' needs. Last but not least, the security and safety of hotel visitors and the belongings brought by hotel visitors can be well guaranteed.

Respondents' Responses Index Regarding Empathy

Empathy describes a statement of concern and concern for consumers individually. This study uses a 3-item empathy questionnaire to measure consumer's perceptions of the attention given by the Hotels in South Africa.

Table 5. Respondents' Responses Regarding Empathy (Source: Processed data, 2021)

No	Indicator	Score					Freq	Score	Results
		SA	A	N	D	SA			
1	24-hour service is available for guests staying at South African Hotel	74	23	1	2	0	469	93.8	High
2	The employees and staff of the Hotels in South Africa understand the wishes of guests / guests	63	34	2	1	0	459	91.8	High
3	The employees and staff of the Hotel in South Africa are able to communicate well	69	28	2	0	1	463	92.8	High
	Total						1392		
	Mean						464	92.8	High

Respondents' responses as in Table 5 show that most of the respondents gave a very agree response to the care and attention of the employees and staff of the Hotels in South Africa in delivering services they provide, with a high index value of 92.8. This is supported by the presence of good attention from the hotel individually to guests. The hotel's attention is shown by the existence of 24-hour service for hotel stays when there is an emergency or needed visitor need, hotel employees provide 24-hour manpower. Hotel employees with a high sense of empathy for each guest and accompanied by good communication skills, so that consumer requests can be responded to properly.

Respondent Response Index Regarding Satisfaction

Satisfaction is a feeling of pleasure or disappointment felt by consumers after comparing the perceived service with the expected service. Hotels are required to provide the best service so that consumers feel satisfied with the service. Guests will feel satisfied when what they want or expect is fulfilled, and conversely guests will feel disappointed if what they expect does not match what they want. Respondents' responses as in Table 6 above show that most of the respondents gave a high satisfaction response to the quality of service provided by the South African Hotel, with a high index value of 92.75. This shows that the quality of service provided by the hotel to Indonesian guests is good and provides satisfaction to consumers who stay at the hotels in South Africa.

Table 6. Respondent Response Index Regarding Satisfaction (Source: Processed data, 2021)

No	Indicator	Score					Freq	Score	Results
		SA	A	N	D	SA			
1	I feel comfortable when the employees of the Hotel in South Africa provide services	67	31	0	2	0	463	92.6	High
2	I feel confident about the services provided by the South African Hotel	64	34	0	2	0	460	92	High
3	I am always interested in returning to stay at the hotel in South Africa	78	19	1	1	1	472	94.4	High
4	I am satisfied with the attention and service provided by the employees of the South African hotels	64	34	0	2	0	460	92	High
	Total						1855		
	Mean						463.75	92.75	High

Analysis of multiple regressions

Multiple linear regression was employed in this study in order to corroborate the hypothesis about the effect of the service quality dimensions (tangible, reliability, responsiveness, assurance, and empathy) partially and simultaneously on the variable of guest satisfaction at the South African Hotels. The regression equation that can be formulated from these calculations as follows:

Table 7. Results of Multiple Linear Regression Analysis

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.750	1.220		1.434	.155
	TOTALX1	.032	.054	.037	.600	.550
	TOTALX2	.129	.062	.125	2.079	.040
	TOTALX3	.082	.048	.108	1.704	.092
	TOTALX4	.336	.088	.283	3.826	.000
	TOTALX5	.658	.095	.524	6.934	.000
a. Dependent Variable: TOTALY						

$$Y = 1.750 + 0.032\ X1 + 0.129\ X2 + 0.082\ X3 + 0.336\ X4 + 0.658\ X5 + e$$

The regression equation can be elaborated in details as follows:

- Y is the guests' satisfaction (independent variable).
- The constant value is 1.750.
- The regression coefficient of the tangible variable (X1) has a positive tendency in its effect on guest's satisfaction.
- The coefficient of the reliability variable (X2) has a positive tendency in its influence on guest's satisfaction.
- Regression coefficient of responsiveness variable (X3) has a positive tendency in its effect on guest's satisfaction.
- The regression coefficient of the assurance variable (X4) has a positive tendency in its influence on guest's satisfaction.
- The regression coefficient of the empathy variable (X5) has a positive tendency in its influence on guest's satisfaction.

From the results of the multiple regression coefficients described in the description above, hypothesis testing will be carried out partially or simultaneously. To understand the meaning of regression model partially for every variable, it can be achieved by using the t test as follows.

- Tangible (X1)

The t value for the tangible variable is 0.600 with a significance of 0.550 > 0.05. As the value is above 0.05, it indicates that physical evidence has an insignificant impact on guest's satisfaction. The direction of the positive regression coefficient means that physical evidence has a positive and insignificant effect on guests' satisfaction. The better the physical evidence that exists in the hotels will affect guests' satisfaction but does not have a big impact, on the contrary, the less good the physical evidence in the hotels will affect guests' satisfaction.

- Reliability (X2)

The t value for the reliability variable is 2.079 with a significance of 0.040 <0.05. As the value below 0.05, then it suggests that reliability has a substantial impact on guests' satisfaction. The direction of the positive regression coefficient means that reliability has a positive and significant effect on guests' satisfaction. The higher the reliability of the services provided, the higher the guests' satisfaction, on the contrary, the lower the reliability of the services provided, the lower the guests' satisfaction.

- Responsiveness (X3)

The t value for the responsiveness variable is 1.704 with a value of 0.092 > 0.05. As the value above 0.05, it shows that responsiveness does not have a significant influence on guests' satisfaction. The direction of the positive regression coefficient means that responsiveness has a positive and insignificant effect on guests' satisfaction. The higher the responsiveness that exists in the hotels will affect guests' satisfaction but does not have a big impact, on the contrary the less good responsiveness that exists in the hotels will affect guests' satisfaction.

- Assurance (X4)

The test results obtained the value of t for the assurance variable shows the value of t = 3.826 with a value of 0.000 <0.05. As the value under 0.05, it suggests that assurance has an important consequence on hotel guests' satisfaction. The direction of the positive regression coefficient means that the guarantee has a significant positive effect on guests' satisfaction. The greater the guarantee provided by the hotels, the higher the guests' satisfaction, on the contrary, the lower the guarantee provided by hotels in South Africa, the lower the guests' satisfaction.

- Empathy (X5)

The test results obtained the t value for the empathy showing the t value = 6.934 with a value of 0.000 <0.05. As the value under 0.05, it means that empathy has a substantial impact on guest's satisfaction. The direction of the positive regression coefficient means that empathy has a significant positive effect on guest's satisfaction. The greater the empathy showed by the hotels, the higher the guest's satisfaction, on the contrary, the lower the empathy expressed by the hotels, the lower the guests' satisfaction will be.

Moreover, results of the simultaneous regression can be seen in the following Table 8:

Table 8. F Test

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	238.484	5	47.697	48.593	.000[b]
	Residual	92.266	94	.982		
	Total	330.750	99			
a. Dependent Variable: TOTALY						
b. Predictors: (Constant), TOTALX5, TOTALX1, TOTALX2, TOTALX3, TOTALX4						

Table 9. Coefficient of Determination

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.849[a]	.721	.706	.991
a. Predictors: (Constant), TOTALX5, TOTALX1, TOTALX2, TOTALX3, TOTALX4				

The results of statistical calculations showed the calculated F value = 48.593 with a significance of 0.000 <0.05. With a significance value below 0.05, it shows that all the variables have a significant and positive influence toward guests' satisfaction.

Coefficient of Determination

The coefficient of determination is used to determine how much influence the independent variables have on the dependent variable. The value of the coefficient of determination is determined by the value of R square. The results of the regression calculation can be seen that the coefficient of determination (R2) obtained is 0.721. This means that 72.1% of guest satisfaction is influenced by empathy, assurance, responsiveness, reliability, and tangibility, while the remaining 27.9% of guests' satisfaction level is shaped by other factors not investigated in this research.

DISCUSSION

This research' purposes are to explore the effect of service quality with its five dimensions on guest satisfaction during their stay at hotels in South Africa. In general, this study shows that the results of service quality are satisfying. The results of the descriptive analysis show that the quality of service provided by the hotels in South Africa is generally good. This can be shown from the number of high satisfaction responses from respondents to the conditions of each research variable. El-Adly (2019) argues that service quality can be interpreted as an effort to fulfil guest needs and desires as well as the accuracy of delivery in balancing guest expectations. Based on the expert opinion, the hotel hopes to be able to balance guest expectations and provide satisfaction to guests through good service quality. From the results of the study, it was found that the service quality variable in its five dimensions has three dimensions that have a positive and significant influence on guest satisfaction while the other two dimensions have a positive and insignificant effect. Based on the F-test that was carried out, the results showed that the quality of service with its five dimensions had a significant and positive impact on guest' satisfaction. This is because by providing quality services, it will create satisfaction in guests. Based on the results of the coefficient of determination test, the result is 72.1%, which means that the service quality with tangible, reliability, responsiveness, assurance, and empathy dimensions has an influence of 72.1% on guest satisfaction and the remaining 27.9% is influenced by factors that were not investigated in this study.

The results showed that the physical appearance variable had a positive and insignificant effect on satisfaction. This is in accordance with the opinion of Ju et al. (2019) and Kuhzady et al., (2020), because a form of service cannot be seen, cannot be smelled and cannot be touched, the aspect of physical appearance becomes important as a measure of service. Good physical evidence will affect guest perception. The results of this study are in line with research conducted by Knutson et al. (2009), namely service quality has a positive effect on service quality, especially in the dimensions of physical appearance. Slightly different from the results of research conducted by Kusumaningrum and Wachyuni (2020) which results that the effect of physical evidence has a positive and significant effect on satisfaction. Based on respondents' answers to this research questionnaire, it can be seen that the highest indicator affecting guest satisfaction is the building and interior of the South African hotel are good and attractive. These results provide empirical evidence that physical evidence from service providers is shown by the appearance of the hotel which is different from other hotels that display cottages buildings that describe ethnic traditional ornaments and houses in South Africa which can be seen from the upper part of the cottages building. In terms of the hotel environment, it looks beautiful and clean because the hotel staff always cleans it all the time to make guests feel comfortable. In addition, employees as service providers also appear neat, clean and polite. It can be seen from the clothes used are office uniforms which will certainly give satisfaction to guests but the effect is not too big or insignificant because the location of this hotel is very strategic and has its own charm, although many of the physical appearances have been damaged and there has been no improvement. and new innovations that have been shown in the past few years by the hotels themself, but guests still choose these hotels as a place to stay.

The results showed that the reliability variable had a positive and significant effect on guest's satisfaction. The results of this study are in line with research conducted by Ugwuanyi et al. (2021), namely the reliability variable has a positive influence on guest satisfaction and research conducted by Lam et al. (2021) namely the reliability variable has a positive and significant effect on guest satisfaction. In contrast to the results of research conducted by Saragih and Jonathan (2019), the reliability variable has no significant effect on guest satisfaction. Based on respondents' answers to this research questionnaire, it can be seen that the highest indicator that affects guest satisfaction is the receptionist at South African hotels who is fast in serving guests. These results provide empirical evidence that the reliability of service providers is indicated by reliability in the form of the receptionist's speed in serving guests who want to check in or check out which does not take a long time, only takes less than five minutes. This is because the procedure applied by the hotel is not complicated and only requires a guest identity card if guests want to use the services of the Hotels in South Africa. The reliability of employees in serving guests will be considered in shaping guest's satisfaction.

The results showed that the responsiveness variable had a positive and insignificant effect on guest satisfaction. The results of this study are in line with research conducted by Ju et al. (2019), namely the reliability variable has a positive influence on guest satisfaction. The results of this study are not in line with research conducted by El-Adly (2019) and Wu and Gao (2019), namely the reliability variable has a positive and significant effect on guest satisfaction. Based on respondents' answers to this research questionnaire, it can be seen that the highest indicator affecting guest satisfaction is that the employees and staff of the South African hotels are responsive to guest complaints. These results provide empirical evidence that the responsiveness of service providers is indicated by the willingness of employees to help guests when in the hotel environment such as helping to bring guest goods, being responsive to complaints felt by guests and solving problems experienced by guests. Fast and precise will have an influence on the formation of guest satisfaction but the impact is not too big. The impact caused by the responsiveness variable is not significant or not too large because most guests who stay want to relax with their families, and the guests have no complaints about the facilities and others provided by the hotel, so the responsiveness variable is not too felt by guests who stay at the Hotels in South Africa.

The results showed that the guarantee variable had a positive and significant effect on satisfaction. The results of this study are in line with research conducted by Ju et al. (2019), namely the guarantee variable has a positive influence on guest satisfaction. Likewise, with the research conducted by Wachyuni and Kusumaningrum (2020) and Bogale et al. (2021), namely the guarantee variable has a positive and significant effect on guest satisfaction.

Based on respondents' answers to this research questionnaire, it can be seen that the highest indicator affecting guest satisfaction is that the employees and staff of the Hotels in South Africa have extensive knowledge. These results provide empirical evidence that guarantees from service providers will provide an increase in guest satisfaction (Flavián et al., 2019). This is shown by the friendliness of employees in serving guests by always giving a smile, greeting and always asking the needs desired by guests, employees who have extensive knowledge about hospitality, especially regarding the South African hotels itself related to the number of rooms, types provided, prices, facilities offered to guests and furthermore, guest safety is guaranteed with 24-hour security from security and local police.

The results showed that the empathy variable had a positive and significant influence on guest satisfaction. The results of this study are in line with research conducted by Ju et al. (2019), namely the empathy variable has a positive influence on guest satisfaction. Similar with the research conducted by Ugwuanyi et al. (2021), namely the empathy has a positive and significant effect on guest satisfaction. Based on the respondents' answers to this research questionnaire, it can be seen that the highest indicator affecting guest satisfaction is the availability of 24-hour service for guests staying at the hotels in South Africa. These results provide empirical evidence that there is attention from hotels as lodging service providers in the form of attention given to guests by constantly asking guests' needs, the existence of 24-hour service provided to guests who need assistance, the ability of employees to communicate with guests politely and using a soft tone, not arguing with guests, and apologizing if an error occurs in the service. The ability to meet guest needs and understanding each guest's condition will increase the positive view of each guests towards the hotel. This in turn will provide higher guests' familiarity, satisfaction, and higher possibility of revisiting these hotels in the near future (Park et al., 2019; Vada et al., 2019).

CONCLUSION

This research results reveal that Indonesian guests are satisfied with the service provided by the hotels in South Africa. All of the dimensions of service quality as asserted by Parasuraman et al. (1988) have significant impact on the guest's satisfaction which eventually led to their intention to stay at the hotel in their coming vacation (Vada et al., 2019). Also, this research answers the calls for an investigation as proposed by Ugwuanyi et al. (2021) and Knutson et al. (2009) in understanding the international guests' satisfaction in tourism destination perspective, vice versa.

This study contributes an empirical basis in strategic aspect for managing foreign tourists/hotel guests' satisfaction from abroad perspective. To conclude, hotels in South Africa have implemented such good marketing strategies in order to retain their international guests. The local tourist attractions coupled with the hotels' excellent service unquestionably will be a value added for Indonesian tourists/guests in spending their holiday abroad. For further research within the field, it is recommended to explore other relevant variables to service quality other than those five dimensions. Also, in order to grasp the lived experience of the international guest during their stay in particular country, a qualitative approach is encouraged to be taken in the near future.

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COFFEE VALUE SYMBIOSIS TOWARD A MOUNTAIN GEOGRAPHICAL COMMUNITY-BASED TOURISM IN THAILAND

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Abstract: Coffee was used as a symbiosis key value attracting tourists in community-based tourism at Pang Khon village, Chiang Rai, Thailand. The mixed method was applied. The data collected by administering in-depth interview, focus group, participatory rural appraisal, and participatory observation amongst the public, private and community for qualitative data collection. Whereas, the questionnaires were employed for quantitative data collection. The structural equation modelling was applied to compliment and foster the qualitative data. The sample group composes of public entity including local government, Tourism Authority of Thailand Chiang Rai officers, officers from ministry of tourism and sport of Thailand [MOT's officers], Pang Khon villagers, restaurant and private travel agencies, hoteliers, local transport providers, and tourists. The economic, education, emotion, research, and experience values were discovered. To assess coffee symbiosis value to community-based tourism. The mixed method research was employed by using in-depth interview, focus group, participatory rural appraisal, participatory for qualitative approach. The quantitative approach was conducted by using structural equation modelling (SEM). The results found coffee create economic, education, emotion, research, and experience values to community-based tourism. The author would recommend the policy makers highlighting on innovation of new products and services. The promotion should emphasize on the source of coffee plantation in community. That is taste of fresh coffee from its origin. However, the fair distribution of revenue to local residents shall be well-planned for dynamic cooperation and improvement of community economic.

Key words: symbiosis, coffee value, tourism, community-based tourism, Mountain Geographical Area

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INTRODUCTION

Tourism industry, in Thailand, enhances the country's economic growth. It generates more than 2 million jobs in 2016, where 80 percent of revenue came from international travelers. Because of its geographical, Thailand, has splendid natural touristic sites, beaches, and inexpensive tasty recipes. The hospitality of Thais' friendliness is one of the key attractions to travelers (Hipsher, 2021). As tourism is important for its socio-economic, Thailand was aware of this sector and has boosted its tourism nationwide. Therefore, the government has established the tourism policies and put in place by the Ministry of Tourism and Sport- MOT (2017). The policy aims to disseminate economic growth to local community for sustainability. Thence, local residents are welcoming to join in tourism planning and representing their plentiful cultures, resources, and originality of tradition and norms. The MOT highlighted the tourism that focuses on local agrocultural methods and allowing tourists to participate in agroculture activities, learning the way of local life, culture, traditions, and the usage of available community resources. This kind of tourism is enhancing local community to take advantages from its resources and their way of living to generate income for families and communities.

It is called Agro-tourism where local wisdom will be used as a tool for conservation for sustainable tourism. Despite that, the five standards of agro-tourism were set by MOT including; physical and biological values, knowledge, innovation and wisdom values, agrocultural attractions management, readiness of agrocultural sites, the attraction of agrocultural tourism sites' products and services. These standards were concluded in Table 1 below. It is worthy noted that the agro-toursim standards, activities and purposes were closely link to community-based tourism (CBT). That is the participation of community in tourism planning and developing sustainably (Oka et al., 2021).

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Whilst, the agro-tourism is more intensively stressed on variety of agricultural activities, agroculture products and services. While, the Designated Areas for Sustainable Tourism Administration-DASTA of Thailand (2021) defined community-based tourism (CBT) as the alternative tourism manage by the community innovatively and standardized contributing to learning, leading to environmental, local cultural sustainability. And the CBT should improve local community good quality of life by using tourism as a tool. The standard criteria are including; represent the community ownership, local residents' participation in planning and decision making, enhancing the community pride, improving a better quality of life, reserve environmental sustainability, preserve local cultural, cultural diversity knowledge management, respecting different cultures and human dignity, equitably returns to local people, and distributing income to public interest. The Thailand Community Based Tourism Institute- CBT-I (2013) specified five primary elements of CBT wit sustainable management, improvement of life quality and local economy, promote culture, protect environment, and safety and service. In whatever way, Sitikarn and Kankaew (2021) added that sustainable tourism shall relate to the conservation and preservation of natural resources, precisely the originality of local cultural and social way of life. Tourism should also be used as a tool for local residents' poverty mitigation.

Table 1. Five Standards of Thailand's Agro-Tourism (Complied by authors)

Standard Issues	Criteria
Physical and biological values	The beauty of sites, atmosphere, uniqueness, organic and variety of agrocultural products, waste disposal management system, eco-tourism activities and sustainable agroculture system management.
Knowledge, innovation and wisdom values	Newness, rare and values of wisdom in agrocultural which reflect local community life span, technological implementation for value added (Kankaew et al., 2021), agrocultural for living, producing selling local products, and networking with stakeholders for knowledge management.
Agrocultural attractions management	Management structure on budget, marketing, and products' planning systematically. Readiness of basic infrastructure e.g., road, electricity, and water supply. A conservation plan of agrocultural sites.
Readiness of agrocultural sites	The accessibility to the sites comfortably and safety, signages, toilettes, walk way for the excursion, rest area, and car parking. The readiness of human resources taking care of tourists, local guides and villages' sages, accommodation and souvenir shops.
The attraction of agrocultural tourism sites' products and services	The variety of activities provided by community. The opportunity of tourists in participating, learning, acquiring community wisdom, cultures and life span.

Additionally, the fives standards of the agro-tourism mentioned earlier and CBT standards could be conceptualized into 7As namely; (1) accessibility where transportations are available, (2) activities such as planting and producing local products, (3) accommodation, (4) attraction, (5) ancillary services, (6) amenity, and (7) administration of safety and facilitation to travelers by all stakeholders. Since, these factors are significant to visitors' satisfaction and lead to destination loyalty (Rahmiati et al., 2021). According to the national agro-tourism and CBT standards, researchers found Chiang Rai province is best fit because of its geographical location in the most northern part of Thailand. With its mountainous geographical, Chiang Rai is well-known of its nice and suitable climate condition for coffee plantation. Thereforth, Chiang Rai is recognized as the country's biggest Arabica coffee planting area and it profitably yields to the coffee farmers, especially amongst, the ethnics communities (Prachachat, 2017). The abundant small mountainous areas or hills were called "Doi" in Thai language. There are plenty Dois in Chiang Rai that cultivate coffee trees. For instance, Doi Chang, Doi Wawee, Doi Phamee, and Doi Pang khon. These hills or Dois are commonly known among Thai coffee lovers.

Back to the history of coffee planting in Chiang Rai, the coffee planting was initiated from the King Rama 9. He has set the project up aiming to eliminate the problem of growing and producing opiates of the hill tribes. The opiate plantation is popular among hill tribes because the plant generates grand amount of revenue. Since, the opiates were used to produce addictive substances. The tribes have growing for living, because hill tribe people were unemployed, poor, lack of knowledge, and could not speak and write Thai's official language. For these reasons, the coffee plating was promoted and replaced the opiates as economic plants. As a matter of fact, Chiang Rai, there exists more than 17 tribes, for example; Tai Leu, Tai Won, Tai Yha, Tai Yong, Tai Yai, Lau, Lee Su, Mong, Lahu, Ahkha. While, each tribe has its own language, norm, values, and cultures. Outlooking, these diversities of tribes, cultures, norms, tradition of living, and natural resources in the hills should be reserved, and promoted by symbiosis with tourism to flourish the socio-economic development of hill tribes (Chiang Rai Provincial Cultural Office, 2016). Thus, the coffee is selected as symbiosis mechanism with tourism industry in Chiang Rai. Yet, it is well-recognized of Arabica in the country. And, further reason is many people consume coffee as a beverage in daily life for ages. That is its bitter, dark, aromatic refresh and stimulate human physiology. Coffee is considered most popular drink as one-third of people around the world consume. Whereas, the arabica is the largest number of coffee production in the world. Making coffee, the coffee bean was extracted, roasted, crushed, and brew by hot water in producing the drink (George et al., 2008). Supporting from Pourshahidi et al. (2016) disclosed that coffee is benefit for health rather than risk in a moderate consumption on adult. In the meantime, Coso et al. (2020) stated the caffeine consumption from coffee intake improve people performance. Moreover, human can also benefit the antioxidant, anticarcinogenic, and antimutagenic effect from the moderate coffee intake (George et al., 2008). However, consuming coffee by own self-made alike local way of hill tribe's life is extraordinary experiences to tourists. In the meantime, the other parts of coffee plants can be consumed as food ingredients or combination the food taste. That is less people know and still undercover.

Hence, the symbiosis of using coffee as a tool in tourism has captivate us to conduct this study. The symbiosis theory was the concept derived from ecological. It was applied in social science on the clustering of industrial (Xu et al., 2017).

The theory has three elements including symbiotic unit, symbiotic model, and symbiotic environment. These three elements were interactive and cooperative to manifest the dynamic of change and the law of symbiotic mechanism. The symbiotic unit acted as the principal transmission of information and energy. While, the symbiotic model takes part in coping with the complexity relation of the unit. On the one hand, the symbiotic environment is important external condition to the system (Zhiwei, 2013; Dan, 2016). This research can be claimed the first study in coffee symbiosis with tourism in Thailand. In contrast to other part of the world, there were various study conducted coffee symbiosis with tourism. For instance, Hasyim et al. (2020) promulgated that coffee attract the interest and desire of tourist to visit Toraja. David et al. (2021) underlined the rise of coffee tourism in Budapest derive from American coffee chains. The scholars defined coffee tourism as a tourism product that align the new cafes and coffee culture of Budapest in 19th century. Leewellyn and Palupi (2020) suggested the policy makers to symbiosis local coffee Sukadana in Indonesia with the development of community touristic sites. Whereas, Lyon (2013) found the coffee tourism could reinforce the organization's cooperative on structural managing, new opportunities for training and career. However, the common shared belief of community and all stakeholders have to be symbiosis closely representing community norms and history, and more importantly the benefit from tourism has to delegate uniformly to local residents. Noting to the above mentioned, the symbiosis theory was described the incorporation, collaboration and integration among tourism stakeholders for the new wave of changes. Thus, the myriad benefits of interdependence leading to win-win solutions (Dan, 2016). As prior stated, the coffee planting was replaced opiate cultivation and shall be used as symbiosis key for CBT in Chiang Rai's Mountain geographical area. That could enrich local's people life in term of social and economic development. Since, Chiang Rai is the biggest Arabica coffee planting area in Thailand, and the mountainous geographical areas are riches in cultures, values, and norms from different tribes. Therefore, this study aims to assess the symbiosis value of coffee in CBT in Pang Khon village, located 1,400-1,800 meters above the sea level.

MATERIALS AND METHODS

The mixed method was employed in this study. The qualitative data collected by administering in-depth interview, focus group, participatory rural appraisal, and participatory observation amongst the public, private and community. The coding and retrieval were used to sort, mark, and categorized data (Dawson, 2020). The value of coffee symbiosis to CBT was coded. Then, the content and thematic analysis were applied to analyze and explain the data. on the other hand, the questionnaires were used to collect data for quantitative approach assessing the symbiosis coffee value, as well as the 7As attract tourist visiting Pang Khon village. The structural equation modelling as inferential statistic was used. The fit indices were measured as shown in Table 2. Pang Khon village was selected in this study, because the village consisted of four ethnics group namely; Eew Mean, La hu, Ahkha, and Chinese Yunan.

There are around 600 population in the village. Pang Khon located 1,400-1,800 meters above the sea level, surrounded by the hills, and average temperature is 15-20 degree Celsius all year round as shown in Figure 1. The area is suitable for coffee, fruits and vegetables cultivation. It is the origin source of Korn River in Chiang Rai. The sample group composes of public entity including local government, Tourism Authority of Thailand Chiang Rai officers, MOT's officers, Pang Khon villagers, restaurant and private travel agencies, hoteliers, local transport providers, and tourists. Researcher believes that the study of Pang Khon village could enhance utmost benefit to the community and country as a whole specifically for other places that are still uncapped.

It could deliver the reflection in terms of socio-cultural, environmental, and economic dimensions. Especially, creating value of tourism activities and economic to the ethnic groups objectively. This is about to stimulate job creation, income generation, conservation of natural resources and environment. As well as, to preserve and restore ethnic identity, cultural identity, and communities' life span sustainably. Researcher applied public mechanism to drive CBT symbiosis with coffee as a key representing community lifestyle in accordance with MOT's standard framework.

Table 2. Goodness of fit analysis of confirmatory factor analysis

	Acceptance level	Goodness of fit index		Acceptance level	Goodness of fit index
RMSEA	< 0.05 -0.08	0.25	AGFI	> 0.8 ~0.9	.981
RFI	> 0.9	.992	CFI	> 0.9	.970
p	>0.05	.165			
CMIN / d.f	< 2	1.500			
GFI	> 0.8 ~0.9	.969			

Figure 1. Pang Khon Village and Ethnic Group Clothing Styles (Source: Authors, Pang Khon village, March 2020)

RESULTS AND DISCUSSION

Based on the agri-tourism and CBT standards that have been conceptualized into 7As; accessibility, activities, accommodation, attraction, amenity, administration, and ancillary services. Pang Khon village was assessed in accordance with the standards. Firstly, the attraction of the village are natural resources, the fertile ecosystem resulting to cool temperature whole year round, waterfall, having excursion tract, and a blossom pink flowers during January to February. Regarding cultural attraction, the village does exist diverse culture from 4 tribes. For activities, Pang Khon village provides variety of activities for tourists. For instance; excursion to waterfall, coffee bean harvesting, learning to produce coffee, local dance as shown in Figure 2a-2c. The accessibility to the village is concreted road with signage, but need to drive carefully because of its location in the mountain. On the way to the village, there are other touristic sites to visit as well. In term of amenity, there is no public transport linking the village with downtown.

Figure 2a. Trekking to waterfall and to worship Buddha Footprint (Source: Authors, Pang Khon village)

Figure 2b. Coffee bean harvesting and Dark and medium roasted coffee bean

Figure 2c. Bộchộng Tu’ Tribe dancing activity‘

While, other basic facilities such as internet, WIFI, electricity are available. The accommodation is offered by local residents as homestay including breakfast. Tourist can experience the way of tribes’ living. The homestay is environed by trees, and coffee trees as shown in Figure 3.

Figure 3. Homestay atmosphere and room at Pang Khon Village (Source: Authors, Pang Khon village)

The ancillary services are existed in the hospitality of villagers and embedded in their unique food provided, tea from coffee flowers, deep fry pork in coffee leaves as shown in Figure 4a – 4b etc., and lastly, the CBT administration was handled by 13 people in Pang Khon villagers gathering together. The team is led by head of village and local government agencies. The administration is still at initial state, hence the training and development on tourism management, destination management, and environment protection plan are required.

The 7As of Pang Khon village have been addressed according to the MOT standards. Meanwhile, the quantitative analysis was investigated to concrete the inductive results. There were 600 respondents composed of 200 tourists accounted 33 percent, local residents 150 persons or 25 percent, public tourist service officers 50 persons and equal number of government officers 50 persons. That accounted in 8.33 percent respectively.

Figure 4a. Tea from coffee flowers

Figure 4b. Local Food from Coffee Leaves
(Source: Authors, Pang Khon village)

There were, also, private organization such as restaurants, souvenir shops, given us data accounted for 25 percent or 150 persons. The respondent information has been concluded in Figure 5. The structural equation modelling has been performed to validate the survey which of 7As affect the tourists visiting Pang Khon village. The result was demonstrated in Table 3.

From Table 3, the four most interesting findings are attraction, activity, administration, and accessibility. Pang Khon village, interestingly, is the attractive destination in itself due to the location and the weather. It has β = 0.76, C.R. = 4.21 with p value less than 0.001, and the statistic explanation power is over 60 percent. The activity has β = 0.74, C.R. = 3.98 with p value less than 0.001. The activity has a significant impact on tourist by its statistic explanation power at 54.3 percent. The second obvious finding is the administration on destination management and safety. It has β = 0.73, C.R. = 3.98 with p value less than 0.001, and the statistic explanation power is 53 percent. Another important to notice is the accessibility which exists β = 0.55, C.R. = 3.86 with p value less than 0.001, and the explanation value is 31 percent. Despite that, the statistic explanation of accommodation is worthy noted at 30 percent. That is closely to the accessibility. There are, further, explanation that the tourists like the activities provided by community. However, the good destination management and safety must be considered. That is including the tourism logistic and facilities to connect and serve tourists needs for the overnight stay. These are, actually, referring to the accessibility and accommodation. At the same time, the result seems contradictory of coffee symbiosis in terms of ancillary services.

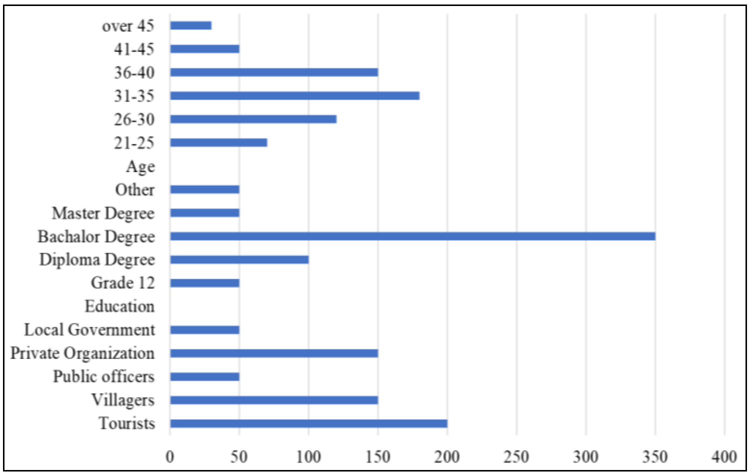

Figure 5. The respondents' demographic

Table 3. Result of 7As confirmatory factor analysis (***<0.001)

7As	Standardized estimate	Nonstandardized estimate	S.E.	C.R.	SMC
Activity	.740	4.13	.816	3.98***	.543
Accessibility	.553	2.96	.750	3.86***	.310
Attraction	.756	4.23	.836	4.21***	.651
Amenity	.328	1.42	.425	3.40***	.108
Accommodation	.542	3.14	.817	3.84***	.302
Ancillary	.230	1.000	.339	3.25***	.153
Administration	.725	3.78	.951	3.98***	.530

Since, the ancillary service has rather low impact on tourist with only 15 percent of statistic explanation power. As prior explanation, the ancillary service is the usage of some part of coffee plants cooking. A possible interpretation of this might be the taste of local food is not pleasing. Thence, the food ingredients and spices should be adjusted. Yet, the value of coffee symbiosis to CBT as a key was extracted from the in-depth interview and focus group. Since, the village was further promoted more than general mountainous geographical and riches of natural resources, local cultures, but the appreciation of coffee consumption in the local way of life has added economic values. The numerous of travelers generate income to community, which in turn supporting education of local residents. On top of that, visitors and local people have exchanged their belief, know-how, and modus vivendi. This dialogue learning was categorized as education and experiences gained rather than the activities participation with community. In consideration of emotion, it is mentally happiness retrieved in all stages of travelling cognizance. Correspondingly, the values retrieved from coding incorporate with economic, emotion, education, and experience. As the interview statements from villagers said;

"I am quite happy when the tourists visited our village. I enjoyed talking to them, especially foreigners. So that I can learn how to greet and count numbers in English."

"When the tourists come, we have money from selling coffee seeds to café and restaurant. So, I can support my children' s education."

Besides the villagers' statements, the tourists revealed the value added from coffee and its leaves consumption, the activities in picking and producing coffee as follow;

"I have a wonderful experience to live with this community. The people are nice and friendly."

"It is my first time ever eating food that use coffee leaves as ingredients. It tastes delicious."

"I learned how to pick the coffee beans, degree and time of roast bean resulting to different taste of coffee."

However, the problem of community-based coffee tourism (CBCT) management is the lack of personnel regarding quantitative and qualitative. As mentioned earlier, there are only 13 persons managing the CBCT. In addition, these people also lack of knowledge and expertise in managing tourism. There is no local guide who can communicate in English. The financial aid from government is required to maintain the infrastructure, such as road, lighting system, waste and water management. Over and above, the tourism policy is paradox between local and central government. Considering to the income distribution, it should be partaken equally to all stakeholders. On the subject of income distribution, the joint planning of all stakeholders must be planned. This is to prevent the conflicts of interest. And it would result to the unity and cooperation of the CBCT sustainably. Consequently, another value of coffee symbiosis to CBT has been added that is the research. Then, the SEM was performed to assess the coffee symbiosis value accompaniment the qualitative data.

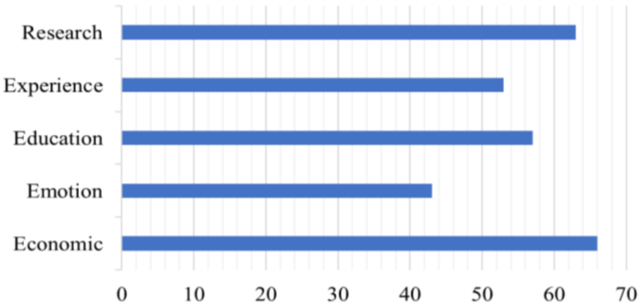

Figure 6. Percentage of coffee value explanation to CBT

Table 4. Symbiosis coffee value toward CBT (***<0.001)

Value	Standardized estimate	Nonstandardized estimate	S.E.	C.R.	SMC	*P*
Economic	0.816	4.45	0.71	4.88	0.666	***
Emotion	0.794	3.73	0.68	3.80	0.435	***
Education	0.730	3.23	0.69	4.15	0.568	***
Experience	0.754	3.69	0.76	3.18	0.533	***
Research	0.660	3.54	0.70	3.52	0.631	***

From Table 4, the respondents highlighted the coffee symbiosis to CBT according to the standardized loading are on economic, emotion, experience, education and research respectively. As we can notice that all value variables are having significant p value less than 0.001. Where, the economic $\beta = 0.82$, C.R. = 4.88, followed by emotion $\beta = 0.79$, C.R. = 3.80, experience $\beta = 0.75$, C.R. = 3.18, education $\beta = 0.73$, C.R. = 4.15, and research $\beta = 0.66$, C.R. = 3.52. On the contrary, the square multiple correlation (SMC) of some value loadings is rather high and not consistent to its loading, for instance the research loading value is lowest but the explanation power from SMC value comes in the second after economic. As well as, the education SMC value is ranking in the third. It may be that these respondents benefitted from the research and education, and see the importance of research and education could return to the community development. This are remarkable findings the coffee symbiosis three highest loadings value toward CBT are economic, emotion, and experience. These are somewhat encouraging results on the statistic power of explanation that economic value has 66 percent, research value has 63 percent, and education value has 57 percent impact on CBT sustainability. The statistic power of explanation has been concluded and demonstrated in Figure 6.

It can thus be suggested that the continuous learning and development and research on Pang Khon village shall be implemented. This observation may support the findings that the village lack of managerial issues on both quantitative and qualitative. Thence, the research and instruction could possibly fill the interrelation gaps of the CBT ecological system, and how the part of coffee plant could deliver the mouthwatering taste. This study has drawn our attention to the interaction of symbiotic unit, mode, and environment. It might help us to shape the tourism industry in other part of the country.

CONCLUSION AND RECOMMENDATIONS

Taking everything into account, Pang Khon village has high potential of success community-based coffee tourism. The village meets both the MOT agro-tourism and CBT standards of 7As. Addedly, besides natural resources, there is the uniqueness of the village that consist of four ethnics groups which tourists can experience culture, norms, belief, and the freshness of coffee from its original source. The symbiosis of coffee to CBT has generated economic, education, emotion, and experience values. Whilst, the research value sounds crucial on CBCT. Further study and development on the community-based coffee tourism on Pang Khon is required. The insights gained from this study may be of assistance to local government, public service organizations, community and all stakeholders create development plan, continuous learning and development of human resources. Whereas, the education sectors in the area emphasize on research and innovation. One of the strengths of this study is that it represents a comprehensive examination of the whole coffee symbiosis value. Another important practical implication is that the creation of innovative products embracing value added; (1) providing new products and services to create economic, educational, and experience value by allowing travelers to rent Ahkha costumes, adding snack menu compliment with tea and coffee, decoration of dishes with natural materials, educate tourists on the jungle excursion; (2) improvement of new products and services to create educational value, alike briefing village history and community information, provide knowledge of herbs, vegetables to be used in cooking; (3) adding existing products and services to create tourists' experience, for example; create coffee recipe competition, teaching for knitting, sewing and making bracelets in Ahkha style. As once, the CBCT were perceived widely, it would certainly trigger the value return to community. Specifically, the economic value will beneficially enhance the 7As improvement serving the travelers' needs as well as the tourism logistic system as a whole. In sum, researcher has formulated the coffee symbiosis value to 7As. That leads to the perception and satisfaction of tourist which is finally create intention to revisit as demonstrate in Figure 7.

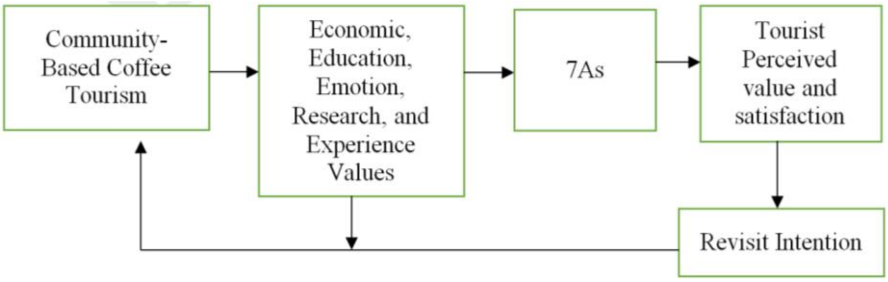

Figure 7. Community-Based Coffee Tourism Model

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PROSPECTS OF ECOTOURISM DEVELOPMENT IN CENTRAL KAZAKHSTAN

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Abstract: The ecotourism development in Central Kazakhstan, especially in the Karkaraly region is relevant, because the geosystems of Karkaraly lowlands have a diverse landscape and numerous attractions. The purpose of this work is to popularize the eco-route described in the article, as well as to provide recommendations and suggestions for the ecotourism development in Central Kazakhstan on the example of the Karkaraly Mountains geosystem. Research methods are field, descriptive, cartographic. The optimal route was identified on the basis of stock materials and also as a result of expedition research, and a map of the two-day eco-route was developed. Conclusions are made about the prospects of ecotourism development in the Karkaraly lowlands geosystems.

Key words: ecotourism, infrastructure, geosystem, biodiversity, ecological route

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INTRODUCTION

Nowadays, the tourism development is one of the priority areas for each region of our country. One of the major areas of modern international tourism is ecotourism (Gladilin and Kotova, 2016; Hunt, 2022; Rafiq et al., 2022; Zeng et al., 2022). Adverse aspects of the mass tourism effect on the environment were noted in the 70s of the twentieth century in foreign researches. The growing number of environmental problems attracted the attention of scientists, the public, the business sector, etc. (Zhigula, 2015; Tavakoli et al., 2022). The various ecotourism organizations put in its understanding similar in tendency, but not absolutely certain sense. In some cases, this refers to trips arranged to virgin territories. In other cases, it is a form of tourism closely related to the principles of environmental protection. Ecotourism is very relevant and effective in maintaining the integrity and authenticity of ecosystems in unspoilt areas (Chandel and Kanga, 2020; Berdenov et al., 2016; Ilies et al., 2017; Beketova et al., 2019; Tokpanov et al., 2021). The International Ecotourism Society (TIES) has the following interpretation: ecotourism is a responsible trip to natural areas, regions, which preserves the environment and supports the well-being of local residents (Zhigula, 2015; Carvache-Franco et al., 2020; Akhmedenov et al., 2021). Scientists identify a number of advantages, the availability, which can make specially protected natural areas the main link in the ecotourism development:

- location in the most spectacular, attractive, interesting from a cognitive point of view places;
- availability of a well-established system of service for tourist groups, a tried and true tourist route system, experience in organizing educational work;
- availability of specific infrastructure and trained staff;
- a positive attitude of the locals to a particular natural object and the existing environmental restrictions on economic activities in its territory (Zvyagina, 2014; Gonia and Jezierska-Thöle, 2022).

Tourism development for national parks, unlike nature reserves, is one of the most important and officially declared activities. However, tourism development in national parks requires the provision of effective infrastructure (Gladilin, 2006). This paper aims to popularize the ecological route presented in the article, as well as to provide recommendations and suggestions to develop ecotourism in Central Kazakhstan based on the example of geosystems of the Karkaraly Mountains. In

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general, the nature of the Karkaraly State National Nature Park (KSNNP), intended to preserve the biological and landscape diversity, the use of unique natural sites and objects of the State Nature Reserve Fund (SNRF) with specific environmental, scientific, historical, cultural and recreational value for the purpose of nature conservation, environmental education, scientific, tourism and recreation, has perfect conditions for the successful development of ecotourism. Among the scientists who have been engaged in research of ecotourism in Kazakhstan, it is possible to note works of I. Akbar, who conducted researches on tourism development in the Aksu-Zhabagly sanctuary located in South Kazakhstan (Akbar et al., 2021). Significant contribution was also made by B. Aktymbayeva, who studied the tourism industry genesis and evolvement Kazakhstan (Aktymbayeva et al., 2021). N. Achilov analysed the prospects and advantages of the tourism industry development in Kazakhstan (Achilov, 2017; Keukenov and Dzhanaleev, 2021). A Akhmedenov estimated the potential and conditions for developing the health tourism on the basis of therapeutic muds from salt-water lakes in West Kazakhstan (Akhmedenov et al., 2020).

MATERIALS AND METHODS

The information base of the research included: literature sources, materials of previous botanical researches (Gorchakovsky, 1987), fund and published materials of republican and regional departments and institutions, data of the nature chronicle for 2019-2020 (Dzhanaleeva, 2010).

Research methods: field, descriptive, cartographic (Figure 1).

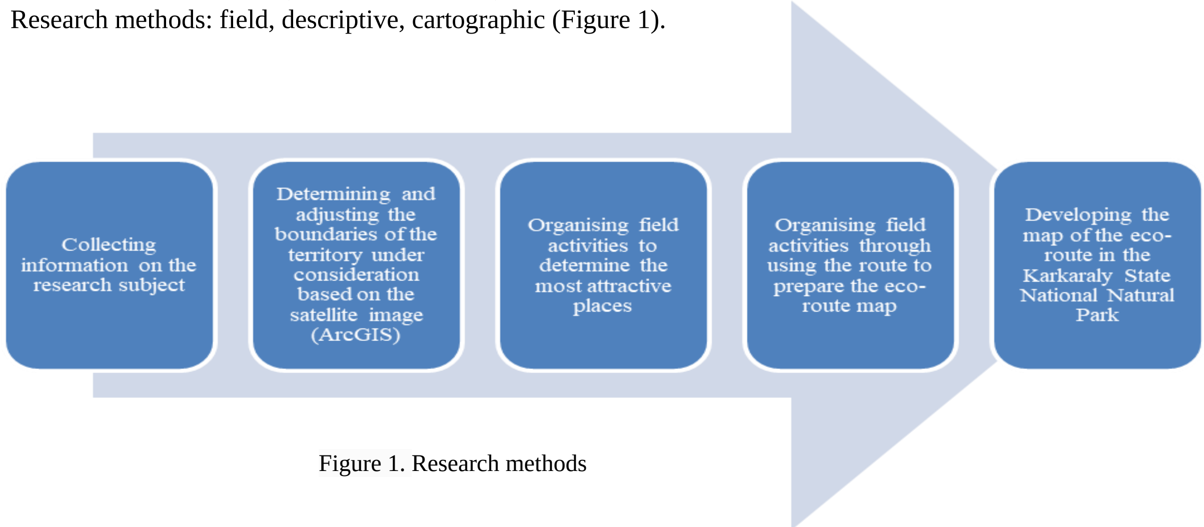

Figure 1. Research methods

The Karkaraly State National Nature Park (KSNNP) was created in 1998 with the purpose of preserving and restoring the unique natural sites of the Karkaraly and Kent mountain massifs. This area is a favorite vacation spot for residents of both the Central Kazakhstan and the country as a whole. The geosystems of the Karkaraly low-hill terrains are located in the eastern part of the Kazakh Uplands in the territory of Karkaraly district of Karaganda region. They are shallow-hill relief with isolated massifs of low-hill terrains, extending from north - north-west to south-east for 30-35 km, and 20-25 km wide.

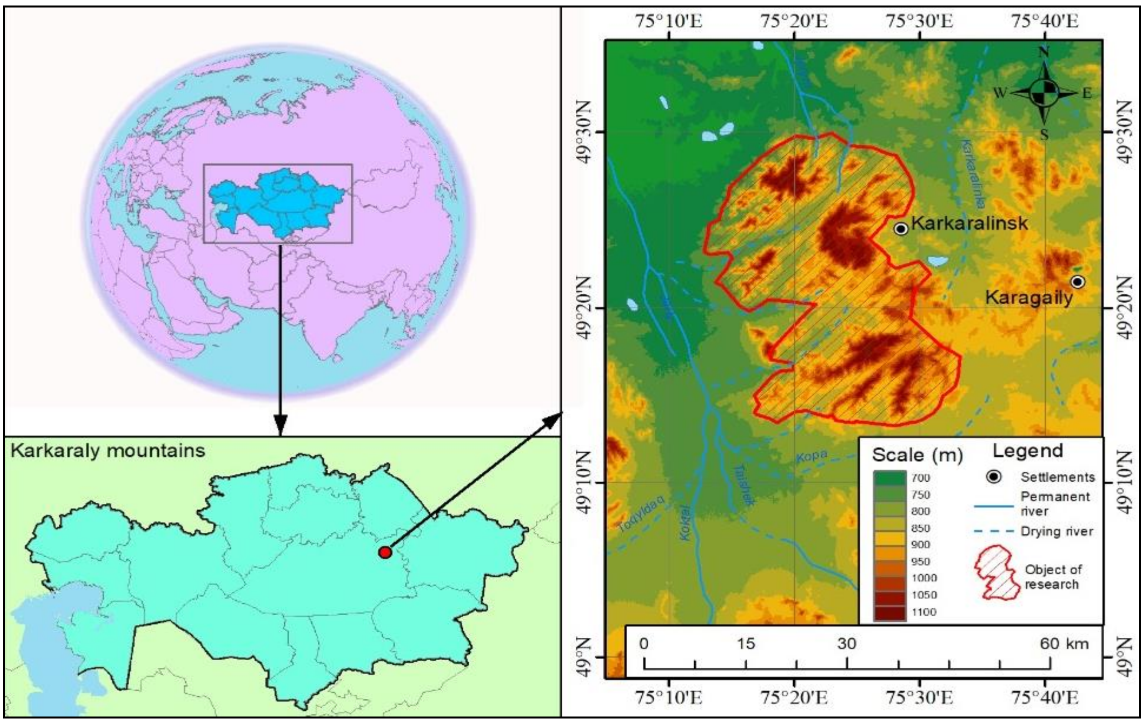

Figure 2. Location of the study area (Source: compiled by Keukenov in the ArcGIS program)

The mountains are ones of the highest in the Central Kazakhstan and comprise separate ridge mountains (Zhirensakal, Akterek, Myrzashoky, Karkaraly, Buguly, Koktobe, Shankoz). The highest peak is Komsomolsky Peak with a height of 1403 m above sea level, which is part of the southern ridge of Zhirensakal. To the south-east of this ridge are Akterek Mountains with a height of 1230 m above sea level and Myrzashoky with a height of 1170 m above sea level. To the north, the Karkaraly ridge with a height of 1115 m above sea level (that gave its name to the entire mountain and forest massif), Buguly ridge (1323 m above sea level) and the Shankoz ridge with a height of 1360 m above sea level are situated. To the west, there is the seven-peaked Koktobe (1254 m above sea level). The Karkaraly mountain and forest massif is divided by wide intermountain valleys Kendara, Kurozek, Karatoka and others, and is rich in fresh groundwater (Figure 2).

The diversity of relief and soil continuum determined the evolution of phytodiversity. The considered area is almost completely located in the subzone of dry steppe of the landscape-climatic zone. Pine forests with undergrowth of Rosa spinosissima, Rosa majalis, Juniperus communis, Lonicera tatarica, Padus avium, Crataegus sanguinea mainly grow in the Karkaraly low-hill terrains. They account for 71.3% of the total area of mountain forests. Birch groves (*Betula pendula, B. pubescens*) are confined to the hillsides of northern and northeastern exposition, to inter-slope valleys, along rivers and streams. They occupy 10% of the forested area, about 2% of the forested area is covered by aspen forests (*Populus tremula*), confined to the relief depressions, river and stream valleys, the base of round slopes (Dikareva and Leonova, 2014; Keukenov and Dzhanaleev, 2021; Berdenov et al., 2021; Indrie et al., 2020).

RESULT AND DISCUSSION

Ecotourism contains a number of key criteria:

- natural landscape, attractions, biodiversity present in the tour area that fascinate tourists;
- geosystem features, where the focus is on exploring and understanding resources as such, the travelers' activities have minimal impact on the physical and cultural environment in the area visited.

Ecotourism components are natural, historical and cultural potential of the territory or region, which includes natural objects, social and cultural constituent with traditions and customs, specifics of household and economic activities.

The Karkaraly low-hill terrains were formed under the influence of endogenous and exogenous processes. The endogenous processes lie deep in these low-hill terrains. This macrostructure was formed under the impact of endogenesis (Abdulin, 1994). During the Mesozoic, when the entire territory of Kazakhstan was covered by the sea, massive loose sedimentary deposits were formed on the slopes of these lowlands. The most important parts of the macrostructures were formed in the Quaternary period. But the main stage of formation of the Karkaraly Mountains macrostructure is the Neogene and Quaternary periods. Since the altitude of the low-hill terrains is just over 1,500 meters, the geosystems of the Karkaraly Mountains are regarded as young. In other words, all their dynamics refers to the Quaternary period. Therefore, the relief in the territory of the Karkaraly low-hill terrains is formed with alternating areas of peneplain with Quaternary sediments, residual ancient peneplainized areas, which are changed under the influence of exogenous factors (Dzhanaleeva, 2010). Pine forests (*Pinus sylvestris*) are mostly represented by lichen, mixed herbs, moss and mixed herbs types, located on steep slopes of narrow gorges and occupy intermountain valleys. At the bottom of hollows there are small areas with the boreal fine grasses *Chimaphilla umbellata, Moneses uniflora, Orthillia secunda, Pyrola chlorantha* in herb-shrub layer, along the slopes there are coniferous forest species Solidago virgaurea, Trifolium lupinaster. On weathered granites in pine forests there are mesoxerophytes: *Allium nutans, A. lineare, Veronica incana, Orostachis spinosa, Melandrium viscosa. In lichen pine forests herbaceous plants are abundant: Carex supine, Antennaria dioica, Archyrophorus maculate, Dracocephalum nutans, Fragaria vesca*. In the steppe forests described, apart from typical representatives of boreal flora, there are also nemoral relicts, including some species peculiar to broad-leaved and coniferous-broad-leaved forests: heartwood (Cardamine impatiens), meadow-grass (*Poa nemoralis*), European hazelwort (*Asarum europaeum*) (Gorchakovsky, 1987; Shomanova et al., 2020).

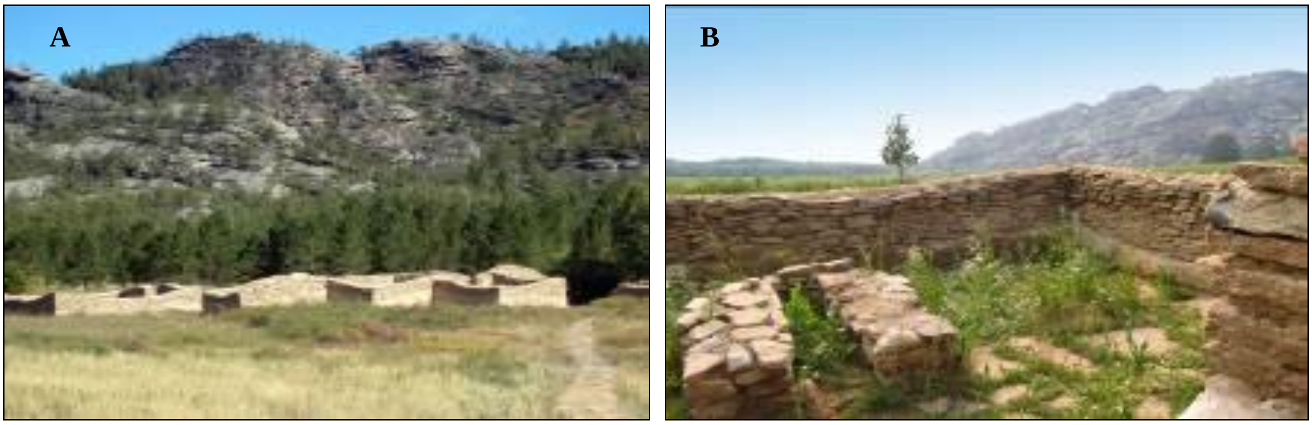

Figure 3. "Kyzylkent Palace" in the Kent Mountains (Photo by Y. Keukenov. August 10, 2021)
A - entrance to the Kyzylkent Palace; B - Kyzylkent Palace (Source: Keukenov)

The territory of the "Kyzylkent Palace" is attractive for its history, on its territory there was a city with an area of at The regional peculiarity of forming the tourist and recreational potential of Karkaraly district is a diversity of attractive natural resources. The nature provides prerequisites for the development of ecotourism that is the most probable in the territory of the Karkaraly State National Nature Park (KSNNP). The developed tourist paths and routes are of particular importance, and the role of the Karkaraly Mountains is significant. Their distinctive feature is an abundance of springs with fresh, clean water. The locals especially distinguish Suykbulak spring with sparkling water with year-round temperature of +6°C, to which they attribute miraculous properties. A unique object having the status of a historical monument of national importance is an architectural complex of Begazy-Dandybayev era in the Kent Mountains - “Kyzylkent Palace” (Figure 3).

Least 30 hectares, divided into streets and quarters, in which several thousand inhabitants lived. The quarter of metallurgists who smelted copper and bronze is clearly visible. Craftsmen made weapons, horse equipment, jewelry. In the center of the settlement, the Kyzylkent Palace is a Buddhist monastery of the second half of the 17th century.

The numerous ancient legends and tales, remarkably rich fauna, peculiar flora represented by a large number of relict plants of the glacial period, unique mountain lakes and geological formations make the area especially popular (Figure 4).

Historical monument “Forester’s house” (1910-1913), built and decorated with woodcarvings by craftsman I.Y. Smetankin, more than 30 archaeological sites, represented by burial mounds, burial grounds, the ancient settlements are located on the territory. There is a Museum of Nature in the Karkaraly State National Nature Park (KSNNP), which consists of the ornithofauna, phytofauna and demonstration halls, with 60 exhibits of birds and animals, 9 stands with entomofauna, a stand with minerals and herbaria of more than 250 plant species. The zoological enclosure adjoining the museum covers an area of 80 hectares and houses deer, yaks, white-spotted deer, bison, and bear. There are 7 natural monuments in the Karkaraly State National Nature Park (KSNNP): a bizarre natural structure - “Stone tent”; “Three caves” or “Primitive man’s cave” located in Maliksay natural boundary - a small stone canyon of granite slabs and three underground entrance holes, the place of human encampments of New Stone and Bronze ages; “Siberian fir” situated in Komissarovka natural boundary, plantation of fir trees of 1920s; “Siberian larch” - the first larch planted in 1940; “Aspen-leaved maple” planting - one tree of 1914 planting; Shaitankol and Bassein lakes situated among the mountain and forest massif and being a distinct decoration of the area. Bassein Lake resembles a huge quadrangular granite box filled with water, 5 meters deep. Shaitankol Lake, or Devil’s Lake, has spawned a lot of legends and tales, works of modern writers and poets. The best time to visit the lakes is spring, summer and autumn. An important element is that tourists can visit the objects of the same name, the route "Historical Monuments" is designed for educational purposes.

Figure 4. Notable objects of the Karkaraly State National Natural Park
A – lake Swimming pool; B – museum of nature; C – primitive man's cave (Source: Keukenov)

The scenic beauty of nature combined with the clean forest air attracts a lot of visitors to the recreation areas. Amateur mountain hikes including climbing Karkaraly Peak (formerly Komsomolsky Peak), rising to 1403 m, as well as leisure hikes to Shaitankol and Bassein lakes are popular among tourists. The mountainous terrain is conducive to the development of biking, in particular mountain biking. The hasteless rest also includes picking mushrooms and berries, swimming in the Pashino Lake, etc. A ski resort with a chairlift is especially popular. The district center, Karkaraly city, is a point of interest. Karkaraly is the oldest city in Karaganda region, with an important place in the economic and cultural life of the region. A significant role in the development of the city is given to cultural-historical, educational and medical and health tourism. The history of the city began in August 1824, when a fortress was founded, and three years later transformed into a Cossack village. In 1869, Karkaraly was designated a county town. In the 19th century, the caravan routes from Central Asia to Siberia passed through the town. The city is a major asset for historical, cultural and literary tourism, since it has many places associated with the lives and work of famous politicians, literary figures and artists, educators, scientists and travelers (figure 4). Scientific information about Karkaraly was first published in 1865 in the second edition of the Geographical and Statistical Dictionary of the Russian Empire, edited by P.P. Semyonov Tyan-Shansky. It was the first time Russia learned about the green oasis of mountain caves and monuments of the history of primitive culture. The major city attractions are the historical places and monuments: the House of Abai, the Kunanbay kazhy mosque, the old buildings of merchants Ryazantsev and Bekmetov, history and local history Museum with more than 5000 exhibits, etc. Among the modern monuments of architecture are the Alley of Heroes, the Gallery of Glory “Baiterek”, the Memorial Complex of Glory “Saryarka Pilots” with the MIG combat aircraft.

The abundant and diverse floristic composition of Karkaraly oasis provides an opportunity to develop scientific tours, photo-tourism, formation of scientific collections - herbariums in the area. In the forests of Karkaraly Mountains (the area of forested land is 53.6 thousand hectares), coniferous, with the dominance of pine, which has phytoncidal properties and creates a therapeutic effect, prevail. Birch, aspen, willow, and bird cherry are also found.

Figure 5. Museum of History and Local Lore of Karkaralinsk (Source: Keukenov)

Figure 6. Wormwood smooth
(Source: herbarium collected by Keukenov along the route of the 2020 expedition)

Karkaralinsk is the birthplace of wormwood (figure 6). This relict plant is used in the Karaganda Phytochemistry Institute to produce the antitumor drug Arglabin, for cancer treatment (Adekenov, 2020).

Urbanization predetermines the creation of ecological routes – weekend trips that will meet the needs of people in regular temporal recreation and rehabilitation of physiological and spiritual strength, a change of surroundings and experiences, a variety of leisure activities and emotional saturation of pastime, with a high degree of intensity and frequency based on affordable price-quality tourist weekend trips (Suleimenov et al., 2022).

As a result of expedition research conducted in 2020-2021, the optimal weekend route to the protected area of the Karkaraly State National Nature Park (KSNNP) was developed. The route program is shown in Table 1 and Figure 7.

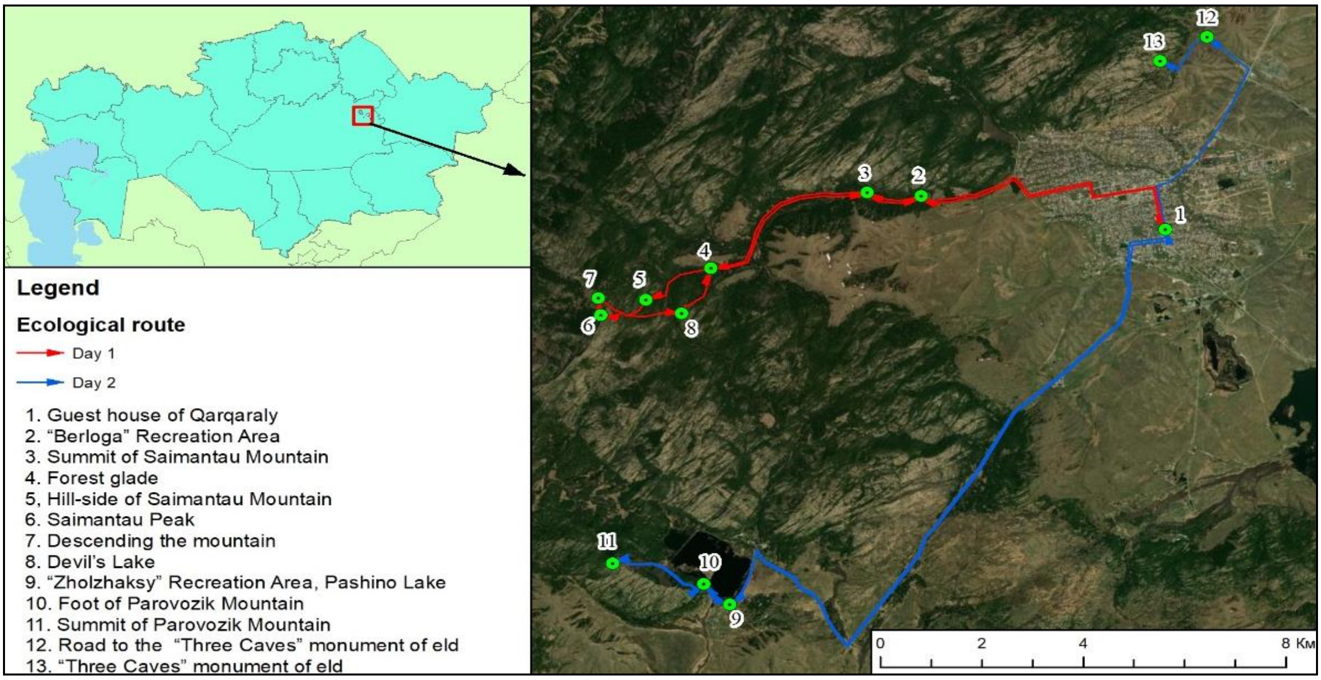

Figure 7. Map of the ecological route of the Karkaraly State National Natural Park
(Source: developed by the author in ArcGIS, Picture taken from ArcGISonline)

The route was developed based on the departure from the regional center, Karaganda on January 29, 2021, time to reach the attractive sites (Figure 8) was measured with the accommodation in a guest house. The route assumed a record of movement on the GPS navigator with the highlighting of campsites and attractive recreational areas (Table 1).

Table 1. The ecological route to the Karkaraly State National Natural Park (KSNNP)

	№	Object	Time of stay	Lenght, m	Coordinates (WGS 84)
Day 1	1.	Departure from Karaganda	7:00		49.804883, 73.096593
	2.	Arrival at the guest house	10:00	265200	49.407408, 75.479192
	3.	Start of the hiking route – “Berloga” Recreation Area	11:00	4042	49.411677, 75.435947
	4.	Road to the summit of Saimantau Mountain	11:30	725	49.412150, 75.426321
	5.	Forest glade	12:30	2551	49.402429, 75.398606
	6.	Hill-side of Saimantau Mountain	13:20	1051	49.398388, 75.387128
	7.	Saimantau Peak	14:30	705	49.396456, 75.379168
	8.	Descending the mountain	14:45	260	49.398632, 75.378687
	9.	Devil’s Lake	15:30	1175	49.396639, 75.393385
	10.	Forest glade	16:30	819	49.402429, 75.398606
	11.	End of the hiking route – “Berloga” Recreation Area	17:30	3276	49.411677, 75.435947
	12.	Return to the guest house	18:00	4042	49.407408, 75.479192
Day 2	1	Check-out from the guest house	10:45		49.407408, 75.479192
	2.	Start of the hiking route – “Zholzhaksy” Recreation Area, Pashino Lake	11:00	10306	49.359389, 75.401935
	3.	Foot of Parovozik Mountain	11:30	461	49.362016, 75.397301
	4.	Summit of Parovozik Mountain	12:30	1339	49.365113, 75.380875
	5.	Foot of Parovozik Mountain	13:15	1339	49.362016, 75.397301
	6.	End of the hiking route – “Zholzhaksy” Recreation Area, Pashino Lake	13:45	461	49.359389, 75.401935
	7.	Return to the guest house	14:00	10306	49.407408, 75.479192
	8.	Road to the “Three Caves” monument of eld	16:00	3441	49.432071, 75.486543
	9.	“Three Caves” monument of eld	16:15	916	49.428893, 75.479094
	10.	Return to Karaganda	20:15	4357	49.804883, 73.096593

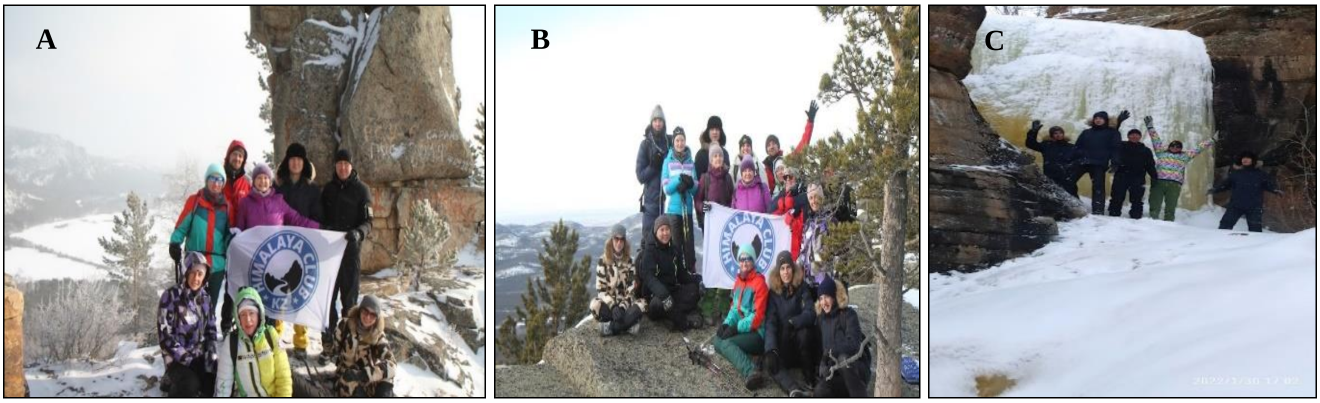

Figure 8. Expedition photos from the ecological route in the Karkaraly State National Nature Park (KSNNP) (photos by the author)
A – summit of Parovozik Mountain, photo by the author; B – summit of Saimantau Mountain, photo by the author;
C – “Three Caves” monument of eld, frozen waterfall (Source: Keukenov)

CONCLUSION

As a result of the study of Central Kazakhstan, it was found that the most attractive area for tourism development is the Karkaraly State National Nature Park (KSNNP). Based on expedition research conducted in 2020-2021, 7 natural monuments were marked along the route: a bizarre natural structure - “Stone tent”; “Three caves” or “Primitive man’s cave” located in Maliksay natural boundary - a small stone canyon of granite slabs and three underground entrance holes, the place of human encampments of New Stone and Bronze ages; “Siberian fir” situated in Komissarovka natural boundary, plantation of fir trees of 1920s; “Siberian larch” - the first larch planted in 1940; “Aspen-leaved maple” planting - one tree of 1914 planting; Shaitankol and Bassein lakes, the cultural and historical heritage of Karkaraly.

As a result of studying the natural environment of the Karkaraly State National Nature Park (KSNNP), the two-day ecological route was developed, taking into account the recreational attraction and rich floral diversity, and the herbarium was collected for species identification.

Tourist opportunities of the Karkaraly State National Nature Park (KSNNP) geosystems have a sufficient number of advantages: convenient geographical location, well-preserved natural potential, rich cultural and historical heritage.

In order to effectively use the natural potential of the Karkaraly State National Nature Park (KSNNP), it is suggested to introduce a weekend ecological route with accommodation in guest houses. The development of ecological routes involves the transformation of the tourist and recreational infrastructure (tourist information, eco-educational and ecotourist visitor centers, tourist maps of recreational and historical and cultural attractions).

Forecast assumptions for the research object development: a developed scientific implementation of ecological routes in the tourism industry may be used to prepare standard recommendations for the rational arrangement and planning in the recreation and tourism industry at the regional level and the analysis of its contribution to economic development in the short-, medium- and long term.

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LINKING GEODIVERSITY AND CULTURAL DIVERSITY IN GEOHERITAGE MANAGEMENT: PRACTICE FROM KARST OF SANGKULIRANG-MANGKALIHAT, INDONESIA

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Abstract: We aim to construct a relationship between geodiversity and cultural diversity in Karst of Sangkulirang-Mangkalihat and contextualize the relation into a geoheritage management scheme. We use the Landscape Characteristics Assessment and field survey to characterize the geodiversity and cultural diversity, aided by GIS. The materials are DEM, geological maps, and administrative maps. For the analysis, we employ the significant value approach to achieve the purpose of the study. The diversity inventory unveils many significant geomorphological and cultural features with remarkably beauty, exceptionally rare, and sustaining local communities. The linkage between geodiversity and the cultural diversity in the area has unique entities that must be addressed in the management of the area, either as a World Heritage or Geopark. Linkage between geodiversity and cultural diversity is the main key and most fundamental aspect to establish the geoheritage and develop geotourism which benefits the indigenous community and preserves the significant values and integrity of the Karst of Sangkulirang-Mangkalihat.

Key words: geodiversity, cultural diversity, significant value, geoheritage, Karst of Sangkulirang-Mangkalihat

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INTRODUCTION

The Karst area has various important values that make this landscape must be managed properly (Williams, 2008). As a geo-ecosystem, karst has multi features including lithology, hydrology, ecology that interact with each other both in the surface and sub-surface area of the cave, providing geo-ecosystem services (Gray, 2019). The interaction among karst elements occurs through the dissolution as the limestone as the karst host-rock is highly soluble. This process physically crafts the karst landscape, producing unique landforms such as doline, logva, polje, and the caves. The ecosystem services and uniqueness of the karst landscape and karst landform become a crucial element in compounding the value of the karst area, including the aesthetic of the landscape (Spate and Baker, 2018). Values in the karst landscape are then grasped together in the geoheritage notion. The geoheritage is a terminology interconnected with keywords such as geodiversity and geo-conservation. this notion was coined in 1991 and had been interpreted into several key concepts ever since; including what values the geoheritage was built upon (Mantovani et al., 2021) whether it was the economic (Brilha, 2016), tourism (Štrba et al., 2020; Paungya et al., 2020), or scientific (Çetiner et al., 2018). Therefore, in the context of the karst area, considering the values it conceives, it is reasonable to include karst as part of the geoheritage as it has a high scientifical value, has a strong relationship with a human, and it is highly potential to be developed into tourism sites (Čech et al., 2021). The values of karst and the geoheritage aspects, including the aesthetical, are brought into practice by designing karst landscape into a dedicated area that conserves the karst ecosystem while sustaining human livelihoods such as national park and nature reserve (Telbisz and Mari, 2020; Restificar et al., 2006; Ballesteros et al., 2019), or the most recent trend, The Geopark. Geopark stands above three main pillars: education, conservation, and local economic development. Those three pillars are integrated and unified into the geotourism (Ranjbaran et al., 2020). This type of

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tourism accentuates the geological-geographical features in a particular area to be a tourism attraction. Within the tourism activity, visitor education is delivered to enhance the awareness of the value of the karst area.

In Indonesia, the interest to develop geotourism within geopark areas is also increasing (Bhinekawati et al., 2020). The first area that was enacted as geopark was Batur Caldera Geopark in Bali then entailed by the Karst of Gunung Sewu, Merangin Area (Wibowo et al., 2019), Toba Caldera (Ginting et al., 2021), and Karangsambung-Karangbolong Geopark. This increasing trend is a response to the national policy which leveraged the tourism industry to be a primary sector for national GDP and the recognition of Geopark through the President Decree Number 9 Year 2019 About Geopark. This phenomenon also happens in almost notable karst areas in Indonesia where several significant areas hold remarkable geological values such as Karst of Gunung Sewu, Karst of Maros, and Karst of Sangkulirang-Mangkalihat. The last contains a very high multivalue including the cultural value of the ancient rock art (Chazine, 2008), biodiversity with endemic and endangered biota (Salas et al., 2005), and the geodiversity of morphology, hydrology, and lithology of the karst. Karst of Sangkulirang-Mangkalihat also undergoes heavy pressure from massive agroindustry of Palm Trees, extractive limestone quarrying, illegal logging, and overcapacity tourism (Pasan, 2019). All those pressures disturb the ecosystem dynamic and eventually the livelihood of the people within the karst area or those who live in the peri-karst zone. Ultimately, those pressures will also demolish the significant value of Karst Sangkulirang-Mangkalihat.

Significant values of karst, particularly in Karst of Sangkulirang-Mangkalihat is a foundation to explain why the karst is important and must be conserved to the stakeholder. In this context, the conservation is done through geo-conservation derived from geoheritage concept. In terms of karst management, the significant value could be a precious resource to formulate the exact policy and zoning of the karst. This paper is constructed on the concern of how significant value could play an imperative role in karst management, especially geoheritage as the part of geo-conservation and geotourism (Williams et al., 2020; de Sena et al., 2022) and spotlighting Karst of Sangkulirang-Mangkalihat as the example of how this notion could be implemented. The goal of the research, accordingly, is to analyze both geodiversity and cultural diversity in the Sangkulirang-Mangklihat karst within the geoheritage framework. In the future, this study is anticipated to give a novel insight into linking geoheritage with geodiversity and helps to establish the status of an area for better management.

MATERIALS AND METHODS

Study Area

The research was conducted at Karst of Sangkulirang-Mangkalihat. This karst area is located at N 1°9'39" E 117° 9'32' situated at the Mangkalihat Peninsula, Kalimantan Island and administratively at the Berau and Kutai Timur Regency, Kalimantan Timur Province. Covering almost 362.706,11 ha, Karst of Sangkulirang-Mangkalihat consists of several blocks namely Mangkajang, Tebo-Kulat, Ambulabung, and Batu Putih block (Haryono et al., 2017; Reinhart et al., 2020). Lithological setting and geological formation variations affect the characteristic of each block, differ from one block to the others. The inner blocks of Tebo-Kulat, Tondayan, and Mangkajang exhibit peaky conical karst with thick limestone and could reach 150 meters in elevation while the outer-coastal blocks of Batu Putih have rounded and lower conical karst.

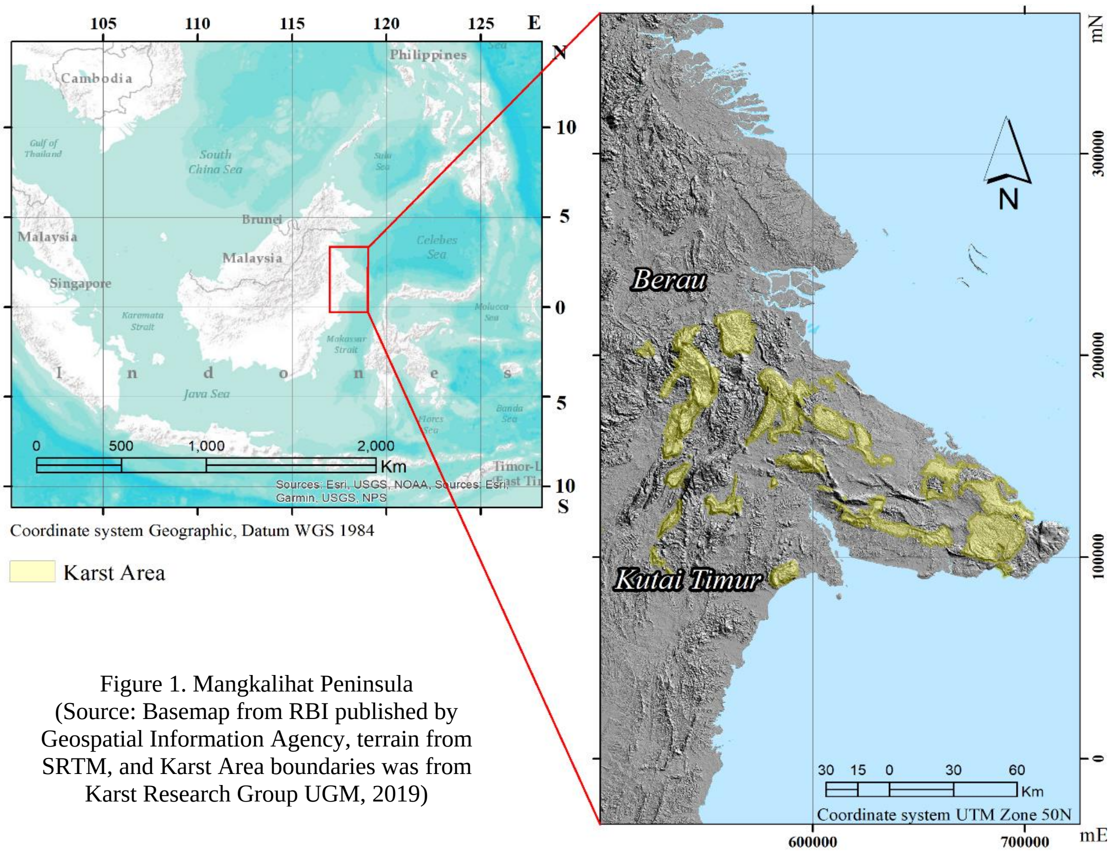

Figure 1. Mangkalihat Peninsula
(Source: Basemap from RBI published by Geospatial Information Agency, terrain from SRTM, and Karst Area boundaries was from Karst Research Group UGM, 2019)

Karst of Sangkulirang Mangkalihat enters the tentative list at World Heritage Center, fulfilling criterion (iii) of remarks from vanished civilization. The remarks from the vanished civilization are the famous rock art as one of the earliest prehistoric artifacts from 100–40.000 BP and scattered in 49 archaeological sites (Sumantri et al., 2017; Aubert et al., 2018). Sangkulirang-Mangkalihat rock art represents a contact of pre-Austronesian and Austronesian migration. Karst of Sangkulirang-Mangkalihat can be seen in Figure 1.

Data Collection

To collect and obtain the geodiversity as the main source of the analysis, we use a holistic and rapid approach of Landscape Characteristic Assessment (LCA). This method is also utilized to formulate the value and interrelation of the component in the karst area, incorporating physical and cultural elements in the landscape. LCA is also compounded by spatial contents, making it easier to be translated into spatial and land use planning on the landscape scale (Jellema et al., 2009; Ding et al., 2020) and comprises 4 steps of defining purpose and scope, desk study, field study, and description from the studied landscape (Tudor, 2014; Gkoltsiou and Paraskevopoulou, 2021). The participative method involving community can also be added to one of the steps in the LCA (Koblet and Purves, 2020).

The initial step is defining the purpose and scope of the study of which determines the significant value of Karst of Sangkulirang Mangkalihat as the study area. Significant value could help prioritize areas for landscape management (Gartner et al., 2008; Mikkonen and Moilanen., 2013) for more effective geoheritage management. Afterward, we conducted the desk study to compile the secondary data and prepare for the field survey. We brought together data from the physical characters of lithology, morphology, hydrology and the cultural contents of history, demography, economy, tradition, rite, and the heritage at the study area. The spatial element of physical feature distribution, administrative boundaries, and utility and infrastructure availability were also examined supported by the base map data from Ina-geoportal and geological maps from the government body of Information Spatial Agency and Geology Agency.

After preparation of the data in desk study, a field survey was conducted to verify the collected data and discover information that was unavailable in the previous study (Bartlett et al., 2017). We conduct a field survey in the Karst of Sangkulirang Mangkalihat in August and October 2016. The field survey was employed to obtain multi aspects of significant values of geodiversity and cultural diversity. For the geodiversity, the characters of the landscape were observed using direct measurement and observation in the field, constituted of geology by studying the lithology, geomorphology by measuring and determining the karstic landform, and hydrology by tracing the hydrological system.

Data Analysis

1. Significant values of each block in Karst Sangkulirang-Mangkalihat

The concept of value on a landscape can be divided into use and non-use value. The latter is arguably more intricate to be measured and identified because it is non-tangible (Pereira et al., 2021) and subjective if it is addressed to the aesthetic value (Kalivoda et al., 2014; Kerebel et al., 2019; Schirpke et al., 2021). Therefore, to study the landscape character and values within it many approaches had been developed each with its advantages and disadvantages. To boldly discriminate the non-use from use-value, we derive the terms of significant value from the concept of UNESCO’s Outstanding Universal Value which is commonly applied to assess the world heritage (UNESCO, 2008) and divided into ten criteria. These criteria are used to determine the significant value on each block in Karst of Sangkulirang-Mangkalihat.

The significant values are relied upon the inventory of the geodiversity and cultural diversity and seek the uniqueness of the ‘no-other’ness feature as the main concern for the significant value of the geoheritage. This analysis is also an effort to construct the linkage between the geodiversities with the cultural value (Yusry et al., 2018; Ibáñez et al., 2019). The scientific values are also applied to justify the criteria of representativeness of geological and biological processes and the use-value of the karst ecosystem in terms of sustainable relation and basic livelihood of the community as the cultural landscapes in the coexistence with geodiversity (Gordon, 2018). Each block of the Karst of Sangkulirang-Mangkalihat performs as the host for the significant value due to the diversity on each block. This is implied in the main theme and targets which were surveyed. Some blocks were marked for their geodiversity while the others were highlighted for their cultural diversity. We translate diversity into significant value by simply interpreting and elaborating the reason it is important using the concept of value. To serve the translation, we use the how-why matrix wherein the ‘how’ lays the existing, ‘as it is condition and the ‘why’ column, we put the justification of the significance or the importance.

2. Assessment of Geodiversity Value

The OUV of geodiversity relies on several justifications including the importance of the site and stewardship of the objects toward their surroundings (Rosengren and Petersen, 1989; Dudley, 2008), exceptional beauty, or scenery, and represents the high importance geological process. Drawing from the justifications earlier, the assessment of the value of geodiversity could be divided into four priority levels and can be seen in Table 1 below.

Table 1. Classification of Significance of Sites

No	Level of Significance	Details
1.	International / Global	The sites or objects fully represent the landform or geological process of the global geology and can not be found everywhere else
2.	Regional	The sites or objects signify the geological process within national boundaries and represent the regional geological process
3.	National	the sites or objects have similar characters with other sites within the national boundaries
4.	Local	This category includes the sites or objects that only represent the local geological or ecological phenomena

Based on that categorization, we elaborate qualitatively on how sites or objects in the Karst of Sangkulirang-Mangkalihat holds value. We also conduct the comparation among karst-type geoparks (Ruban, 2018) globally to comprehend the significant values of Karst of Sangkulirang-Mangkalihat matched with other karst areas. The research framework is shown in Figure 2.

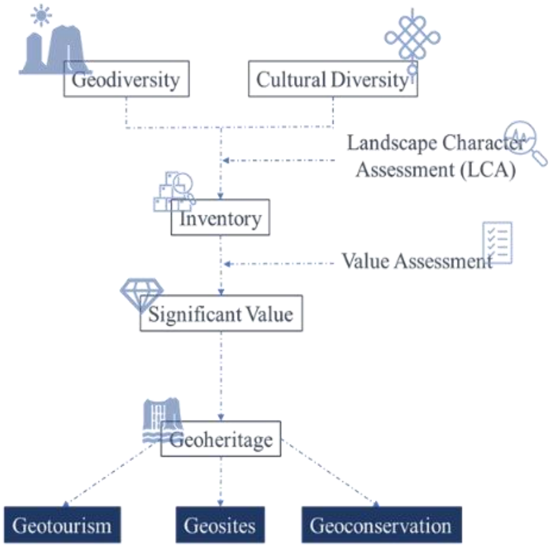

Figure 2. Research Framework

RESULTS AND DISCUSSION

Results

1. Diversity of Karst of Sangkulirang-Mangkalihat

1.1. Geodiversity of Karst of Sangkulirang-Mangkalihat

Karst of Sangkulirang-Mangkalihat is fragmented into several blocks, each undergoing a different geological/geomorphological process, yielding unique features on each block. From the lithology, there are three main limestone formations on the Karst of Sangkulirang-Mangkalihat. Lembak Formation compounds the inner block of Tebo-Kulat, Ambulabung, Tondayan, Mangkajang, and Gergaji Block. In the coastal, the limestone that forms the karst block is the limestone of Domaring Formation. Lembak Formation is a Late Oligocene-Early Miocene limestone and consists of Napal and limestone with the thickness reach 2000 m meanwhile the Domaring Formation is younger and formed in the late Miocene-Pliocene era and mounts the coastal block of Batu Putih (Burhan and Situmorang, 1995; Sukardi et al., 1995).Limestone or carbonate rock is highly soluble and the dissolution begins when the deposition of the reef and coral which composes the limestone are exposed to the surface. The expose is caused by the uplifting process as the result of tectonic movement. The uplifting process in the Karst of Sangkulirang-Mangkalihat can be seen by the variety of geological structures including fault, joint, crack fissures, and terraces. There are three major plates and three minor plates which interacted with each other. Generally, the structure in the Karst of Sangkulirang-Mangkalihat is mainly a strike-slip that continues to Palu, Sulawesi Island. Karst of Sangkulirang-Mangkalihat is also bounded by two major faults of the Maratua Fault in the northern part and signed by the lineament of the northern coast of Mangkalihat Peninsula. The other fault is Mangkalihat Fault that separates Mangkalihat Highland from the Kutai Basin and the presence of this fault can be seen through lineament at the Sangkulirang Bay.

The lithology of limestone, geological structure activities, and the rainfall that induces karstification craves Karst of Sangkulirang-Mangkalihat, yielding a unique landform (Reinhart et al., 2020). Karst area is fundamentally a geomorphological term and arranged by particular landforms including doline, polje, karst hills, caves, and ponor. Composition of the morphological features resulting in the varieties of the karst type in Karst of Snagkulirang Mangkalihat. Each block displays a particular type of karst. It can be viewed from the Digital Elevation Model (DEM) that Karst of Sangkulirang Mangkalihat has several types of karst including turmkarst, kegelkarst, polygonal karst, and labyrinth karst. Turmkarst and kegelkarst are the types of karst proposed by Sweeting (1972) and are commonly found in tropical areas where the limestone is thick with abundant rainfall. Turmkarst morphology can be seen at Ambolabung-Nyere-Tutunambo, Tondoyan, Gergaji, and Merabu blocks. Turmkarst is also insinuated by the presence of conical karst and could reach 240-300 meters high with narrow and steep valleys. Besides turmkarst, Karst of Sangkulirang-Mangkalihat also shows kegelkarst especially at Batuputih and Biduk-Biduk block. Kegelkarst is formed where several hills are aggregated because of high intention and all-direction erosion with little control from the geological structure. Several blocks also have polygonal karst (Haryono et al., 2017) characterized by the intersected valleys and formed because of the more intense fault and fractures. Polygonal karst could be detected in Suaran, Sekerat, and Tabalar Blocks. Karst of Sangkulirang-Mangkalihat also has hundreds of caves and could be found in most of the blocks with diverse types. Caves in the inner block have more vertical passage than caves in the coastal due to the thickness of limestone and structural control. From the cave morphology, there are several typologies of cave passages including anastomoses, spongework, angular, and curvilinear.

1.2. Cultural diversity of Karst of Sangkulirang-Mangkalihat

Humans had occupied Karst of Sangkulirang-Mangkalihat for thousands of years and their culture evolved along with the understanding and knowledge toward its environment. Through culture, humans could extract resources from the ecosystem and organize themselves into society to increase efficiency and survival. Culture could be sensed through several elements such as folklores, legends, rites, traditions, and languages (Koentjaraningrat, 1987; Moore, 2009). All of those elements together construct cultural diversity. The indigenous people of Kalimantan Island are the Dayak and consist of hundreds of tribes. Dayak is inferred to come from Yunnan, China due to the similarity in their appearances and traditions. In Karst of Sangkulirang-Mangkalihat, Dayak comprises the Kenyah, Basap, Kutai, Ga'ai and Punan and each of them has dialects and self-identification. The self-identification brings sign and context to their presence, especially when facing the newcomer of Javanese or Buginese. To apprehend their origin, some Dayak group narrates certain folklore such as the Basap Lebbo at Pannan village which perceives that their ancestors are man and woman that came from bursting Nyamur wood. That couple had 8 descendants named Tengarang, Kamahankan, Kajirun, Seput, Lulu Mangas, Kamarua, Hangkuris, and Trom. Another version tells that the Basap Lebbo's ancestor spread to the Karst of Sangkulirang-Mangkalihat because of the tribe war which is commonly found in the Dayak. Dayak has a tradition of *mengayau* or head-hunting as the symbol of honor and bravery. Indigenous communities in Karst of Sangkulirang-Mangkalihat also have several rites as their way to celebrate or commemorate certain phenomenon. One of the common rites is the Erau or Nembang Taun as the tradition to be grateful to god for the crops and food resources. Kenyah Tribe in Karst of Sangkulirang-Mangkalihat also has *melalok/ngelaung* tradition and utensils such as *anjat*, a rattan-weaved bag to carry crops; *tayeng*, a sleeping mattress; and *labung*, a hat for working in the field.

2. Significant Values of Karst of Sangkulirang-Mangkalihat

The geodiversity and the cultural diversity at the Karst of Sangkulirang-Mangkalihat offers unique and valuable elements to be preserved. By deriving the geodiversity and cultural diversity, we elaborate on why they are important as follows.

2.1 Geological Values

Karst of Sangkulirang-Mangkalihat as the geological phenomenon holds an irreplaceable role as the keeper of the history of geology. At least, Karst of Sangkulirang-Mangkalihat archives three main geological geneses: 1) fragment of the Gondwana, 2) frontside of Asia/Eurasia tectonic plate, and 3) the limestone facies from Makassar Strait extension. Karst of Sangkulirang Mangkalihat also has a unique morphological feature of chimney-formed karst hill with numerous other kinds of karst landforms and the folding karst structure. Both lithological and geomorphological values offer a significant value of geodiversity. Borneo or Kalimantan Island holds an indication to be a Gondwana fragment (Smyth et al., 2007). Metcalfe (1996) argued Mangkalihat Peninsula was a microcontinent that originated from the northern part of Gondwana and separated in the late Jurassic, shifting to the equator by the opening of the Ceno Tethys Ocean. This microcontinent then amalgamated with Kelabit-Longbawan from the northwest. Borneo Island also encloses the tectonic interaction between Asian plates with the Pacific and Indian-Australian and could be traced from the stratigraphical column and structural patterns. The oldest rock in this region is Jurassic Ophiolite, laying in the southern part of Muaralasan as part of the Sangkulirang-Mangkalihat system. Limestone as the hostrock of Sangkulirang-Mangkalihat karst was formed when the rifting of Makssar Strait on Mid-Eocene. This rifting was then continued by tectonic inversion triggering the uplifting process which exposed the limestone to be Sangkulirang-Mangkalihat highland. The oldest limestone from the Eocene era is located in the western part and becomes younger as nearer to the coastal area.

From the geomorphological point-of-view, The Sangkulirang-Mangkalihat karst presents high diversity of karst landform as each block has a specific one such as labyrinth-cone karst on Suaran Block, Conical Karst in Tebo-Kulat and Tutunambo-Nyere; and the conical karst on Batuputih block near the coastal area. Karst of Sangkulirang-Mangkalihat also has uncommon chimney-shaped cone karst hills. This landform is distributed in the inner blocks of Tebo-Kulat, Ambulabung, and Tondayan. The genesis of this karst hill remains unknown and very little researches have ever been conducted to study this feature. Another intriguing geomorphological feature in the Karst of Sangkulirang Mangkalihat is the karst of plateau and folded setting as the indication of different geoprocesses.

2.2. Speleological Values

Caves are the exceptional features in the karst area as the main outcome of the dissolution and karstification process. The speleogenesis process or formation of the caves is heavily affected by the presence of fissures or the geological structures, the chemical composition of the limestone, and the rainfall, and the interaction among those factors could be traced back from the cave morphology, features, and deposition. This is the significant value of caves as they record the geological process. In some blocks, the speleogenetic process happens in a multi-level, archiving the uplift history of the area, with a combination of vertical passages as the result of vertical fissure and horizontal passages as the result from the paleo water level. The multi-level speleogenesis reveals the evolution of the karstification process and helps the scientist to build geochronology of it. For example, multi-level caves in Melawang Hill, Mangkajang Block consists of 4 layers of nearly horizontal passages. The lower passages have thick clastic sediment and notch indicating a paleo hydrological system of the karst area during the warmer period. Caves in Karst of Sangkulirang-Mangkalihat also accommodate swiftlets to build their nest inside the solution pockets which are commonly found in the caves as the result of the phreatic phase inside the cave passage. Food and nest materials for the swiftlet's nest are also abundant in the forest around the cave. The nest has an expensive commodity in the market and is harvested by the people for income. Its price could reach 15-25 million Rupiah for the white nest and 7 million for the black nest. The nest industry boomed and the 1990s before plummeted in 2002 due to overexploitation.

2.3. Hydrological Values

Karst is well-known for its capacity to discharge a significant amount of water. Its fissure-conduit structure functions as the aquifer and accumulates the water before discharges it to the surface through spring or caves. From the hydrological perspective, Karst of Sangkulirang-Mangkalihat has a crucial role in maintaining water resources as the basic need for the people. The surplus of water resources could be spared for future needs and reserved.

This area also holds a very essential part as the main watersheds of the rivers flowing downstream from Mangkalihat Peninsula. Springs in the karst area is the upper river course of the main rivers in the region (Fathoni et al., 2020; Widyastuti et al., 2018) not less than 6 main rivers of Tabalar River, Lesan River, Suaran Bengalon, Manubar Rover, and Karangan River heavily depends on Karst of Sangkulirang-Mangkalihat springs. Watershed and rivers in Mangkalihat Peninsula Region are the regulator of the ecosystem and sustaining community livelihood for generations. The rivers have been used for the domestic uses, food resources, and transportation for the people.

2.4. Cultural Values

Rock art has a significant value and shows human intelligence as well as their view toward the world (Nurdini et al., 2020). By learning how they perceived the world pictured on the painting, we could reveal the adaptation and, livelihood or even the environment around their dwelling cave (Aubert et al., 2019; Berrocal and Garcia, 2007).

As the contact spot of pre-Austronesian and Austronesian migration, rock arts at Karst of Sangkulirang Mangkalihat were painted by the hunter-gatherer communities and dated from 40 ky ago. The Austronesian migration which is indicated by the rock art at Karst of Sangkulirang-Mangkalihat shows how the cultural diversity in South East Asia (Bellwood, 1984; Tan, 2016; Tan, 2014) originally stems and also reveals how the Indonesian archipelago was once a bulk mass of land, enabling the Austronesian to migrate. Rock art is also discovered at South Sulawesi (Aubert, et al., 2019) and Misool (Leihitu and Permana, 2019), strengthening the theory of the Austronesian migration. Another cultural value that could be found in the Karst of Sangkulirang Mangkalihat is the *lungun* or the ancient burial sites. People in Karst of Sangkulirang-Mangkalihat created *lungun* in the cave for their relative's dead body and instead of burying them underground, the dead bodies were placed inside a cave or in *lungun*. This practice of *lungun* was constructed above a belief in which if the dead bodies were buried underground then the living would get bad luck or *memahing* in the local terms. *Lungun*s are scattered in many caves on Karst of Sangkulirang Mangkalihat and archaeologist still discovered artifacts around the lungun and for the most of Sangkulirang-Mangkalihat. All of those significant values could be seen in Figure 3 and Table 2 to show the linkage between geodiversity and cultural diversity to the significant values.

Figure 3. Values of Karst Sangkulirang-Mangkalihat: (a) Tebo-Kulat karst block, one of Conical Karst in the Sangkuirang Mangkalihat (Geomorphological Value), (b) Chimney-Like Karst Hill in the Merabu Block (Geomorphological Values), (c) One of the cave in Tutunambo-Nyere Block (Speleological Values), (d) One of Rock art at Bloyot Cave, Merabu Village (e) Lake in the Polje of Tebo (Hydrological Value) (f) Cave burial (Lunguns) in the Long Lanuk Village (Cultural Value). All the photographs are courtesy of Karst Research Group, Faculty of Geography)

Table 2. Diversity and Significant Values Linkage

Aspects	Elements	Diversity (How's it?)	Significant Values (Why's it?)
Geodiversity	Geological	Limestone with the oldest formation is the ophiolite	Contains the fragment of Gondwana
	Geomorpho -logical	Constitutes various karst morphology tipology: - Polygonal karst; - Turmkarst; - Kegelkarst	Chimney-shaped as the unique feature and different from common karst hills
	Hydrological	Spring, abundant water resource	Water is a vital resource for humans and Karst of Sangkulirang-Mangkalihat bestows a significant amount of water. Karst springs in the Karst of Sangkulirang Mangkalihat function as the upstream for the main rivers.
	Speleological	Hundreds of caves with various typologies including spongework, anastomosis, ramification, and various speleogenetic processes.	Rock-shelter cave is the location of the rock art as the main attraction in the Karst of Sangkulirang-Mangkalihat
Cultural diversity	Rock Art	29 caves with rock art picturing hand painting	Sign of Austronesian migration One of the oldest signs of civilization & Palaeolithic cave art in Borneo
	Traditions	Dances, rites, *lunguns*	• Signifies the relation between humans and the karst area • *Lungun* shows the burial practice in the cave.

2.5. Tourism Value

Visitors tend to be influenced by their perceptions in the choice of a specific destination site. Destination imagery is a multidimensional concept formed by cognitive and emotional assessments of a place (Martin and del Bosque, 2008). Such assessments can be made through direct experience of nature as revealed in numerous studies on environmental education. These, in turn, will have a significant impact on attitude and behaviour toward the location. The image and attitude towards a place are therefore highly critical because such dimensions will shape the motivation of people to visit a particular site. With the rise of the current trend from mass tourism to the concept of quality tourism, geological diversity attractions offer great potential for leisure as well as tours of special interest. Sangkulirang-Mangkalihat Karst is a place of interest, that can be developed into a tourist destination site, since the place attracts people due to its special features.

Table 2 above indicates the various wealth of knowledge that a visitor would attain once they visit Sangkulirang-Mangkalihat Karst. Areas rich in geo-cultural diversity, are currently in growing demand in Indonesia as nature-based tourism destinations as elicited in the Indonesia Presidential Regulation number 9 of 2019 on Geopark Development, thus have the potential to maximize the benefits of nature-based tourism for conservation. Furthermore, cultural attractions are statistically one of the strong points of Indonesian tourism (Sunkar et al., 2013). According to Sunkar et al., (2016), Community involvement is often motivated by local culture, which is at the root of the values, attitudes and lifestyles that contribute to the preservation of a the community's heritage. In this spirit, the conservation of the geological site should focus on the conservation of the geoheritage, knowledge and geotourism, which form the three objectives of a Geopark: conservation, education and geotourism (Sunkar and Brahmantyo, 2013). The geological diversity as shown in Figure 3 and Table 2 will form the basis for geoeducation for the visitors on the history of the Earth, geology in general and the actions needed to protect the environment and maintain diversity. Learning should be fun, not forced, so an informal form of education through recreational activities such as visiting a geosite could become educated. Reconnecting with nature psychologically will affect someone's reflective response through their sensory impressions and emotional affinity that will determine the behaviour response. Geodiversity obviously is more than just scientific and aesthetic values. Furthermore, the presence of visitors could boost the local economy of the adjacent communities. The Sangkurilang-Mangkalihat Karst Tourism is divided into several tourist objects, including Bloyot Cave located in Merabu Village (Figure 3d) and Tewet-Karim Cave located in Tepian Langsat Village. Developing a tourist attraction definitely requires a positive participation and perception of the surrounding community to achieve sustainable management.

Discussions

1. Linkage of Geodiversity and Cultural Diversity in Geoheritage Management

The linkage or relation between human and their environment had fascinated and attracted the attention of scientists across disciplines since the school of materialism emerged. Many theories had tried to unveil the complex relationship between those two. Along with the development of the school of thought, the relationship also expands and is incorporated into a wider concept including the recent one: geoheritage. The concept of geoheritage stands on the concept of value. We discover this value is another form to accommodate the relationship between human (cultural diversity) and the environment (geodiversity) since the birth of the theory. In the Karst of Sangkulirang-Mangkalihat, we identify the relation is constructed upon three values of use-value, aesthetical value, and scientific value. each of those values is embodied differently for each diversity and through practices. The conceptual framework of the linkage can be seen in Figure 4 below.

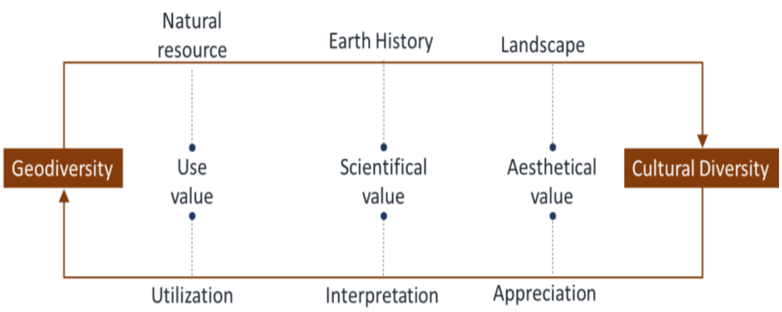

Figure 4. Linkage of The Geodiversity and Cultural Diversity

The significant values that facilitate the Geodiversity and the Cultural Diversity of Karst of Sangkulirang then become the basis to regulate the utilization of the resource in this area and providing integrity as the objective of the management. Integrity is one of the foundations to apply the geoconservation practices and is mostly recognized through the framework of World Heritage and Geopark (Gordon, 2019; Crofts et al., 2020). Geoconservation thrives to maintain the integrity of the geoheritage area or geoheritage sites as the representation of the area. It is compounded by several steps (Burek and Prosser, 2008) and should be done by actively involving the indigenous community in the area (Tavares, 2015).

2. Karst of Sangkulirang-Mangkalihat as World Heritage

The frameworks that incorporate the significant values, besides integrity, especially the geodiversity and cultural values are the world heritage and geopark. These statuses provide guidelines in managing the Karst of Sangkulirang-Mangkalihat. Based on the cultural values of Karst of Sangkulirang-Mangkalihat, especially the presence of rock art as the significant artifact from the pre-historic era, this area was proposed to be World Heritage in 2015 within the criterion number {iii): *"to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared"*. Elaboration of novel significant values in the Karst of Sangkulirang-Mangkalihat such as the geodiversity and cultural values could enrich the OUV of Karst of Sangkulirang-Mangkalihat. Landscape and the uniqueness of landform in this area can be considered to fulfill the criterion number (vii) of *"contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance"*.

Condition of integrity demands interaction among ecosystem components, simultaneously forming uniform metabolism and process. Complete inventory of diversity and significant value constitutes of the physical and biological component at Karst of Sangkulirang-Mangkalihat supposed to help build comprehensive interaction and the interaction to meet the condition of integrity. The obligation entails this plan is to secure the condition of integrity from disturbance such as extraction and exploitation. In the Karst of Sangkulirang-Mangkalihat, geoconservation implementation could be sensed through the geotourism industry in several sites. Merabu Villages, with the Nyadeng Lake and Bloyot Cave as the attraction, operates tourism to enhance incomes and providing jobs as a tour guide or homestay. Through the geotourism, the community in Merabu Village successfully conserves their forest and obtains economical advantages from it (Rochmayanto et al., 2019). The same practice is also found in the Biduk-Biduk area where the community runs geotourism principle to preserve the Labuan Cermin spring as the tourism site and obtain profits from the tourism activities. Moreover, the geoconservation through geotourism is considered as a strategy to deal with the threat such as palm oil plantation and limestone quarrying that would potentially devastate the integrity of the Karst of Sangkulirang-Mangkalihat.

3. Aspiring Geopark of Karst of Sangkulirang-Mangkalihat

Among other frameworks, Geopark area is the latest yet fastest growing area because of its close relationship with the tourism sector, a priority sector causing visitor numbers and branding to be the main attention in fixing the geopark status in Indonesia. Indonesia acknowledges the geopark concept through President Decree Number 9 Year 2019. This decree states the geopark to be placed on three pillars of conservation, education, and local economic development. The local economic development is the one that is often interpreted to be the justification of tourism development. Especially, geopark is packed along with the sustainability concept; making tourism to become the main objective. Geopark of Batur Volcano became the first geopark in Indonesia that joined the Global Geopark Network, followed by the Geopark Gunung Sewu which is a karst area. Across the globe, 37% of the geopark is karst area and could be divided into fully karst area or partially karst area (Ruban, 2018). Geopark consists of geosite as the representative of the geological process in a certain area. Therefore, selecting the right geosite is the key to ensure geopark operates seamlessly by attracting visitors while also educating and raising their awareness.In the Karst of Sangkulirang-Mangkalihat, several sites have high potencies to be developed into geosite for their specific character as the representative of the Karst of Sangkulirang Mangkalihat. The proposed geosites can be seen in Table 3 and Figure 5 below. Many karst areas have been admitted as geopark and can be divided into three types as Ruban (2018) mentions fully karst, partial karst, occasional karst. From this division, Karst of Sangkulirang-Mangkalihat is categorized as the full karst where all of the features, values, and diversities are present within the karst area and have a direct linkage to the karstification process. Amongst the karst-based geopark, Karst of Sangkulirang-Mangkalihat also renders firm relation of geological, geomorphological, and cultural value. The comparison of Karst Sangkulirang with the three karst UNESCO Global Geopark site is summarized in Table 4.

Another crucial aspect to be taken into account is the education aspect of the geopark. The most complete story or information about a geological site is meaningless if tourists cannot associate with the site (Sunkar and Brahmantyo, 2013). Consequently, geotourism is closely connected with education. Interpretative media should be able to improve the relationship between the site and the experience of tourists by increasing their passion for the site. Successful geosite interpretation depends on the precise scientific information on the site and well-informed interpreting guides who can tell the story behind the geological formation of the site. Geotourism is the birth of a sustainable form of tourism that focuses on geological diversity. Therefore, it is important that geodiversity has its place as the principal resource of tourism activity.

Sangkulirang-Mangkalihat Karst area is a natural educative playground for those wanting to have a deep understanding of how Earth's geology is related to human culture. Sangkulirang-Mangkalihat Karst provides a natural laboratory for the studies and understanding of the relationships between geology, past culture, and local livelihoods and how they are intertwined. The presence of the unique landscape formation and rock arts will allow the visitors to travel back through time. Visitors will enhance their knowledge of how people have survived in the area. Much geological-based tourism, such as karst and cave tourism in Indonesia, still relies heavily only on the resources, not knowledge (Sunkar and Brahmantyo, 2013). It is necessary to support geotourists with scientific information to generate more in-depth knowledge about geology. Geology is a science and geotourism cannot be promoted if there is no in-depth knowledge of the geology of the area being promoted. Science is essential to the collection of information necessary for site management, the understanding of geological processes and their effects, and the understanding of geology and ecology.

Table 3. List of Geosites in The Karst of Sangkulirang-Mangkalihat

Category	Proposed Geosite	Level of Significance	Justification
Cave	Paragenetic Cave of Melawang, Selung Air Cave, Beloyot Cave, Tewet Rock-shelter, Tebo Cave, Ambulabung Cave Complex, Semerep Cave, Kambing Cave, Ampanas Cave and Hotspring, Mengkuris Cave	International: 1. Beloyot Cave, 2. Tewet Rock-shelter, 3. Ambulabung Cave Complex Regional: 1. Paragenetic Cave of Melawang, 2. Mengkuris Cave; 3. Semerep Cave National: 1. Kambing Cave; 2. Tebo Cave Local: 1. Selung Air Cave 2.Ampanas Cave and Hotspring	Caves in Karst of Sangkulirang Mangkalihat such as Bloyot, Merdua, Mengkuris contain the rock art as the cultural significance and the oldest cave painting in the world. Some caves such as Melawang Cave and Kambing Cave show the geological process with multi-level shapes. Others like Ambulabung Cave Complex is irreplaceable habitat for endemic species like *Sarax sangkulirangensis*
Karst Hydro-logical Features	Biru Lake, Kuranji & Jumangut Spring, Hulu Binatang Spring, Pemapak Hotspring, Telaga Biru, Labuan Cermin, Sigending Lake, Bidadari Waterfall, Langga Duae, Waterfall, Nyadeng Lake, Tebo Lake, Batu Lepoq Hotspring	International: Danau Labuan Cermin Regional: 1. Mataair Kuranji & Jumangut 1) Mataair Hulu Bintang; 3. Mataair Panas Pemapak; 4. Danau Nyadeng; 5. Danau Tebo National: 1. Danau Biru; 2. Danau Sigending 1) Mataair Panas Batu Lepoq Local: 1. Telaga Biru; 2. Air Terjun Langga Duae; 3. Air Terjun Bidadari	Karst of Sangkulirang-Mangkalihat has a huge hydrological potency in various features including karst lake, spring, hot spring, and waterfall. Labuan Cermin is a spring in the coastal area and has been developed into a tourism site. For the regional level of significance, several springs supply the main river in Berau and Kutai Timur Regency like Hulu Binatang and Kurandji Spring.
Morpho-logy	Karst hill Domaring Formation, chimney-like karst hills, Polje of Batu Onyen, Batu Onyen conical karst	International: chimney-like karst hills Regional: 1. Polje of Batu Onyen, 2. Batu Onyen conical karst. National: Karst hill Domaring Formation	The most significant morphological feature in Karst of Sangkulirang-Mangkalihat is the chimney-like karst hills as this feature has never been studied anywhere else beforehand. On the regional scale, the polje and conical karst of Batu Onyen represent the tropical land morphology.
Cultural	Long Lanuk Villages	National	Long Lanuk Village maintains a close interrelation with the karst area with their tradition. This village is home to Lungun, a burial practice at the caves.
Outcrop	Mangkajang Ophiolite Outcrop, Suaran Quarter Volcano, Sinondok Cape	International: Sinondok Cape Regional: Mangkajang Ophiolite Outcrop, Suaran Quarter Volcano	Sinondok Cape contains ophiolite as the oldest rock formation and signifies the tectonic subduction and fragment of Gondwana. The quarter volcano represents the regional geological of Kalimantan Island.

Table 4. Comparison of Karst of Sangkulirang-Mangkalihat with Others Karst-Type Geopark Source: Informations of Gunungsewu, Sillin, and Causses du Quercy were taken from UNESCO, 2021a; UNESCO, 2021b; UNESCO, 2021c

Aspects of Geoheritage	Karst of Sangkulirang-Mangkalihat	Karst of Gunung Sewu	Karst of Shilin	Causses du Quercy
Geological	• Fragment of Gondwana. • Limestone indicates the Makassar Strait expansion.	• Represents the subduction of the Australian Plate to Eurasian. • The lithology shows the contact of volcanic activity of Mount Merapi and Mount Lawu.	The limestone host rock records information of geological processes in late Paleozoic.	The limestone was deposited during the Jurassic when the Atlantic Ocean began to open.
Geomorphological	• Hosts "chimney-like" karst hills, a feature which has never been identified before. • The geomorphology includes kegelkarst, or conical karst.	Exhibits "typical tropical karst" with conical hills its conical hills and had been scientifically recognized since the early 19th century.	Filled with the most various karst morphological features including "the tall pillar-like limestone", "sword-shaped limestone", "mushroom-shaped limestone" and "tower-like limestone"	Karstification activities yield unique karst features such as resurgence, doline, cavity, and chasms.
Cultural	• Oldest cave art and signifies the Austronesian Migration. • Cultural products embodied in artifacts, folklore, rites, traditions	Various archaeological sites with famous Pacitanian stone culture. Recently, the community sustains their livelihood using dry-land agriculture as an adaptation to the water scarcity.	Related with the livelihood of Sani People of Yi for almost 2000 years	for the Cadurques Gallic people it serves as Quercy territory. Adaptation of these people forming "the caussenard identity"

Geoeducation should be part of nature conservation education and, ultimately, sustainable development. The manager of the Sangkulirang-Mangkalihat Karst has to ensure that every geosite has sufficient education material to support the geotourism and geoconservation as the backbone of the geopark. Conservation education would improve the conduct of sustainable tourism (Sunkar et al., 2013). An educational strategy is required to be set up in partnership with schools, universities, and local organizations, in order to develop geotourism training and courses for local teaching staff and students and to organize events for public awareness for natural and cultural heritage associated with geology.

CONCLUSION

By analyzing the landscape through the Landscape Characteristic Assessment, it is known that the Karst of Sangkulirang-Mangkalihat has inextricably geodiversity and cultural diversity. The geodiversity of this area comprises elements of geology, geomorphology, hydrology, and speleology while the cultural diversity is constituted by Prehistoric rock art painting and tradition. Through the occupation, human refines and entangles both geodiversity and cultural diversity of Karst of Sangkulirang-Mangkalihat as its signficiant values.

Stemmed directly from the diversity, Karst of Sangkulirang-Mangkalihat possesses geological, geomorphological, hydrological, and speleological values that belong to the geodiversity and the cultural values within the cultural diversity. While the diversity contains an exposition and description of particular karstic phenomena, the values held the importance of those. Both geodiversity and cultural diversity have an outstanding value of locally, regionally, and internationally significant, urgently need to be conserved as the Karst of Sangkulirang-Mangkalihat is enduring threat from limestone mining and large-scale palm oil plantation. Those two diversities are then linked and woven with each other through the utilization of use-value, interpretation of scientific value, and appreciation of aesthetical value. Use-value is related to the direct and materialistic usage of the natural resource from Karst of Sangkulirang Mangkalihat like the water, limestone, and the landscape. Scientific values are extracted for the novel understanding and knowledge while the aesthetical value, as it is appreciated, is used for recreation and tourism. The linkage between the geodiversity and cultural diversity signifies the geoheritage notion to be implemented in Karst of Sangkulirang-Mangkalihat and becomes the considerations for the establishment of World Heritage or Geopark. It also becomes a conservation effort for the geodiversity and cultural diversity, ensuring the intactness and integrity of Sangkulirang-Mangkalihat as a whole landscape.

To be World Heritage, Karst of Sangkulirang-Mangkalihat satisfies criterion numbers (iii (*"to bear a unique or at least exceptional testimony to a cultural tradition or to a civilization which is living or which has disappeared")*) and (vi(*"contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance")*) because of its rock art artifact and exceptional landscape beauty. The rock art painting and archaeological remainings represent a civilization, picturing the livelihood and culture of the pre-historic human while the landscape exhibit the beauty that roots to the uniqueness of the karstic landform. Karst of Sangkulirang-Mangkalihat is also aspired to be a Geopark, joining and fulfilling the requirement of Global Geopark Network. 29 sites have been listed as representative of the geological process and have multi significance levels from local to international. Those sites, based on the geodiversity and the cultural diversity, are branched based into five categories of caves, karst hydrological features, morphology, outcrop which include in the geodiversity-geological, geomorphological, hydrological, and speleological values and cultural geosites from the cultural diversity-cultural and tourism values. Compared to the other karst-type geoparks like Karst of Gunung Sewu, Karst of Shilin, and Causses du Quercy, Karst of Sangkulirang Mangkalihat has satisfied the geoheritage aspects of geological, geomorphological, and cultural. For further development, Karst of Sangkulirang Mangkalihat needs to strengthen the three Geopark pillars of conservation, education, and sustainable local economy embodied in the geoeducation, geotourism, and provision of partnership among stakeholders.

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DOES ENVIRONMENTAL STIMULUS MATTERS TO TOURISTS' SATISFACTION AND REVISIT INTENTION: A STUDY ON RURAL TOURISM DESTINATIONS IN SARAWAK, MALAYSIA

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Abstract: Globally, the COVID-19 pandemic has had a significant influence on international tourist arrivals and receipts. This study examines the effect of environmental stimuli on tourists' satisfaction and intention to revisit rural tourism destinations in Sarawak, Malaysia. To determine the fitness of the measuring model and structural model, a total of 272 valid surveys were used. Interestingly, empirical evidence indicates that the majority of identified environmental stimuli (i.e., environmental quality, carrying capacity, and relaxation) significantly contribute to tourists' satisfaction. Additionally, it was revealed that satisfied tourists have a higher likelihood of returning, especially to rural tourism destinations in Sarawak. Additionally, a favorable attitude of local communities was discovered to be a key moderator in increasing the relationship between visitor satisfaction and intention to revisit.

Key words: environmental stimulus, tourists' satisfaction, revisit intention, rural tourism, S-O-R Model, Malaysia

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INTRODUCTION

Tourism is commonly considered as one of the largest and fastest-growing sectors on the world, as well as a vital economic driver (Scott et al., 2019). However, the COVID-19 pandemic epidemic has had a substantial influence on international tourist numbers, resulting in a 72% reduction in arrivals from January to October 2020 (UNWTO, 2020). With tourist industries contributing significantly to the economic development of most countries and also to the revenue generation of local populations, it is a significant problem for countries to neglect tourism activities due to their lucrative income generating (Nicolaides, 2020). Tourism products fall into several broad categories, including urban tourism, seaside tourism, rural tourism, ecotourism, wine tourism, culinary tourism, health tourism, and sports tourism (Camilleri, 2018). While the impact of COVID-19 continues to be felt, governments have launched a number of initiatives to revitalize and redevelop the tourism industry, in compliance with Standard Operating Procedures (SOPs). One of the approaches is to promote rural tourism destinations (Adamov et al., 2020), as this allows for the avoidance of confined spaces, close proximity, and congested spaces. Although rural tourism's economic contribution is less than that of urban tourist, with effective implementation and growth, it has the potential to be a significant source of revenue for local communities (Heikkilä et al., 2014; Sima, 2019). According to the literature, the most frequently used terms to define rural tourism include natural environment, historic heritage, customs and traditions, arts and cultures, and community engagement (Lane, 1994; Ramakumar and Rajashree, 2008; Aref and Gill, 2009; Khound, 2013; Wani and Shafi, 2013). In the Malaysian context, rural tourism is defined in the Rural Tourism Master Plan (RTMP) as tourism activities that allow people to visit rural regions and enjoy a variety of attractions such as local culture and heritage (MOCAT, 2001; Dawayan et al., 2021). Previous research has established that the useful information gleaned from travelers' experiences and preferences is critical for the rural tourism industry's development (Lavrador Silva, 2008; Carneiro et al., 2015). While the government and tourism industry promote tourism vigorously, promotion activities for rural destinations are less developed (Papeli et al., 2007). Melo and Farias (2014) emphasised the importance of fully leveraging, developing, and promoting rural tourism destinations' distinctive qualities, sceneries, and attractions in order to attain competitiveness. Furthermore, rural tourism

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development is contingent upon local community support (Ting et al., 2022) and access to natural attractions. Tourism activities are frequently over-exploited and developed to the detriment of natural resources and community quality of life. Additionally, a dearth of tourist attractions and environmental development may affect tourists' enjoyment in rural places (Yu et al., 2011). Deforestation, resource pollution (Duval, 2004; Goulding et al., 2014), and harm to marine ecosystems, which affects communities' food sources, may affect locals' perceptions of rural tourism development and jeopardise tourists' experiences. Oliveira et al. (2020) conducted a study in which they studied the effect of environmental attitudes on tourist satisfaction in natural protected areas. A recent study by Cheng et al. (2022) revealed that natural components were found satisfying visitors and behavioral intentions in nature-based tourism destination. Recognizing the critical role of natural resources in rural tourism destination development, however this link has not been adequately examined, particularly in terms of the effect of environmental stimuli on tourist satisfaction and intention to revisit. As such, this study aims to fill gaps in the literature and theory by applying the stimulus-organism-response model in studying the effect of environmental stimuli (i.e., natural resources, environmental quality, carrying capacity, and relaxation) on tourist satisfaction in rural Asia, more precisely Sarawak, Malaysia. Additionally, this study will also examine the effect of visitors' satisfaction on tourists' intention to repeat rural tourism areas using local communities' attitude as a moderator variable to strengthen the relationship between visitors' satisfaction on intention to revisit rural tourism destinations.

LITERATURE REVIEW

The Stimulus-Organism-Response (S-O-R) Model

The stimulus-organism-response model is a frequently utilized model in social media research (Mpinganjira, 2016; Koay et al., 2020; Ibrahim et al., 2021). Mehrabian and Russell (1974) devised the S-O-R model to describe how external environmental factors influence interior emotional effects, which result in certain behavioral reactions. There is growing evidence that the application of the S-O-R model to tourism-related studies is becoming more prevalent (Cheah et al., 2019). A recent tourism publication examined the effect of virtual reality on tourist behavioral responses using the S-O-R model (Kim et al., 2020). A series of potential influences on environmental stimulation were identified and conceived using the S-O-R model based on the literature study and S-O-R model (i.e., natural resources, quality of environment, carrying capacity, and relaxation). Tourists' satisfaction and inclination to revisit were categorized as an organism and a response, respectively. Additionally, this study evaluated the potential for local community attitudes to behave as a moderator variable or organism factor in increasing the link between visitor pleasure and intention to revisit. Figure 1 illustrates the link between the study variables of environmental stimulus, tourist satisfaction, and intent to revisit.

Revisit Intention

In the tourism and hospitality industries, revisit intention has been repeatedly identified as a critical topic of study due to its potential to lead in numerous positive outcomes such as favorable word-of-mouth, lower marketing costs, and increased economic rewards (Som and Badarneh, 2011; Choo and Petrick, 2014; Hossain et al., 2021). Although the topic of revisit intention is not new and has been studied by authors for decades (e.g., Mechinda et al., 2009; Tubey and Tubey, 2014), authors in recent publications have continued to investigate the potential for revisit intention in tourism destinations but in different contexts (e.g., Lewis et al., 2021; Nguyen et al., 2021; Shang et al., 2021). Satisfaction has been shown to be a predictor of revisit and repurchase intentions in previous research (Mannan et al., 2019; Amoako et al., 2021). As a result, this study used revisit intention as the dependent variable and examined the factors influencing tourists' desire to revisit rural tourism destinations in Sarawak, Malaysia.

Tourists' Satisfaction

Satisfaction has long been recognized as the primary factor influencing a tourist's future behavioral intention (Adetola et al., 2016). It is essential to any business, whether product or service-based, to achieve customer loyalty and repeat business (Cakici et al., 2019; Zeng and Li, 2021). Memorability is a crucial outcome of a tourist experience, and it influences tourist satisfaction (Vada et al., 2019). Satisfying tourists' requirements is critical since it results in travelers expressing an interest in visiting the next tourism site (Fuchs and Weiermair, 2004). According to Yoon and Usal (2005), tourist satisfaction is determined by comparing visitors' prior expectations to their actual experience. As per previous study, service quality is associated with customer satisfaction (e,g., Nuviala et al., 2012; Dires and Anteneh, 2016). In the tourism context, visitor satisfaction is a necessary condition for the development of future purchase and revisit intentions (Choo et al., 2016; Evren et al., 2020), while dissatisfaction results in adverse future behavioral intentions (Zeithaml and Bitner, 2000).

Local Communities' Attitudes

According to Brehm et al. (2004), community can be defined as a group of individuals who share a common physical place and a common way of life. In this study, the term "local community" refers to a group of individuals who share the borders of a particular piece of land (Abas and Mohd Hanafiah, 2014). Local communities play a critical part in rural tourism development since they are sometimes referred to as "service providers," which is believed to boost the total number of tourist arrivals. Additionally, local communities serve as a focal point for tourists' transportation, information, lodging, amenities, and services (Andereck and Nyaupane, 2011). Given the effectiveness of local communities in influencing future tourist behavior, it is critical to understand how their attitudes relate to visitors' opinions on the location. As such, this study used the views of local populations as a potential moderator and examined its efficacy in improving the association between tourist satisfaction and intention to revisit rural tourism areas in Sarawak.

Environmental Stimulus

Environmental concerns have emerged as the public's primary worry, followed by social-cultural and economic concerns in the tourism business. As a result of this understanding, the environment has emerged as a critical pillar for the development of sustainable tourism, particularly rural tourism destinations (Polukhina et al., 2021; Tang et al., 2021). Environmental constructs are described as connected components that pertain to the physical environment, which may include natural or man-made elements, as well as, in a broader sense, social and cultural settings (Mihalič, 2000). Dey et al., (2020) indicated the role of environmental components, such as cultural and rural attractions as tourists prefer to choose a destination. In this regard, the purpose of this study is to determine the effect of environmental constructions on tourists' happiness and intention to repeat rural tourism sites. Natural resources, environmental quality, carrying capacity, and relaxation are among the environmental constructs to be investigated.

Hens (1998) defines carrying capacity (CC) as the maximum number of people who can visit a tourism site without having an adverse effect on environmental resources while still meeting tourist needs. This definition is similar to that of Nghi et al. (2007), who define carrying capacity as the highest bearing capacity of a natural, environmental, and socioeconomic system at which the maximum number of tourists will not jeopardise sustainable development. In simple terms, ecological carrying capacity refers to the maximum number of guests that a tourism location may receive without degrading the natural environment's quality. Rural tourism destinations are increasingly focusing on carrying capacity as more visitors seek nature and cultural tourism (Wilde and Cox, 2008). Indeed, some scholars have asserted that there is a positive correlation between carrying capacity and a sustainable tourism destination (Liu, 2003), and that issues arise when carrying capacity practises are not adequately maintained (Manuel and Miguel, 2008).

This has a detrimental effect on the tourism destination's sustainability and competitiveness. The term "quality of environment" refers to the natural aspects of a place, such as stunning scenery, natural hydrologic structures, clean water, clear air, and species richness that may decrease as a result of human activity (Mihalič, 2000). Numerous investigations have confirmed that environmental quality, such as the local landscape and natural surroundings, is a necessary component of a successful tourism destination (Fons et al., 2011; Zhang and Lei, 2012). To achieve quality, both tourists and the local community must take an active role in environmental improvement and avoid further deterioration of environmental conditions. Numerous techniques for improvement are possible, including the active participation of the local community in environmental management and the development of strong ecological features, as well as tourists participating in environmental protection while visiting a tourism area.

Crouch and Ritchie (1999) describe natural resources as the nature of the environment's primary resources, which comprise flora and fauna species. Additionally, Hart (2007) argued that natural resources such as water, plants, forest, animals, soil, and stone are found in nature and can be utilised by humans. Significant resources such as flora and fauna have been discovered to be effective at attracting tourists to a place (Thong et al., 2020). However, a recent study indicated that human encroachment on natural environments has resulted in the extinction of numerous floral and faunal species (Sukserm et al., 2012). Subsequently, numerous natural resource management strategies for resource conservation have been created in collaboration with the local population and tourists. Crompton (1979) described relaxation as a person (e.g., tourist or visitor) devoting time to activities of interest, such as tourism or sports, with the goal of escaping from daily routines, having a pleasant time, or having amorous encounters. According to Cucculelli and Goffi (2016), natural resources are the most important resources for tourism destinations. Additionally, Kastenholz et al., (2020) demonstrated relaxation was important for tourists to visit rural area. These findings show that the level of relaxation supplied by a rural tourism area is critical for increasing tourist visits (Mazilu and Stancioiu, 2009).

HYPOTHESES DEVELOPMENT

Environmental Stimulus on Tourists' Satisfaction

A well-developed tourism destination is comprised of a diverse spectrum of tourism products (Dwyer and Kim, 2003), which include the whole range of facilities and services available locally, as well as all sociocultural, environmental, and public assets (Buhalis, 2000). Recognizing the critical role of environmental constructs in determining the success or failure of rural tourism destinations (Fons et al., 2011), this study will examine the potential of four identified environmental constructs (i.e., natural resources, environmental quality, carrying capacity, and relaxation) and their effects on tourist satisfaction. Natural resources have the highest importance in affecting tourism in a region (Lascu et al., 2018). Scholars (e.g., Sukserm et al., 2012) have argued that natural resource conservation is required to retain tourism products (Reimer and Walter, 2013). Additionally, the quality of the environment has an effect on both the locals' quality of life and the tourists' trip experience (Hunziker et al., 2008; Hanley et al., 2009). It is self-evident that stunning landscape, pure water, and fresh air may boost a destination's competitiveness while also improving the local community's quality of life. As one of the primary reasons travellers visit rural tourism destinations is to unwind and experience nature, poor environmental quality and degraded natural resources would not satisfy tourists who travel specifically to experience high-quality landscapes (Zhang and Lei, 2012). To maintain a high-quality environment, community involvement is necessary to aid in the protection of environmental resources and to preserve the sustainability of natural ecology (Wang et al., 2010), as well as to assure the level of relaxation perceived by tourists. Carrying capacity refers to the maximum number of people that a tourism location can accommodate without jeopardizing the natural environment's quality or visitor satisfaction (Nghi et al., 2007). Carrying capacity issues receive a great deal of attention since they endanger tourist satisfaction. Richards and Hall (2000) shown in a study that good management of a tourism destinations' carrying capacity results in the destination's long-term competitiveness (Wilde and Cox, 2008).

Additionally, other academics (e.g., Mathew, 2009; Mihalič, 2000) have identified carrying capacity as a critical pillar and a critical driver of competitiveness. When the number of tourists visiting a destination increases, the amount of relaxation available to travelers diminishes. Following the review of the literature, the following hypotheses are generated:

H1: Natural resource is positively related to tourists' satisfaction.
H2: Quality of environment is positively related to tourists' satisfaction.
H3: Carrying capacity is positively related to tourists' satisfaction.
H4: Relaxation is positively related to tourists' satisfaction.

Tourists' Satisfaction on Revisit Intention

Numerous research have demonstrated that tourists' satisfaction might result in a future behavioral desire to visit a certain tourism area (Mohamad et al., 2012; Choo et al., 2016; Thiumsak and Ruangkanjanases, 2016). Canny and Hidayat (2012) argued that it is critical to increase visitor satisfaction because dissatisfied tourists tend to spread negative word-of-mouth and thus decrease tourist revisit intention. While the majority of academics analyze the association between visitor satisfaction and intention to revisit in European nations, a few studies have examined this relationship in Asian countries (e.g., Chen and Tsai, 2007; Wang et al., 2010; Wu et al., 2014).

On the other hand, it was discovered that few studies have been conducted in the rural tourism context to examine the relationship between tourist satisfaction and behavioral intention (e.g., Jo et al., 2014; Loureiro and González, 2008; Osman, 2013; Park and Nunkoo, 2013; Rajaratnam et al., 2015). Most importantly, previous research indicates that the relationship between visitor happiness and behavior is inextricably linked, as travelers ready to return to the same tourism site were more satisfied with their first visit (Kozak and Rimmington, 2000; Som and Badarneh, 2011). The following hypothesis was developed as a result of the above discussion of available research:

H5: Tourists' satisfaction is positively related to revisit intention.

Local Communities' Attitudes Moderates Tourists' Satisfaction on Revisit Intention

Local communities play a crucial part in rural tourism development since they are sometimes referred to as "service providers," which can have an effect on the total number of tourist arrivals. Thus, local communities' hospitality toward tourists has been recognized as critical for a successful tourism destination, as one of the major elements influencing visitors to return to a place or to promote it to others (Thyne et al., 2006). Moreover, by discussing their travel experiences with their families, friends, and coworkers, these visitors can spread their thoughts, feelings, and attitudes about the place. All of these factors are likely to have an effect on the destination's capacity to attract both returning and new tourists (Zhang et al., 2006). According to a study conducted by Woosnam et al. (2018), the relationships between residents and tourists have a significant impact on tourists' degree of destination attachment.

Additionally, Oriade (2013) notes that destination resources include natural features, cultural history, as well as the location's surroundings and ambiance. Local communities are the best source of information about local places. The following hypothesis was developed as a result of the above discussion of existing research:

H6: Local communities' attitude is positively moderating the relationship between tourists' satisfaction and revisit intention; such that when local communities' attitude is high, the relationship between tourists' satisfaction and revisit intention will be stronger.

On the basis of this review of existing research, the following research framework was proposed (see Figure 1):

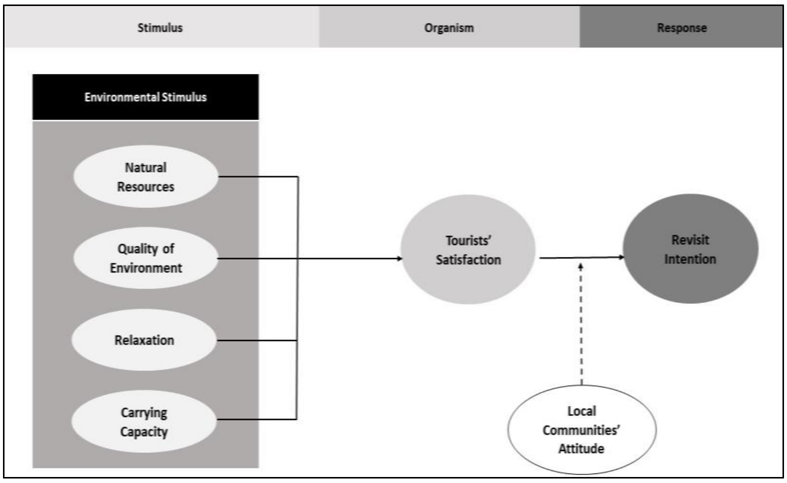

Figure 1. The proposed research model based on the S-O-R theory-based (*Data Source: Authors' Self Collected)

METHODOLOGY

Sarawak is one of Malaysia's thirteen states and is renowned for its plethora of cultural and natural riches (Er and Simon, 2015). The study focuses on domestic tourists because Malaysia's Ministry of Tourism, Arts, and Culture has identified ecotourism destinations as a priority for the country's post-COVID-19 tourism industry rehabilitation. Ecotourism is also projected to rise in the next year or two, as travellers seek less crowded vacation areas. As indicated in Figure 2, this study used a quantitative method, with questionnaires sent in three rural tourism locations in Sarawak in 2021. Annah Rais Bidayuh Longhouse, Rumah Benjamin Angki, and Rumah Panjang Bawang Assan were the three study locations. Due to the fact that the study was conducted during the pandemic's recovery stage, only domestic tourists were made available. 34 items were adapted from previous research (e.g., Artuğer, 2015; Collins, 2005; Dwyer and Kim, 2003; Gebhard et al., 2007; Park and Yoon, 2009; Tran, 2011; Wu et al.,

2014) and contextualised in Malaysia (see Appendix A). Respondents were asked to assess their agreement with the statements on a seven-point Likert scale (ranging from 1 for strongly disagree to 7 for strongly agree). The G*Power software was used to determine the minimal sample size. A sample size of 146 is advised for testing the developed research model using an a priori power analysis with a medium effect size, a significance threshold of 0.05, and a power of 0.95. 279 of 350 distributions were returned, representing a response rate of 79.71 percent. The answer rate of 79.71 percent indicates that there was no response error, as it is higher than the recommended response rate of 70%. (Nulty, 2008).

Prior to undertaking the measurement and structural analysis, a series of preliminary analyses were undertaken using the Statistical Package for Social Science 23.0 to exclude missing data and straight lining. Seven questionnaire sets were discarded during the procedure, but the remaining 272 were used to assess the fitness of the measurement model and test hypotheses. The study analysed the data using a partial least squares structural equation modelling (PLS-SEM) technique, using the suggested 5000-bootstrap procedure (Hair et al., 2018). The process for PLS-SEM estimation was carried out using the WarpPLS programme (see Figure 1). Due to the short sample size and non-normal distribution of the data, PLS-SEM analysis was performed. Hair et al. (2017) defines as non-normal a pattern of responses with a skewness and kurtosis larger than or equal to +- 1. (See Table 1). Because WarpPLS integrates both true composites and standard error of the mean variables, it was considered to be the more appropriate programme for analysing the proposed study model.

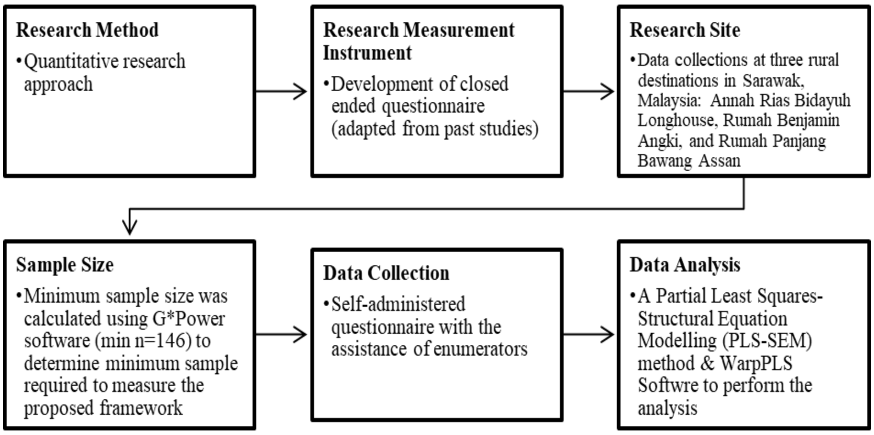

Figure 2. Research methodology flow chart

FINDINGS

Assessment of the Measurement Model

The measurement (outer) model was examined first, using the two-step technique proposed (Hair et al., 2018). Confirmatory factor analysis was used to assess the measuring scales' reliability, convergent validity, and discriminant validity (CFA). All item loadings exceed 0.50 (Bagozzi et al., 1991), and all constructs have composite reliability (CR) and average variance extracted (AVE) values greater than 0.70 (Chin, 2010) and 0.50 (Fornell and Larcker, 1981), respectively, with the exception of quality of environment, where the AVE value was 0.421.

However, even if the AVE value for environmental quality is less than 0.5, as Fornell and Larcker (1981) imply, AVE values less than 0.5 but larger than 0.4 are acceptable if the CR value is greater than 0.6, indicating that the construct's convergent validity is still satisfactory. Internal consistency was obtained as a result. The value of AVE was square-rooted and compared to the correlation of the construct with the other constructs in the study model for the discriminant validity analysis displayed in Table 3, with all values exceeding the correlation of each construct (Chin, 2010). As a result, the measurement model was established to be sufficiently reliable, convergent, and discriminant valid. For tourists' contentment and revisit intention, the coefficient of determination (R2) was 0.20, indicating a reasonable model that explained more than 20% of the variation (Cohen, 1988).

Table 1. The skewness and excess kurtosis

	NR	QoE	CC	Relax	Satis	Revisit	LCA
Skewness	-0.659	-0.180	-0.488	-0.158	-0.251	-0.661	0.335
Exc. kurtosis	-0.038	1.265	-0.241	-0.102	0.310	-0.295	0.579

Note: NR = Natural Resources; QoE = Quality of Environment; CC = Carrying Capacity; Relax = Relaxation; Satis = Tourists' Satisfaction; Revisit = Revisit Intention; LCA = Local Communities' Attitude

Assessment of the Structural Model

The remaining hypotheses were examined using the inner (structural) model's p-values, t-values, and standardised coefficient beta values. The findings of the hypotheses testing are summarised in Table 4 and Figure 3. The t value should be greater than 1.645 ($p < 0.05$) or 2.33 ($p < 0.01$) for one-tailed hypothesis testing. Four out of five of the direct hypotheses suggested and tested were supported by the statistical analysis. The study discovered that the hypothesised environmental stimuli (i.e., environmental quality, relaxation, and carrying capacity) all contribute considerably to tourist satisfaction. On the other side, it was revealed that tourists' contentment influenced their intention to revisit. Interestingly, the data indicated that the attitude of local residents positively and considerably modifies the association between tourist satisfaction and intention to revisit national parks.

Thus, statistical analysis supported H2, H3, H4, H5, and H6, but not H1. To demonstrate the model's predictive validity, we set the Q2 values for visitors' satisfaction and revisit intention to 0.212 and 0.193, respectively, in accordance with Hair et al. (2017)'s recommendation that a Q2 value greater than zero be considered significant.

Table 2. Results of measurement model

Model Construct	Measure-ment Item(s)	Load-ing	Composite Reliability (CR)	Average Variance Extracted (AVE)
Natural Resources	NR_01 NR_02	0.941 0.948	0.917	0.787
	NR_03	0.930		
Quality of Environ-ment	QoE_01 QoE _02 QoE _03 QoE_04	0.711 0.933 0.959 0.942	0.742	0.421
Carrying Capacity	CC_01 CC_02 CC_03 CC_04	0.779 0.747 0.695 0.745	0.938	0.791
Relaxation	Relax_01 Relax_02 Relax_03 Relax_04	0.558 0.802 0.751 0.861	0.814	0.540
Tourists' Satisfac-tion	Satis_01 Satis _02 Satis_03 Satis_04 Satis_05 Satis_06 Satis_07 Satis_08 Satis_09	0.760 0.858 0.849 0.867 0.795 0.850 0.724 0.828 0.924	0.895	0.500
Revisit Intention	RI_01 RI_02 RI_03 RI_04	0.713 0.768 0.745 0.795	0.889	0.670
Local Commu-nities' Attitude	LCA_01 LCA _02 LCA _03 LCA _04 LCA_05 LCA_06	0.931 0.922 0.949 0.896 0.878 0.644	0.876	0.556

Table 3. Discriminant validity of constructs

	NR	QoE	CC	Relax	Satis	RI	LCA
Natural Resources	**0.887**						
Quality of Environment	-0.023	**0.649**					
Carrying Capacity	0.131	0.117	**0.890**				
Relaxation	0.079	0.220	0.655	**0.735**			
Tourists' Satisfaction	0.019	0.098	0.353	0.343	**0.704**		
Revisit Intention	0.205	0.256	0.468	0.507	0.404	**0.819**	
Local Communities' Att	-0.233	-0.119	-0.120	-0.078	-0.132	-0.141	**0.745**

Note: Diagonals represent the square root of the average variance extracted (AVE) while the other entries represent the correlations.

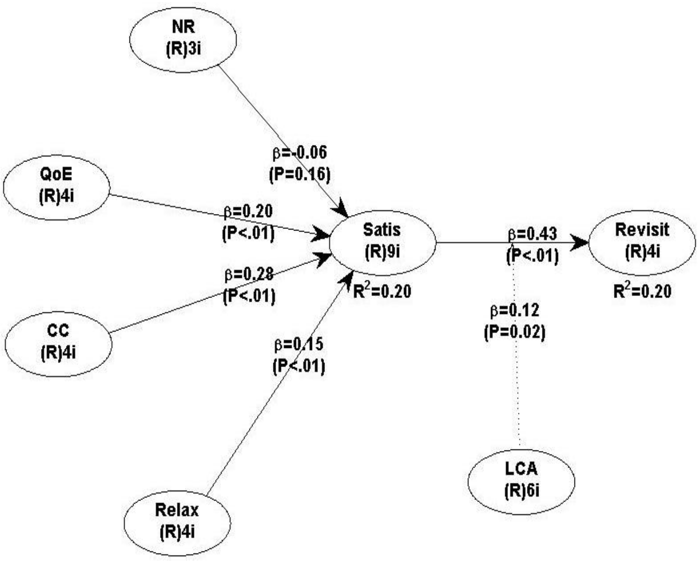

Figure 3. Research model with Path Coefficient and P-Values

Table 4. Path coefficients and hypothesis testing (Note: $p < 0.01^{**} = t > 2.33$; $p < 0.05 = t > 1.645^{*}$)

Hypothesis	Relationship	Standard Beta	P-value	t-value	Decision
H1	Natural Resources → Tourists' Satisfaction	-0.061	0.155	-1.017	Not Supported
H2	Quality of Environment → Tourists' Satisfaction	0.203	**<0.001**	**3.469****	**Supported**
H3	Carrying Capacity → Tourists' Satisfaction	0.280	**<0.001**	**4.842****	**Supported**
H4	Relaxation → Tourists' Satisfaction	0.153	**0.005**	**2.586****	**Supported**
H5	Tourists' Satisfaction → Revisit Intention	0.433	**<0.001**	**7.663***	**Supported**
H6	Local Communities' Attitude * Tourists' Satisfaction → Revisit Intention	0.118	**0.024**	**1.991***	**Supported**

DISCUSSION

Using the S-O-R model, this study sought to determine the effect of environmental stimuli (i.e., natural resources, environmental quality, carrying capacity, and relaxation) on tourists' pleasure, which would then result in a desire to revisit rural tourism destinations in Sarawak, Malaysia. This study was the first to evaluate the moderating effect of local community attitudes on the link between visitor satisfaction and intention to revisit. Five of the six hypotheses tested, namely H2, H3, H4, H5, and H6, were found to be supported. The relationship between natural resources and tourist satisfaction is examined in Hypothesis 1. Contrary to predictions, the empirical findings indicated that natural resources had no discernible effect on tourists' satisfaction (β = -0.061; p = 0.155; t = -1.017), indicating that H1 was not supported. The contradictory findings may be explained by the fact that tourists visiting these rural tourism areas lack possibilities to explore and experience the accessible natural resources due to movement restrictions. The majority of tourists are denied access to the waterfall and river in order to prevent the spread of COVID=19. Hypothesis 2 investigates the relationship between environmental quality and tourist satisfaction. As expected, the empirical findings indicated that environmental quality had a positive and substantial effect on tourists' satisfaction (β = 0.203; p < 0.001; t = 3.469**), supporting H2. When visiting rural tourism areas, it is widely accepted that the majority of tourists are worried about the condition of the environment. It is believed that tourists are more satisfied when the surroundings is of good quality. Hypothesis 3 investigates the relationship between carrying capacity and satisfaction among tourists. Carrying capacity had a significant effect on tourists' satisfaction (β = 0.280; p < 0.001; t = 4.842**), indicating that H3 was supported. At the time of the investigation, a restricted number of visitors are permitted to enter per session due to typical operational procedures. As a result, visitors believe it is critical to limit the number of tourists visiting rural tourism locations at any given moment.

Tourists believe that the primary reason for visiting rural tourism destinations is to appreciate nature and avoid congested areas; thus, the carrying capacity of a tourism destination is a critical measure of tourist satisfaction.

Hypothesis 4 explores the relation between relaxation and satisfaction among travelers. The statistical data indicated that relaxing had a significant effect on tourist satisfaction ($\beta = 0.153$; $p = 0.005$; $t = 2.586^{**}$), supporting H4. The majority of travelers that visit rural tourism areas do so to escape from their daily stressful routines and to unwind. Thus, it is critical for rural tourism sites to provide a relaxing environment, as the degree of relaxation has been shown to increase tourist satisfaction. The fifth hypothesis explores the relationship between visitor satisfaction and intention to revisit. As predicted, the empirical findings indicated that tourists' satisfaction had a positive and substantial effect on their intention to revisit ($\beta = 0.433$; $p < 0.001$; $t = 7.663^{**}$), supporting H5. According to prior research (e.g., Choo et al., 2016; Thiumsak and Ruangkanjanases, 2016), tourists' happiness typically results in a desire to revisit a tourism destination. As a result, it is critical for rural tourism destinations to provide maximum support and warm hospitality in order to increase tourist satisfaction, as dissatisfaction often results in negative word-of-mouth and a lack of future visit intention.

Hypothesis 6 investigated the moderating effect of local community attitudes on visitor satisfaction and inclination to return. Interestingly, the empirical findings indicated that the attitude of local communities moderated the association between visitor satisfaction and intention to revisit ($\beta = 0.110$; $p = 0.024$; $t = 1.991^{*}$), indicating that H6 was supported. Local community members frequently functioned as the sole service provider in rural tourism destinations. They provide transportation, homestays, tour guides, and souvenirs, among other services. Local communities supply all services in remote tourism sites. Additionally, it is critical to have a supportive local community, since a positive attitude toward rural tourism destinations tends to improve the association between tourist satisfaction and intention to return.

CONCLUSION

To summarize, this study expanded the scope of the S-O-R model and its application to rural tourism. The purpose of this study was to determine the effect of environmental stimuli (stimulus), tourist satisfaction (organism), and intention to revisit rural tourism sites in Sarawak, Malaysia. Notably, this study explored the moderating effect of local community attitudes on the relationship between visitor satisfaction and intention to revisit. As a result, the second key component in this study is the attitudes of local communities. This study contributes significantly to the efforts of tourism industry players, particularly destination marketers and practitioners, as well as local tourism authorities, to advertise and develop rural tourism destinations. Additionally, tourism stakeholders, such as relevant ministry departments, should prioritize the development of rural tourism destinations' environmental aspects and package them as one of the tourism destinations' primary attractions in order to attract more domestic tourists to Sarawak's various rural tourism destinations, particularly during the post-Covid-19 tourism recovery. As with any research, this study has several limitations.

Firstly, this study relies primarily on samples drawn from domestic tourists (as the research was conducted during recovery stage of the pandemic), who have visited the selected study rural tourism destinations in Sarawak, Malaysia. The different cultural aspects for rural tourism destinations of Sarawak with other rural tourism destinations in different countries may restrict the generalizability of the outcomes. Secondly, the data collection was done at one point in time and not from different points in time. Thus, the causality effect of this study cannot be determined due to data collected at one point and not from the same group of participants over a longer period of time. Therefore, only conclusions and discussions of the general relationships between variables as well as the moderating effect could be shown in this study. In short, a longitudinal study should be carried out and replace the cross-sectional study to determine the causality effect of the study.

Despite these limitations, this research study posed several strengths and significantly contributed to both theoretical and practical implications. The current research findings significantly provide a holistic view and add value to the understanding of the importance of environmental stimulus (i.e., natural resources, quality of environment, relaxation, and carrying capacity) and its potential impacts on tourists' satisfaction and revisit intention based on the S-O-R model from the perspective of the only demand side of tourism stakeholders (i.e., tourists) in the Sarawak rural tourism industry. The findings of this study add value to the current rural tourism literature as well as contribute some practical insights to the tourism stakeholders on the marketing and management of rural tourism destination.

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EMPLOYEE SATISFACTION IN TOURISM BUSINESSES – AN EMPIRICAL ANALYSIS

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Abstract: Tourism in one of the most important sectors in Greece and it has been a key element of the economic activity in the country. Before the pandemic of COVID-19 tourism represented almost 30% of GDP and 25% of employment in Greece. This research paper aims to study the employee satisfaction in tourism, an important part of human resource management. For the purposes of this study an empirical analysis is conducted to tourism employees of the prefecture of Halkidiki. The findings support that the employees are not satisfied with their salaries, they accept their evaluation but there are no rewards, they are satisfied in general with their employment and they believe that they will be employed for the next tourism season.

Key words: tourism, employee satisfaction, empirical analysis, Greece

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INTRODUCTION

One of the most important sectors in Greece is tourism and it has supported growth and employment in the country for the last decades, especially during the economic crisis. Until the begging of 2020, just before the outbreak of COVID-19, tourism represented almost 30% of GDP and 25% of employment in Greece (OECD, 2020; Statista, 2021). Universally, public and private organizations have to adapt to the globalization of economic activities, developments in technologies and social media and demands of citizens based on the quality of values, actions, methods, satisfaction and many other aspects (Kusluvan et al., 2010; Baroutas et al., 2020). The business excellence of an organization is based on several factors one of which is human resources (Gong et al., 2009). Employee satisfaction is an important part of human resource management; thus it is important to study the employee satisfaction, the employees' evaluation, how the employees' performance is affected by the work environment and the certainty that the employees feel in tourism businesses. Suggestively, researchers study job satisfaction of employees in tourism sector in hotels or restaurants (Romero et al., 2018; Laškarin Ažić, 2017), in spa services of tourism (Perić et al., 2018; Perić et al., 2015) and in specific regions (Heimerl et al., 2020a; Heimerl et al., 2020b; Pekerşen and Tugay, 2020; Vijayakumar and Vivek, 2018; Schneider and Treisch, 2019). The job satisfaction of the employees' directly affects their work, the provided services to tourists and the financial performance of the business (Kusluvan et al., 2010; Perić et al., 2018; Chi and Gursoy, 2009). Furthermore, research regarding employees' job satisfaction in tourism sector is limited in Greece (Baroutas et al., 2020). Employee satisfaction is related to the services provided to tourists and loyalty.

There is an impact of employee satisfaction on the tourist satisfaction (Kusluvan et al., 2010). This research paper aims to study the employee satisfaction in tourism and the research questions are whether demographic characteristics affect the employee satisfaction. The structure of the paper is as follows. The second section provides the research methodology of this study, the third section presents demographic and professional characteristics, the fourth presents the associations between personal and professional characteristics and the last section concludes.

RESEARCH METHODOLOGY

The aim of this study is the employee satisfaction in tourism businesses in the prefecture of Halkidiki, one of the most visited tourism regions of Greece (Mavragani et al., 2019; Enterprise Greece – Invest & Trade, 2021; INSETE, 2021). Halkidiki is considered to be the most popular tourist destination in the region of Northern Greece, both for foreign visitors and Greeks, but it has not been studied as other popular tourist regions (Mavragani et al., 2019; Kamenidou and Mamalis, 2015). Tourism in Halkidiki has been the most significant pillar of development at least for the last three decades (Avdimiotis and Tilikidou, 2017; Latinopoulos, 2018; Marits, 2013). Halkidiki performed second best (86.7%, after the island of Crete 87.3%) in the general satisfaction index of the Greek and competitive mass destinations "sun & sea" for September 2019. The same excellent performance is achieved for the same period for important touristic indexes like location, service, value for money (INSETE, 2021). The employment in the tourism sector is very demanding, regarding the workload and the level of quality of services since the employees are the link between the business and the customers

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(Belias et al., 2021). Thus, the study of job satisfaction of employees in the Greek tourism sector is of importance for the human resources departments since it is closely related to customer satisfaction (Rossidis et al., 2019).

In order to achieve the above, a structured questionnaire was used as the research instrument. It consisted of twenty-nine questions regarding demographic characteristics, working status, working conditions and job satisfaction. The questionnaire was pilot tested to determine if the questions could be well understood by respondents. The actual full-scale survey was conducted in the period of August to September 2019. The questionnaire was distributed to employees of hotels, restaurants, bars and shops in the region of Halkidiki. Because of time and cost constraints, the convenience sampling procedure along with the snowball sampling was employed. At the end of the survey period, 268 questionnaires were collected. The profile of the respondents is presented in Table 1.

DEMOGRAPHIC AND PROFESSIONAL CHARACTERISTICS

The sample consists of 162 female and 106 male, and the majority (61.2%) belongs to the age group “23-30”. As it concerns the education level, most of the respondents (47.8%) have a bachelor’s degree and 20.1% have vocational education and training. It is remarkable that 76.9% don’t have tourism education indicating that they work in tourism as a non-permanent job or because they wish to work in a different sector. However, two out of three works in tourism for more than one year and most of them work in a hotel, restaurant or bar. Only one out of four work for eight hours per day, while almost half (44%) work for more than eight hours per day and 26.9% have no fixed working hours per day, which most likely means that they work for more hours. The salary of one out of three is the basic one, while 61.9% is given a salary less than 1000 euro.

Table 1. Profile of the respondents

Demographic characteristics	Variable	Frequency	(%) Percentage
Gender	Male	106	39.6
	Female	162	60.4
Age	18-22	44	16.4
	23-30	164	61.2
	31-40	42	15.7
	41-50	18	6.7
Educational level	Secondary education	72	26.9
	Vocational education and training	54	20.1
	University	128	47.8
	Master/PhD	14	5.2
Tourism education	Yes	62	23.1
	No	206	76.9
Experience in Tourism	Less than 1 year	90	33.6
	1-4 years	104	38.8
	5-10 years	64	23.9
	11-20 years	6	2.2
	More than 20 years	4	1.5
Type of tourism business where you usually work	Hotel	88	32.8
	Bar/Tavern/Restaurant	104	38.8
	Beach bar	62	23.1
	Shop	4	1.5
	Retail	10	3.7
Working hours per day	Less than 6 hours	6	2.2
	7 hours	8	3
	8 hours	64	23.9
	More than 8 hours	118	44
	Non fixed	72	26.9
Job Post	House keeping	8	3
	Reception	34	12.7
	Bar/Tavern/Restaurant	182	67.9
	Entertainment	16	6
	Accounting	6	2.2
	Other	22	8.2
Month salary	Basic	50	18.7
	500-700	88	32.8
	701-1000	78	29.1
	1001-1500	40	14.9
	More than 1500	12	4.5

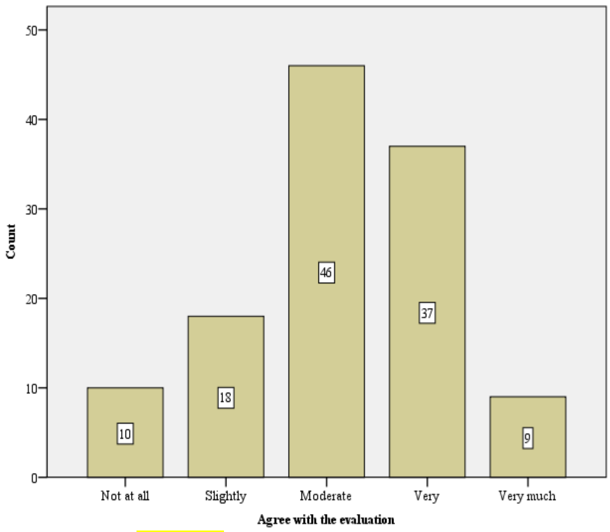

Figure 1. Agree with the evaluation

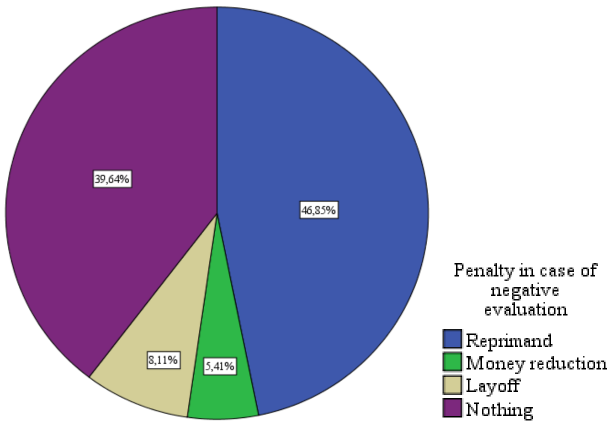

Figure 2. Penalty in case of a negative evaluation

The majority of the respondents (60.4%) state that evaluation of staff is realized either by the business’s owner (46.6%) or manager/chief (54%). Most of the respondents (76.3%) agree with the evaluation (Figure 1), while 57.4% support that there are not rewards in case of a positive one. Those who are rewarded indicate that the reward is moral (44%), money bonus (41%), a day off (7%) and a promotion (8%). In case of a negative evaluation, 39.6% reply that there is no penalty, 46.8% that there is reprimand, 8.1% that they were fired and 5.4% state a salary reduction (Figure 2).

In the question whether the job performance is affected by their relationship with their colleagues 36.6% reply that it does, 24.6% that it does not and 38.8% that it does sometimes. Most of the respondents believe that they will find a job next season (50.7%), 34.4% neither agree nor disagree, while 28.4% disagree or totally disagree (see, Figure 3). Almost half of the respondents (50.7%) are satisfied with the customer treatment, 36.6% are neutral, while 12.7% are not satisfied. Forty one percent of the respondents (41%) keep a moderate position in regards with the satisfaction from their salary, 30.6% are satisfied and 28.4% are not. Most of the respondents (60.4%) believe that there is undeclared work in tourism professions, 28.8% neither agree nor disagree, while only 11.2% do not agree with that view (Figure 4). On the contrary, 48.5% of the respondents reply that businesses cover insurance payments, 33.6% is neutral, while 17.9% do not agree with that view.

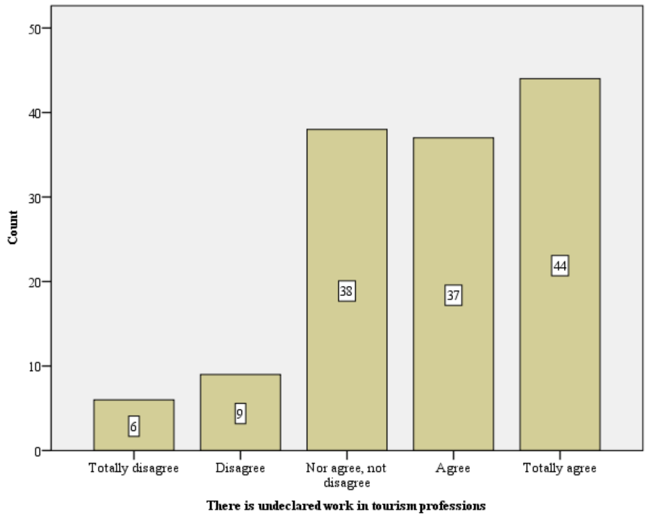

Figure 4. There is undeclared work in tourism professions

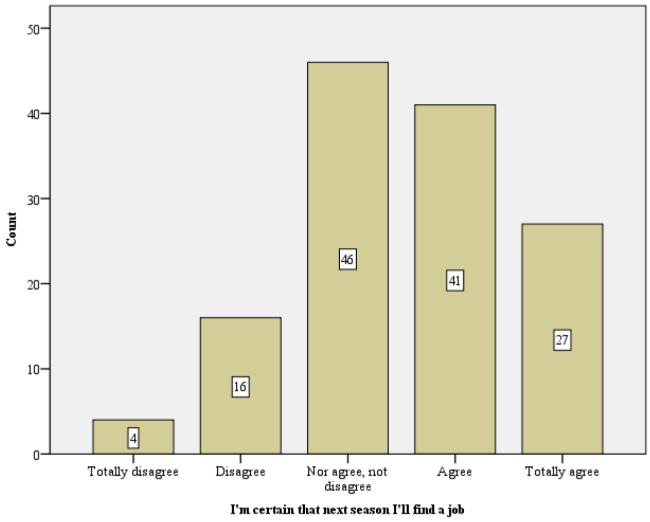

Figure 3. I'm certain that next season I'll find a job

Almost half of the respondents (44%) work in tourism because they have not found anything better, 30.6% disagrees with that and 25.4% are neutral (Figure 5). In accordance with the previous view, 50.8% believe that the seasonal employment in tourism is not for a permanent career, 23.9% disagree with that and 25.4% are in the middle.

The job satisfaction appears at the question whether the respondents would recommend to someone they know in the business they work, in which 49.3% reply "yes", 39.6% reply "with conditions" and only 11.2% reply "no" (Figure 6). Additionally, 35.1% state that they would like to work to same business next season, 42.5% "with conditions" and 22.4% "no". Most of the respondents are satisfied from their work in general, since 45.5% are satisfied from their colleagues, 38% are satisfied from their manager, 31.4% are satisfied from business policy and 47.8% are satisfied from their job, with the corresponding moderate percentages to be around 35% in each category.

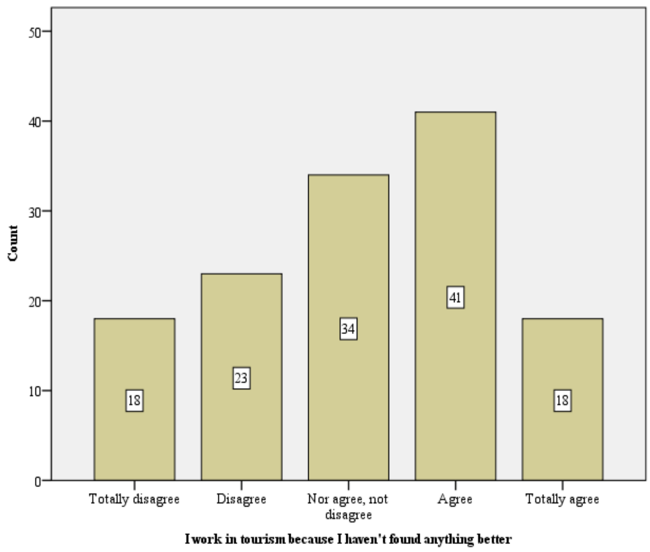

Figure 5. I work in tourism because I haven't found anything better

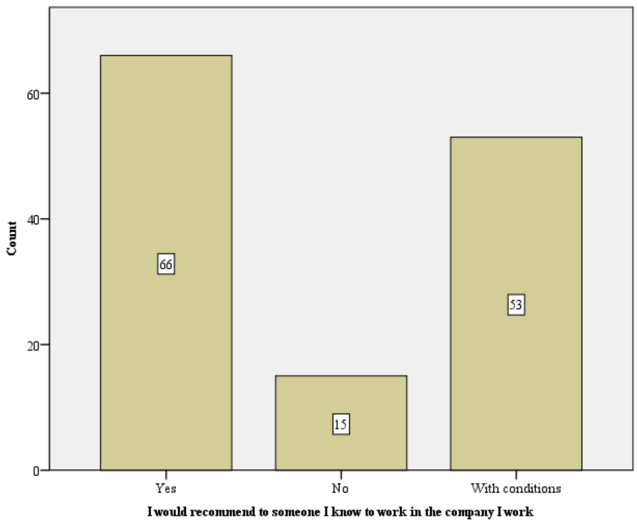

Figure 6. I would recommend to someone I know to work in the same company I work

ASSOCIATIONS BETWEEN PERSONAL AND PROFESSIONAL CHARACTERISTICS

The findings of chi-square test between personal and professional characteristics and all other qualitative variables of the questionnaire are indicated in Table 2. The dependent variables are indicated along with the chi-square value and the p-value. Specifically, month salary depends on gender since 63% of female are paid with the basic salary or with 500-700 euro, while the corresponding percentage for male is 33.9%.

Totally satisfied from customer treatment are 20.8% of men and only 3.7% of women. Almost half of women (49.3%) reply that they work in tourism because they have not found a better job, including replies "agree" and "totally agree", while the corresponding percentage for men is 35.8% and most stated "agree" (Table 3). Most of the oldest respondents indicate that there is reward in case of a positive evaluation and their reward is "money bonus" or "moral bonus". The penalty in case of a negative evaluation is usually for the young reprimand, while for the eldest is layoff. Regarding satisfaction from their job the eldest respondents are "very" or "very much" satisfied, while the youngest ones are moderate satisfied. The eldest respondents are not certain that they will find a job next season (Table 4) and they are not satisfied from customer treatment. Also, the youngest respondents are not certain that there is undeclared work in tourism professions and they wish they would work in the same business next season.

Table 2. Dependent variables and chi-square test

Variables		Chi-square value	p-value
Gender	Month Salary	33.011	0.000
	Job Performance is affected by my relationship with my colleagues	9.313	0.009
	Customer treatment is satisfactory	14.404	0.006
	I work in tourism because I haven't found anything better	10.646	0.031
Age	Reward in case of positive evaluation	8.390	0.039
	What kind of reward	35.308	0.002
	Penalty in case of negative evaluation	17.961	0.036
	Satisfaction from my job	22.235	0.035
	I'm certain that next season I'll find a job	44.100	0.000
	Customer treatment is satisfactory	38.315	0.000
	There is undeclared work in tourism professions	30.995	0.002
	I'd like to work to the same business next season	13.409	0.037
Educational level	Month salary	26.789	0.044
	Evaluation of staff is realized	13.672	0.008
	Who performs the evaluation	84.006	0.000
	Reward in case of positive evaluation	9.722	0.045
	What kind of reward	55.259	0.000
	Businesses also cover insurance payments	41.756	0.000
Tourism education	Month salary	9.913	0.042
	I work in tourism because I haven't found anything better	10.337	0.035
Experience it Tourism	Month salary	34.606	0.004
	Reward in case of positive evaluation	10.020	0.040
	Satisfaction from business policy	55.252	0.000
	I'm certain that next season I'll find a job	30.525	0.015
	Customer treatment is satisfactory	32.253	0.009
	I work in tourism because I haven't found anything better	26.588	0.046
Type of tourism business where you usually word	Evaluation of staff is realized	10.899	0.028
	Who performs the evaluation	40.932	0.001
	Agree with the evaluation	32.091	0.010
	Satisfaction from colleagues	29.307	0.022
	I'm certain that next season I'll find a job	27.928	0.032
	Customer treatment is satisfactory	48.851	0.000
	I work in tourism because I haven't found anything better	26.978	0.042
Working hours per day	Who performs the evaluation	38.081	0.001
	I work in tourism because I haven't found anything better	28.653	0.026
Job Post	What kind of reward	54.174	0.001

Table 3. Gender * I work in tourism because I haven't found anything better Crosstabulation

			I work in tourism because I haven't found anything better					Total
			Totally disagree	Disagree	Neither agree nor disagree	Agree	Totally agree	
Gender	Male	Count	22	10	36	28	10	106
		% within Gender	20.8%	9.4%	34.0%	26.4%	9.4%	100,0%
	Female	Count	14	36	32	54	26	102
		% within Gender	8.6%	22.2%	19.8%	33.3%	16.0%	100,0%
Total		Count	36	46	68	82	36	268
		% within Gender	13,4%	17.2%	25.4%	30.6%	13.4%	100.0%

The educational level seems to be associated with the variables regarding evaluation and monthly salary. Respondents of all educational levels, except for holders of a bachelor's or master's degree, state that evaluation of staff is realized. Employees with secondary education or PhD indicate that there is a reward in case of positive evaluation and the other groups that there is not. The ones with the lowest educational levels reply that they get money or moral bonus in that case, while the one with the upper educational levels state that businesses don't cover insurance payments.

The dependence of tourism education appears only with the month salary and the state "I work in tourism because I haven't found anything better". Studies in tourism seem to result in a better salary. More specifically, 64.5% of specialized employees have a salary of more than 701 euro, while the corresponding percentage for the non-specialized is 43.7%. As it was expected, 50.5% of those who are not educated in tourism state that "I work in tourism because I haven't found anything better" with the corresponding percentage of the other group to be 21.6%. As expected, the more experienced in tourism respondents have a better salary, they state that there is no reward in case of a positive evaluation, they are more satisfied from business policy, but not so much by the customer treatment and they are not certain if they work in tourism because they haven't found anything better. The type of tourism business where the respondents usually work seems to affect most the variables regarding evaluation. According to the respondents, evaluation is realized at hotels, shops and restaurants, but not so much at beach bars and in retail. The evaluation is usually performed by the chief at hotels and shops, by the owner at restaurants, beach bars and in retail. Only the respondents who work at hotels and restaurants agree with the evaluation. Most of the groups are moderate satisfied from their colleagues and only those who work in restaurants and beach bars are "very" or "very much" satisfied from their colleagues (48.1% and 48.4%, respectively). Most of the respondents are "very" or "very much" certain that they will find a job next season (50% at hotels, 57.7% at restaurants and 41.9% at beach bars, see, Figure 7). Those who work at beach bars are very satisfied from customer treatment (58.1%, see, Figure 8). The respondents who indicate that they work in tourism because they have not found a better job are those who work in restaurants (59.7%) and beach bars (45.2%); all other groups don't agree with this statement.

Table 4. Age* I'm certain that next season I'll find a job Crosstabulation

		I'm certain that next season I'll find a job			Total
		Totally disagree or Disagree	Neither agree nor disagree	Agree or Totally agree	
18-22	% within Age	4.5%	50.0%	45.5%	100,0%
23-30	% within Age	12.2%	30.5%	57.4%	100,0%
31-40	% within Age	19.0%	38.1%	42.6%	100,0%
41-50	% within Age	55.5%	22.2%	22.2%	100,0%
Total	% within Age	14,9%	34.3%	50.7%	100.0%

Table 5. Descriptive measures of the new variables

	General satisfaction	Positive specific satisfaction	Negative specific satisfaction
Mean	12.64	13.39	10.32
Median	13	14	11
1st quartile	10	12	8
3rd quartile	15	15	12
SD	3.544	2.578	2.688
Min	4	4	3
Max	20	20	15

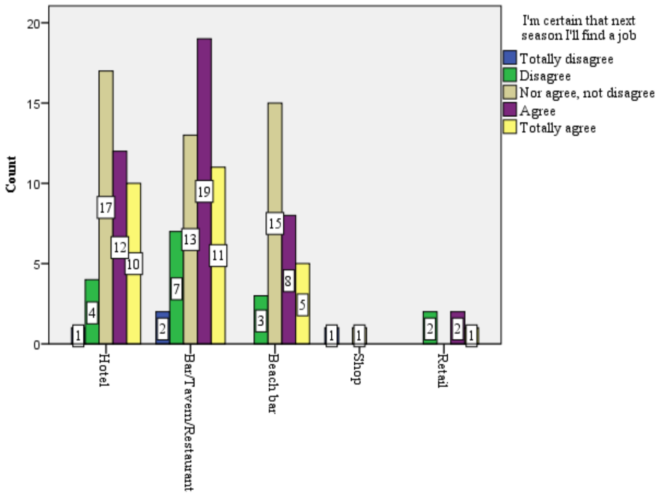

Figure 7. I'm certain that next season I'll find a job * Type of tourist business where you usually work Crosstabulation

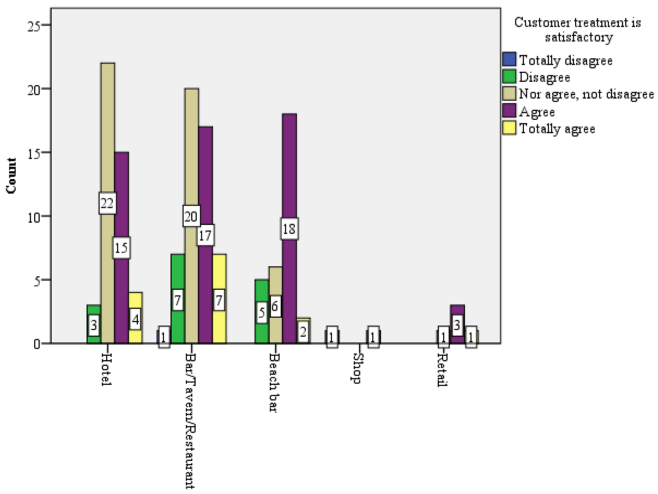

Figure 8. Customer treatment is satisfactory * Type of tourist business where you usually work Crosstabulation

Working hours per day effect the variable "who performs the evaluation", since those who work for 8 hours and more reply that the chief performs the evaluation, while those who work for 8 hours or less reply that the owner realizes it. Those who work for 8 hours or less state that "I work in tourism because I haven't found anything better" but those who work for more hours state the opposite. Those who work in entertainment or restaurants are more likely to get money bonus in case of a positive reward, those who work in reception, housekeeping or accounting are more likely to get a moral reward.

In order to study the overall satisfaction, the above variables where grouped in scales. Specifically, three scales were created; the general satisfaction (from the items of "from colleagues", "manager", "policy" and "job"), the positive specific satisfaction (from the items of "I'll find a job next season", "the income is enough", "customer treatment" and "insurance payments") and the negative specific satisfaction (from the items of "undeclared work", "haven't found better job", "not for a permanent work"). Because 1–5 points were given in the five scaled answers, "I totally disagree" to "I totally agree", a score for each question/view is received. Four questions/views mean a minimum possible score of four and a maximum possible score of 20 per respondent. The descriptive statistics of these variables are indicated in Table 5. The reliability estimate with Cronbach's α is in all cases very satisfactory. Also, general satisfaction is highly correlated with positive specific satisfaction (Pearson correlation is 0.463 and p-value is 0.000).

Independent-samples t test is next used to compare the above three scales and variables with two categories. This test tests the significance of the difference between two sample means. The significance value of the t-statistic in Table 6 being lower than 0.05 (p-value), provides evidence of a statistically significant difference between the two samples (gender, tourism education, evaluation of staff is realized and reward in case of positive evaluation). Because of the sign of the confidence intervals of these tests, those who have 1-4 years experience in tourism are more satisfied than those who work for less than one year and those who support that evaluation of staff is realized and that there is a reward in case of positive evaluation are more satisfied is concluded. In order to compare the three scales of employee satisfaction and variables with more than two categories, the one-wayANOVA procedure is applied. Table 7 indicates which variables contribute the most to our cluster solution. Variables with large F values provide the greatest separation between clusters. In cases where the p-value is lower than 0.05, there is evidence that at least two means are different between them.

Table 6. Independent-Samples t-test

Variables		t-test	p-value
Positive specific satisfaction	Tourism education	-2.312	0.023
Positive specific satisfaction	Evaluation of staff is realized	3.156	0.002
General satisfaction	Reward in case of positive evaluation	2.578	0.011
Positive specific satisfaction	Reward in case of positive evaluation	2.421	0.017

Table 7. One-way ANOVA

Variables		F	p-value
General satisfaction	Agree with the evaluation	8.534	0.000
General satisfaction	Penalty in case of negative evaluation	2.947	0.036
General satisfaction	Job performance is affected by my relationship with my colleagues	3.992	0.021
General satisfaction	There is undeclared work in tourism professions	3.113	0.018
General satisfaction	I would recommend to someone I know to work in the business I work	11.186	0.000
General satisfaction	I'd like to work to the same business next season	15.100	0.000
Positive specific satisfaction	Age	3.571	0.016
Positive specific satisfaction	Educational level	2.651	0.036
Positive specific satisfaction	Experience in tourism	4.321	0.003
Positive specific satisfaction	Type of tourism business where you usually work	2.505	0.045
Positive specific satisfaction	Month salary	5.672	0.000
Positive specific satisfaction	Agree with the evaluation	6.162	0.000
Positive specific satisfaction	Penalty in case of negative evaluation	6.807	0.000
Positive specific satisfaction	I would recommend to someone I know to work in the business I work	5.562	0.005
Positive specific satisfaction	I'd like to work to the same business next season	12.640	0.000
Negative specific satisfaction	Age	2.684	0.049
Negative specific satisfaction	Month salary	3.322	0.013
Negative specific satisfaction	Type of tourism business where you usually work	3.678	0.007
Negative specific satisfaction	Job post	2.642	0.049

Specifically, regarding general satisfaction the age group of 23-30 is more satisfied than those of 41-50 (p-value is 0.042). Among those who agree with the evaluation, are less satisfied those who reply “not at all” than those who reply “moderate”, “very” and “very much”. Also, “slightly” is less than “moderate” and “very”. Among those who state that their job performance is affected by their relationship with their colleagues, those who state “no” are less satisfied than those who replied “yes”. The respondents who would recommend to someone they know to work in the business they work are more satisfied than those who would not recommend and those who would recommend with conditions (p-value is 0.008). Finally, the respondents who would like to work to the same business next season are more satisfied than those who do not (p-value is 0.000) and with conditions (p-value is 0.039) and with conditions is more than would not (p-value is 0.002).

Regarding the positive specific satisfaction the age groups of 23-30 and 31-40 are more satisfied than 41-50 (p-values are 0.042 and 0.009, respectively). More satisfied are those who are experienced with more than 21 years than those who have less than one year experience (p-value is 0.008). All respondents with salaries above 700 euro are more satisfied than the ones with lower salaries. The respondents who have supported that they get a penalty in case of negative evaluation, those who get a reprimand are more satisfied than those who got layoff (p-value is 0.003). The respondents who would recommend to someone they know to work in the business they work, those who replied “yes” are more satisfied than those who replied “no” (p-value is 0.024) and “with conditions” (p-value is 0.021). Finally, those who would like to work to the same business next season, those who replied “yes” are more satisfied than “no” (p-value is 0.000) and “with conditions” (p-value is 0.015) and “with conditions” are more than “no” (p-value is 0.022). Regarding the negative specific satisfaction, those who work in restaurants are more negative satisfied than those who work in a hotel (p-value is 0.030). Those who have salaries above 1500 euro are less negative satisfied than those with salary 500-700 euro (p-value is 0.008).

CONCLUSIONS

Human resources are essential for the performance of any business and employee performance is associated with service quality and customer satisfaction according to the literature review (Chatzopoulou et al., 2015). However, several topics of employment management practices and conditions of tourism industry sectors and organizations have not been thoroughly studied. Most of the studies on human resource management practices are based on data received from subjective perceptions of managers or department heads (Kusluvan et al., 2010). This paper empirically studied the view of employees. As tourism is a central pillar of the Greek economy, it must be studied in all its aspects. Tourism is affected by the services provided to tourists; if tourists are happy with their stay, they will visit the country again. The quality of provided services is affected by employee satisfaction, thus, it is important for the tourism carriers to study this topic in all regions of the country. This paper enriched the existing literature in the subject of employee satisfaction in tourism and more specifically in the region of Halkidiki; Halkidiki region is one of the most popular tourist destinations, but it has not been studied extensively. This study examines the employee satisfaction in tourism sector and specifically whether demographic characteristics affect the employee satisfaction. The findings support that the employees are not satisfied with their salaries, they accept the outcome of the realized evaluation, but there are no rewards in case of a positive evaluation, they are satisfied in general with their job and they believe that they will remain in their job for the next tourism season.

Findings suggest that customer treatment is satisfactory, that the staff evaluation has a significant effect on the type of tourism business where the respondents usually work and that the respondents are certain that they will find a job next season. Findings also indicate that gender, tourism education, experience in tourism, working hours per day and type of tourism business where the respondents usually work, seem to significantly affect their view that they work in tourism because they haven't found another job. Future research could investigate employees' satisfaction in other tourism regions of Greece. Additionally, the results could be compared with those for other European countries especially to countries of the South. Finally, it would be interesting to repeat this study in the tourism seasons after the pandemic of COVID-19.

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DISCLOSURE OF ENVIRONMENTAL ACCOUNTING INFORMATION AT BUSINESS ENTERPRISES IN THE HOTEL SECTOR: CASE STUDY IN VIETNAM

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Abstract: This study aims to evaluate the factors affecting the level of environmental accounting information disclosure based on the perceived level of hotel managers. The author has relied on previous studies, especially primary data access studies, to assess managers' feelings about the issue of environmental accounting disclosure. Data was collected from managers at 216 companies operating in the hospitality sector. Quantitative research methods are used to explore the influencing factors and assess the degree of influence of each factor on environmental accounting information disclosure. The results show that the disclosure of environmental accounting information is influenced by the following factors: managers' viewpoints, legal regulations, profitability, business size and pressure from society. From there, the authors make recommendations to improve environmental accounting for companies doing business in the hotel sector in Vietnam, increasing the company's competitiveness in the context of global integration.

Key words: information disclosure, environmental accounting, hotel, Vietnam

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INTRODUCTION

In recent years, with the trend of globalization, international economic integration and trade liberalization, global environmental issues have become increasingly complicated. Facing those challenges, businesses in the world today have been showing the top priority for environmental issues in parallel with the goal of effective business and profit maximization. In addition, proactively disclose environmental accounting information through Annual Report or Sustainable Development Report in order to clearly demonstrate corporate social responsibility in the face of urgent human problems. It is from here that stable and strong development needs to pay special attention to responsibility for the environment and society in addition to the goal of making profit, towards the implementation of the green growth strategy, ensure the sustainable development of the business. This trend may be directly related to the voluntary standardization of the Global Reporting Initiative (GRI) (Kolk, 2010; Vormedal and Ruud, 2009).

Tourism has always been one of the top revenue-generating industries in Vietnam's economic structure. The tourism industry develops in a number of big cities: Da Nang, Hai Phong, Thanh Hoa, and Nha Trang. Besides the positive aspects of economic efficiency, the tourism industry also brings some environmental impacts in terms of issues such as plastic waste, water pollution (Chan and Lam, 2001). However, the accounting for measuring the environmental impacts of these hotel businesses has not really developed in Vietnam. Environmental management accounting is the process of managing economic performance and environmental performance through the development and application of an accounting system appropriate to environmental issues. Restaurant and hotel business is a "smokeless" industry with great potential for development. Understanding this, managers in this field have well implemented environmental and social issues that will bring benefits to business, the environment and the community, from saving energy to the environment. quality to the environmental protection at the destination. At enterprises doing business in the field of restaurant and hotel services, the accounting system only focuses on disclosing information to the outside, that is, performing the function of financial accounting, not yet aware of Supported by management accounting, especially environmental accounting. This is an issue that businesses need to pay attention to and implement in order for management accounting to become an effective management tool of the business, thereby, properly assessing the current status of environmental accounting in hotel service businesses, offer solutions to apply environmental accounting in these businesses.

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LITERATURE REVIEW

In the world, there have been many studies on the issue of environmental accounting information disclosure in general and in the hotel business in particular. Deegan and Gordon (1996) conducted research on disclosure of information related to the environment of large economic groups in Australia and achieved three objectives. Firstly, research shows that operating companies only disclose information related to the environment in favor of their company, while hiding negative information. Second, the disclosure of environmental information is carried out in the direction of increasing quality and transparency in the reports from 1980 to 1991, the main reason comes from the concerns of the parties related to growing environmental problems. Finally, using a survey questionnaire for environmental disclosure advocacy groups, the results show that this company's environmental disclosure is associated with environmental advocacy groups in each specific industry. Singhvi and Desai (1971); Cerf (1961) suggested that there is a positive relationship between profitability factors, firm size and the number of shareholders to the disclosure of information in the annual report. Cooke (1992) demonstrated that industry group factors, listing status, and company size have an impact on voluntary and mandatory disclosure of information at enterprises in Japan. Owusu - Ansah (1998) showed that there is a positive relationship between the level of mandatory disclosure of the company and the structural factors of equity, firm size, firm age, profitability and multinational links when studying at businesses in Zimbabwe.

Chau and Gray (2002) show that rights and ownership ratio have a positive impact on voluntary disclosure in listed companies in Hong Kong and Singapore. Family firms do not disclose as much information above the required threshold as firms with more diversified ownership. Ismail and Ibrahim (2008) found that only about 85% of the 60 or so companies paid attention and voluntarily announced their company in Jordan. Research results show that companies with the lower the government's capital contribution ratio, the higher the level of information disclosure and vice versa; enterprise size factor positively affects information disclosure; companies operating in the manufacturing sector tend to disclose more information than those operating in the service business. Environmental accounting is a term that appeared very early in the 1970s, but it was not until the 1990s that environmental accounting began to have research done. Hopwood (2009) commented that the research on environmental accounting often revolves around the topics of research on theories related to environmental accounting, studies on environmental accounting practices, applications applying environmental accounting practices in a specific field, factors affecting the implementation of environmental accounting and factors affecting the level of environmental accounting information disclosure. The above issues are all issues that already require more research, and these needs will increase in the coming years. Islam and Deegan (2010) pointed out that environmental and social disclosure is a problem for developing countries; This is a future research direction to be determined. Buniamin (2010) mentioned that business organizations are facing pressure from society on the issue of environmental and social information disclosure. The results show that only 28% of companies report environmental and social information in their annual reports; companies with large scale and operating in environmentally sensitive fields have published more information and the quality of published information is also higher than the other group.

Kabir (2012) has shown that very few companies disclose information about corporate social responsibility in corporate reports in Swaziland. However, the study shows that there is an increasing trend in environmental and social disclosure in companies between 2007 and 2008. Hackston and Milne (1996) has shown that all four factors are enterprise size, the country in which the enterprise provides reports, profitability and business characteristics, all of which affect more or less environmental disclosure. and society at businesses in New Zealand.

Wachira (2014) has shown that as technological factors tend to affect environmental accounting performance but only to a very low extent, the main factors affecting environmental accounting performance in Nairobi, Kenya it's compliance costs, environmental strategies and financial performance. Enterprise size and number of years of operation are two factors that do not affect the practice of environmental management accounting. Hasan and Hosain (2015) conducted a study on the factors affecting the level of information disclosure in two forms: compulsory and voluntary on environment and society of enterprises listed on Dhaka stock exchange in Bangladesh. The results show that firm size in terms of assets and type of activity has a positive impact on the level of voluntary disclosure. Besides, profitability factors and firm age did not show any impact on voluntary disclosure. For the case of mandatory information disclosure, most enterprises do not meet, age of enterprises and type of operation are decisive factors for mandatory information disclosure. Meanwhile, the factors that have no relationship with the mandatory disclosure are the size of the business in terms of assets and revenue along with the profitability factor. Yang and Liang (2017) conducted a study on the factors affecting the level of environmental accounting information disclosure for companies listed on the Shanghai Stock Exchange in the printing and paper industry in the period 2013 – 2015.

The analysis results show that the factors that positively affect the level of environmental accounting information disclosure are company size, ISO 14001 certification. In contrast, the liability factor and ability profitability has a negative impact on the level of environmental accounting information disclosure, the remaining two factors are the ratio of tradable shares and growth opportunities. Nguyen Thi Hang Nga (2018) clearly shows the factors affecting the implementation of environmental management accounting in enterprises operating in the manufacturing sector in the southern provinces. The study has synthesized the relevant background theory from previous outstanding studies, thereby adding factors affecting the implementation of environmental management accounting into its model in its research. The novelty of this work is that it has adopted two contingent and institutional theories to carry out factor analysis in two different contexts, namely the social context and the organizational context, and has analyzed the factors that have an intermediate and indirect influence on the implementation of environmental management accounting in enterprises. Although in the world today, there are still many disagreements about the factors affecting the implementation of environmental management accounting in enterprises, but this study has tried very hard to be able to build the scales, The factors in our model are unique, typical in the research context in Vietnam.

Particularly for the hotel business, there have also been some outstanding studies done. Brown (1996) has shown that although companies operating in the hospitality sector have adopted an environmental policy, they are generally not proactive in taking a proactive approach to environmental and social disclosure. Environmental concerns have resulted in some hotel companies adopting an environmental policy; they wait for a more specific guidance to implement policies related to the environment. Chan and Lam (2001) calculated the amount of plastic waste that hotels in Hong Kong have released into the environment and forecast that this amount of waste will increase very quickly, it is necessary to have a solution to manage environmental problems. School in the hotel business.

Rustico (2013) surveyed the level of awareness of companies in Bacolod city about implementing environmental accounting and concluded that these companies need specific guidance to be able to do this. This means that a system of relevant legal regulations is needed; required by the government for these companies to practice environmental accounting. Chan (2005) conducted research in hotels in Hong Kong and concluded that hotel managers need to focus on reducing the environmental impact of their business processes by minimizing the amount of waste. energy consumption, minimizing the use of water and short solid waste released into the environment too much. Janković and Krivačić (2014) based on reviews of previous articles to conduct research on the development of environmental accounting practices of hotels. Research results indicate that it is necessary to measure and calculate environmental costs in the hotel business in order to optimize it; hotel companies must disclose information related to environmental accounting and environmental indicators affecting stakeholders; Managers play a very important role in the publication of environmental accounting reports at these companies. Saleh et al. (2018) conducted a study on the feasibility of using environmental accounting in hotels of Aqaba Special Economic Zone, the results showed that hotels belong to Aqaba Special Economic Zone Management Board. facing difficulties and obstacles in the implementation of environmental accounting due to factors related to legal regulations, qualifications of accountants, managers' awareness of environmental issues and factors related to environmental accounting in hotel. Saleh and Jawabreh (2020) examined the level of environmental awareness of two managers in the management of tourism and hotel companies listed on the Amman stock exchange and other companies. investment in this area. The results show that there is a good level of environmental awareness among the leaders of the companies. Moreover, although there are legal regulations on the issue of publishing environmental accounting reports, these companies have not been able to fully implement them due to the lack of qualified accountants. In Vietnam, some authors have embarked on research in this field.

Vu Huong (2018) mentioned environmental management in the hotel business. The author analyzed and proposed solutions to strengthen environmental management in the hotel business through the following specific contents: management of energy use; water use management issues; wastewater management issues; waste management issues; chemical management issues; environmentally friendly shopping. Tran Phuong (2020) mentioned the hotel service business as a potential smokeless industry. Doing well on environmental issues will bring benefits to business, the environment and the community from saving energy to ensuring the environment at the destination. Using environmental management accounting is considered an effective solution to help businesses achieve two goals, which are profit and sustainable development. The article discusses the current status of environmental management accounting in hotel service businesses in Nam Dinh province. On that basis, propose a number of solutions to promote and improve environmental management accounting in these enterprises. Ngo Thi and Mai Thi (2019) mentioned that environmental management accounting is considered an effective solution to help businesses achieve 2 goals, which are profit and sustainable development (ie. both economic benefits and environmental protection). However, in Vietnam, the application of environmental management accounting has not been implemented much, especially in the field of service business. The article analyzes the characteristics of the service industry and proposes solutions to implement environmental management accounting in restaurant and hotel businesses in Da Nang city.

Research papers on environmental accounting or sustainable development reporting in developing countries mainly focus on the motivations for the application of environmental accounting or sustainable development reporting and the determinants related to the issue. this (Islam and Deegan, 2008; Liu and Albumozhi, 2009; Amran and Haniffa, 2011; Baje et al., 2020). Studies on the publication of environmental accounting reports or sustainable development reports can use a quantitative approach (Liu and Anbumozhi, 2009; Orazalin and Mahmood, 2019) or a qualitative approach (De Villiers, 1999; Belal and Owen, 2007; Momin and Parker, 2013; Ismaeel and Zakaria, 2020). Quantitative studies apply content analysis to indirectly explore the drivers of adoption and publication of sustainable development reports (Haniffa and Cooke, 2005; Khan et al., 2013; Wuttichindanon, 2017; Mudiyanselage, 2018). On the other hand, qualitative studies use questionnaires and interviews, and directly explore management motivations for environmental accounting reporting (Belal and Owen, 2007; Zhao and Patten, 2016; Joudeh et al., 2018). The strength of the quantitative approach is that the measurement of environmental accounting statement disclosure through content analysis is well established and is generally objective and verifiable (Hahn and Kühnen, 2013; Dienes et al., 2016; Ali et al., 2017). Furthermore, the determinants of environmental accounting reporting are often investigated, such as company size, financial leverage, and corporate governance, which can be easily quantified and verified. do are extracted from audited financial statements (Kouloukoui et al., 2019; Orazalin and Mahmood, 2019). However, while it cannot be quantified, such determinants will likely need to be assessed against the managers' own perceptions of the business. Therefore, according to Belal and Momin (2009), such studies provide a direct explanation for the reasons why managers adopt and publish environmental accounting and sustainable development reports. The main advantage of qualitative studies that mainly focus on managers' perceptions (De Villiers, 1999; Mitchell and Hill, 2009; Belal and Cooper, 2011; Ismaeel and Zakaria, 2020) is that they provide explanations directly about the motivation for applying and publishing environmental accounting and sustainable development reports. De Villiers (1999) suggests that the best method for determining someone's motivation is to ask what this is, like any necessary, alternative method, including guesswork. Although de Villiers (1999) acknowledges that asking someone may not always yield an honest answer and that there is an element of risk that the real motive is not given, he believes that the Asking the incumbent remains the most direct, highly independent approach to determining real motives. However, studies on manager perception also have some limitations, mainly related to the small number of interview questions or answers (De Villiers, 1999; Belal and Cooper, 2011). The main research object of this article is hotel enterprises in Vietnam, most of them are not listed on the stock market and do not have the habit of disclosing environmental accounting information. Therefore, the authors choose the method of building an approach survey based on the assessment of managers' feelings on this issue. This study aims to measure the influence of factors on the disclosure of environmental accounting information in hotel businesses in Vietnam from the perspective of managers. The study develops the following hypotheses:

H1: Firm size has a positive (+) effect on environmental accounting information disclosure

H2: Legal regulations have a positive (+) impact on the disclosure of environmental accounting information

H3: Manager's opinion has a positive (+) impact on environmental accounting information disclosure

H4: Profitability has a positive (+) effect on the disclosure of environmental accounting information

H5: Equity characteristics have a positive (+) impact on environmental accounting disclosure

H6: Social pressure has a positive (+) impact on the disclosure of environmental accounting information

METHODS

The article uses mixed research methods, qualitative research methods are used to identify influencing factors based on previous studies, the highlight here is that the author uses interview techniques. experts to develop questions in the survey aimed at using primary data to assess the feelings of managers about the issue of environmental accounting report publication. There have been many authors using different scales but have shared the view that firm size affects the publication of sustainable development reports, which are case studies such as (Said et al., 2009; Tauringana, 2020); Dilling, 2010; Tagesson et al., 2009). The manager's perspective factor is built based on the studies of Healy and Palepu (2001); De Villiers (2003). De Villers (1999, 2003); Tauringana (2020) has suggested that regulatory factors have an influence on the disclosure of environmental accounting information. In the studies of Jennifer Ho and Taylor (2007); Trotman and Bradley (1981); Gamerschlag et al. (2011); Branco and Rodrigues (2008), although using different observations, share the same view that profitability will promote publication. The data is collected through the survey sent by email and collected in person. To get good data to examine, senior managers including the board of directors and chief accountants were asked to complete a survey. Besides, SPSS 20 software was used to process the model.

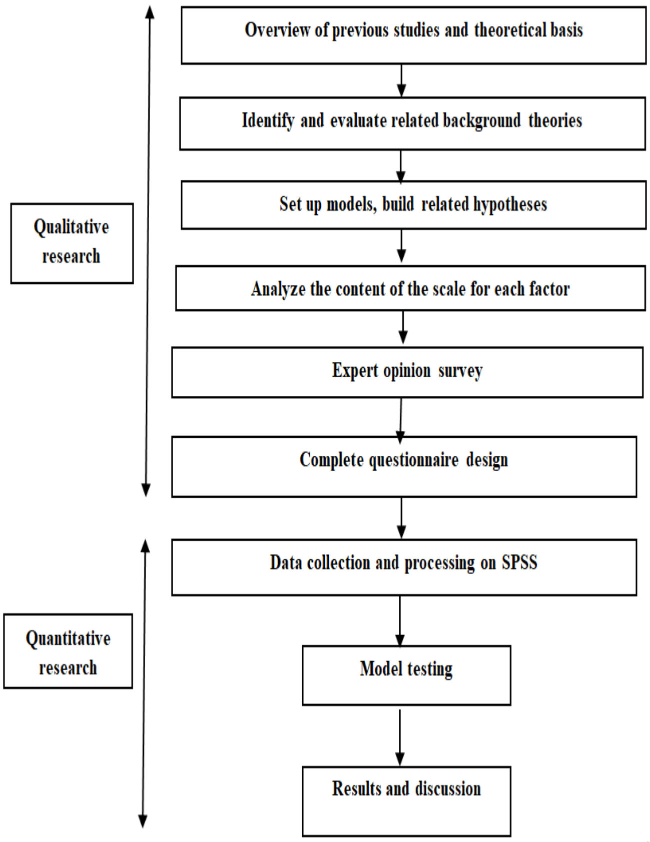

Figure 1. Research process (Source: Authors, 2021)

Table 1. Results of reliability analysis and factor analysis
(Source: Analysis results from SPSS 20.0 software)

No		Group variables	Number of observation variables	Cronbach 's Alpha
1	SIZE	Firm size	4	0.863
2	LEGA	Legal regulations	4	0.842
3	MANA	Manager's point of view	3	0.792
4	PROF	Profitability	4	0.921
5	EQUI	Characteristics of equity	4	0.914
6	SOCI	Social pressure	3	0.897
7	DISC	Disclosure of environmental accounting information	3	0.836

RESEARCH RESULTS

Cronbach's Alpha reliability assessment

Through the analysis of Cronbach Alpha test for the scales, we find that all the scales have values greater than 0.6. From that, it can be concluded that the scales are both reliable and qualified to continue testing the EFA factor discovery analysis.

Exploratory factor analysis EFA

Using the method of rotation of the whole angle (Varimax) of the factors. The results of the factor rotations are shown in Table 2; shows that the factors are grouped as the original factors.

Rotated Component Matrixa

Table 1. Results of reliability analysis and factor analysis
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Table 2. Rotated Component Matrix[a]

	Component						
	1	2	3	4	5	6	7
SIZE2	.822						
SIZE4	.807						
SIZE1	.802						
SIZE3	.753						
PROF1		.906					
PROF3		.872					
PROF2		.847					
PROF4		.845					
LEGA4			.886				
LEGA3			.874				
LEGA1			.860				
LEGA2			.837				
EQUI2				.889			
EQUI4				.871			
EQUI3				.869			
EQUI1				.821			
MANA1					.824		
MANA3					.813		
MANA2					.801		
DISC1						.782	
DISC3						.779	
DISC2						.736	
SOCI3							.828
SOCI1							.815
SOCI2							.810
Extraction Method: Principal Component Analysis Rotation Method: Varimax with Kaiser Normalization							

Regression analysis

The factors that really affect the disclosure of environmental accounting information are shown through the linear regression equation: - Overall regression function:

DISC=β0 + β1SIZE + β2PROF + β3LEGA + β4EQUI+ β5MANA+ β6SOCI+ Ui

- Sample regression function:

DISC=βˆ 0 + βˆ 1SIZE + βˆ2PROF + βˆ3LEGA + βˆ4EQUI+ βˆ5MANA+ βˆ6SOCI + ei

SIZE: *Firm size;* PROF: *Profitability;* LEGA: *Legal regulations*
EQUI: *Equity characteristics;* MANA: *Manager's opinion*
SOCI: *Social pressure*
DISC: *disclosure of environmental accounting information*

Regression results show that 5 independent factors SIZE, PROF, LEGA, MANA, SOCI are statistically significant, sig < 0.05 is satisfactory, so it will be kept in the research model. Factor EQUI is not statistically significant because sig > 0.05, so it will be removed from the research model.

Table 3. Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.686[a]	.469	.457	.73677007	.469	41.279	6	328	.000	1.827
a. Predictors: (Constant), SIZE, PROF, LEGA, EQUI, MANA, SOCI										
b. Dependent Variable: DISC										

Table 4. Coefficients[a] (Source: Results from data analysis with SPSS20 of the authors)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	6.187E-016	.040		.000	1.000	-.079	.079
	SIZE	.195	.040	.195	4.911	.000	.119	.277
	PROF	.198	.040	.198	4.878	.000	.118	.276
	LEGA	.372	.040	.372	9.222	.000	.295	.453
	EQUI	-.090	.040	-.090	-2.146	.250	-.170	-.011
	MANA	.383	.040	.383	13.988	.000	.403	.562
	SOCI	.077	.040	.077	1.154	.032	.008	.166
a. Dependent Variable: DISC								

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	157.799	6	22.424	41.269	.000[b]
	Residual	177.201	328	.543		
	Total	335.000	334			
a. Dependent Variable: DISC						
b. Predictors: (Constant), SIZE, PROF, LEGA, EQUI, MANA, SOCI						

The model's explanatory level: Adjusted R Square = 0.469, so about 53.1% of environmental accounting information disclosure is influenced by independent factors of the model, the confidence level is over 99% (Test determine F, sig < 0.05).

Based on the results of the table above, ANOVA has Sig = 0.000 < 0.05, so hypothesis H0 is rejected and hypothesis H1 is accepted. That is, the model exists. In other words, at 5% significance level, it can be concluded that environmental accounting information disclosure at hotels is influenced by at least 1 of the remaining 6 factors:

Regression results show that the Durbin-Watson Statistics is 2,209. Thus, the model exists and with d = 2,209≈2.0, it can be concluded that the model does not exist negative or positive autocorrelation.

So, the regression estimation model will be: DISC = 5.264 + 0.195SIZE + 0.198PROF + 0.372LEGA + 0.383MANA + 0.077SOCI

The normalized regression would be: DISC* = 0.195SIZE* + 0.198PROF* + 0.372LEGA* + 0.383MANA* + 0.077SOCI*

DISCUSSION

Based on previously published studies on environmental accounting information disclosure and the underlying theories as well as verified models, the author has built a model of the relationship between information disclosure environmental accounting information with independent variables as mentioned above. The results show that the reliability of the research concepts at companies doing business in the hotel sector in Vietnam is high. In addition, the results of hypothesis testing show that:

+ Social pressure is the factor that has the weakest influence on the disclosure of environmental accounting information. In fact, it is easy to explain that because these companies are only partly under stronger pressure from stakeholders such as investors, customers, authorities and organizations environmental protection during operation.

Firm size at hotel companies in Vietnam positively affects the presentation and disclosure of environmental accounting information. This result is completely consistent with the research results of authors such as Tagesson et al. (2009); Said and Haron (2009); Dilling (2010); Tauringana (2020).

+ Profitability plays an important role when it is a factor that has a strong influence on the disclosure of environmental accounting information by businesses operating in the hotel sector. This hypothesis is consistent with the research results that the author has studied and referred to when evaluating the factors affecting information disclosure in the form of environmental reports or social responsibility reports Trotman and Bradley (1981); Branco and Rodrigues (2008); Gamerschlag et al. (2011)). Furthermore, Gul and Leung (2004) reported a positive effect of profitability on the amount of voluntary information disclosed, by multinational companies listed on the New York Stock Exchange and by public companies. listed company in Hong Kong.

+ Legal regulations are a barrier for businesses to disclose information. Most of the interviewees believed that there should be a legal mechanism as a basis for information disclosure of their units. Legal regulations positively affect the presentation and disclosure of environmental accounting information in the Vietnamese corporate accounting reporting system in general and hotel companies in particular. This result is completely consistent with the research results of authors such as De Villiers (2003); Tauringana (2020).

+ One of the factors that the author argues based on other social studies, the contributions of experts; Based on the background theory and suitable to the object, the scope of the thesis is the hypothesis that there is a relationship between the manager's point of view towards the publication of environmental accounting information. After testing the model, the results show that there is a very positive relationship between managers' attitudes and environmental accounting disclosure. Only corporate administrators who are not self-interested, are not bound by reward mechanisms, and dare to take responsibility for the information their units publish can make environmental accounting information at That unit guarantees reliability (Tuan et al., 2019).

CONCLUSION

The results of the article once again confirm the role of previous studies, the application of these studies in determining the factors affecting the disclosure of environmental accounting information in business companies. hotel sector in Vietnam. This is also a great contribution of the topic in the context that there are currently no studies related to environmental accounting information disclosure in the hotel sector in Vietnam. Through the experimental research results presented above, the views of managers at the hotel businesses in Vietnam today, do not pay much attention and pay much attention to the publication of environmental accounting reports. school. Disclosure of environmental accounting information is still heavily influenced by the idea of "when it is mandatory to publish", heavily on traditional state management thinking. Although the results of the study have achieved the original purpose set out, the factors of business size, legal regulations, profitability, managers' attitudes and social pressure have a positive influence to disclose environmental accounting information at companies operating in the hotel sector in Vietnam. However, this study still has some limitations as follows:

Firstly, the scope of the author's research and survey is only the gasoline business enterprises in the hotel sector in Vietnam, not all businesses dealing in other related fields such as restaurants, ancillary services. hotel assistance in Vietnam. Therefore, the research sample is not generalizable and may face certain limitations.

Secondly, due to the limitations of cost, time and direct access to the survey subjects is not high, so the sample size and sample quality are not as expected. Due to the nature of the survey, they must be the heads of the enterprises, so the time for these subjects to spend all their time answering fairly and responsibly on the questionnaire is not high. However, the survey sample size is guaranteed according to the requirements of statistics and data analysis.

Third, according to previous research models of Craswell and Taylor (1992); Deegan and Gordon (1996), research concepts have more specific factors due to the broader research scale such as quality of post-audit reports, age of enterprises, research duration in many years

Fourth, the author's survey subjects are managers at enterprises, but their understanding of the nature of environmental accounting reports, especially social and environmental sustainability, is not high. The author has not had the opportunity to directly share with these people about the necessary issues and the reality of publishing environmental accounting information reports.

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THE INCONSISTENCE OF PERCEPTIONS AND ATTITUDES OF COMMUNITY TOWARDS THE TRANSITION FROM TIN MINING TO TOURISM IN BANGKA ISLAND, INDONESIA

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Abstract: An economy founded on natural resource extraction usually presents problems to the environment but tourism development requires the conditions of the natural environment. Meanwhile, the transition from the dependence of Bangka Island on tin mining to tourism is observed to be experiencing fundamental challenges due to the main interest of the community in tin. The aim of this research is to explore the perceptions and attitudes of the Bangka Island community concerning the transition process using descriptive quantitative method by Likert scale. The results showed the community considers tin mining as a sector with high potential and activity despite its harmful effect on the environment and future generations. The people also realize their community is rich in nature-based tourism potential as well as the efforts of the government in its development but mining is observed to still be dominant in the area. Moreover, the two sectors were discovered to be operational in the community including the illegal mining activities. These findings concluded the community is inconsistent in its development approach as indicated by its efforts towards tourism as well as the simultaneous tolerance for tin mining even though it is clear both sectors cannot work together.

Key words: inconsistence, transtition, tin mining, tourism, Bangka

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INTRODUCTION

Bangka Island is known as one of the archipelagic areas with abundant deposits of tin resources. It contains white tin (*stannum*) also known as Banka-Tin which is one of the resources with high quality being demanded in the international market (Shrestha, 2018). This makes tin mining an important economic resource for the Bangka Island community for the last two decades, especially after the reform era which led to the decentralization regime in Indonesia in 1998. Recent data showed the country is the second-largest producer of tin in the world after China with 25% of production (Vasters and Franken, 2020), and approximately 90 percent of which is obtained from the Bangka Belitung Islands.

It is, however, important to note that the exploitation of these abundant natural resources, especially tin, has so far caused massive environmental damage (Ibrahim et al., 2019, 2018; Futaesaku, 2019; Erman, 2014; Susilo and Maemunah, 2009). This is associated with the characteristics of mining which tend to be exploitative and destructive. Not surprisingly, tin mining activities are reported to have caused major social, economic, and ecological consequences over the last two decades (Sibarani, 2017; Mensah, 2014). Bangka Island also has attractive natural destinations and very beautiful beaches which makes it a destination for both domestic and foreign tourists apart from being a tin mining area (Sulista et al., 2019).

This is observed for the existence of approximately 1,200 KM of coastline with white sand as estimated by the Bangka Belitung Environment Office (2019). Therefore, the current position and status quo of the community as a mining area as well as the efforts geared towards developing tourism have become separate paradoxes related to its socio-economic landscape. Tin mining is one of the current means of livelihood for the community but the government is observed to be making efforts towards boosting the tourism sector. The regulations have been arranged in the form of Regional Regulations (Perda) of the Master Plan for Tourism Development and included in the Regional Medium- and Long-Term Development Plans (RPJMD and RPJPD). Moreover, the efforts to encourage a more diversified economy to ensure inclusive development are needed as an economic alternative for the future (Turok and Visagie, 2018). This is, however, difficult to achieve due to the conflicts of interest between both sectors considering the fact that no type of mining is environmentally friendly while the tourism sector relies on a clean and healthy natural environment. Furthermore, Ibrahim et al. (2019) studied the perception of tourists visiting Bangka Island and found that one of the respondents showed the community's damaged nature is a bad value for tourism. There has been significant growth in tourist visits to Bangka Island in the last few years as observed from the hotel occupancy rate and the number of foreign tourist visits (BPS Bangka

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Belitung, 2021). It was also discovered that new hotels are being developed and this shows the fundamental potential of tourism to support the community's local economy. Moreover, the Bangka Island has been popular with the jargon 'Laskar Pelangi' but the intensive guidance and assistance for its development through the Culture and Tourism Office of each regional government unit are not enough. The intersection between mining and tourism creates a contradiction in the socio-economic interactions of local communities. This is observed from the fact that tin has a very tempting economic benefit which cannot be abandoned by most of the actors in the industry. Meanwhile, it also presents a threat of environmental degradation and damage to forest and marine ecosystems, thereby, leading to the reduction in the sustainability of the main economy, especially for the pepper and rubber farmers as well as fishermen. Moreover, the plantation and marine sectors are decreasing due to the expansion of mining to the land and sea instead of its discontinuance.

Ibrahim et al. (2019) showed that the majority of regional tourist destinations in Bangka Island are mostly preferred by visitors from outside the region due to their natural attractions. These include the long coastlines with white sand and interesting small islands which are observed to be the favorite tourist spots recently being targeted for development. This research, therefore, comprehensively explores the attitude of the community in positioning the choice between both sectors. Mines already exist and supply the local economic needs while tourism is currently being targeted as an alternative economic source which is paradoxical to mining. The present problem is the fact that the *status quo* has been operating for a while with the hope of a change in the way nature is being treated while maintaining the environment. Moreover, the perceptions and desires of the community to the economic transformation from mining to tourism is the focus of this research and this is necessary to understand how mining and tourism can both be run to strengthen the local economy.

TIN ECONOMIC TRAP

Tin has been continuously exploited in Bangka Island for approximately 400 years with the trend reported to be increasingly massive over the last 20 years, thereby, causing several changes in the social, economic, and environmental landscape, both on land and sea (Erman, 2010; Sulista et al., 2018, 2019; Pratama, 2018). This was observed to be triggered by the changes in regulations which allow the community to mine freely and illegally basically due to the fact that the government has never issued permits for free tin mining. The large number of tin reserves which are easy to locate also allows the exploiters to mine without being caught, thereby, making it an unlicensed work but the main source of income for most of the residents. The change was due to the decentralization system implemented in Indonesia in 1998 which led to more regional autonomy. According to Megawandi (2020), the tin mining sector contributed 10.59% to the *Gross Regional Domestic Product* (GRDP) of the country in 2017 but received gains from the industrial sector which had 20.63% of its companies focusing on tin processing. Tin mining is an extractive economy with a capitalistic, destructive, and exploitative character (Erman, 2008; Ibrahim, 2016). It also encourages miners and entrepreneurs to continue expanding their land in addition to the process of digging and causing changes to the landscape. This was observed by Veltmeyer (2014) to have happened in Latin America and the process was called reprimarization based on the sustainable exploitation of the abundant extractive resources which is used as the main commodity for a country's economic growth. This, therefore, explains how areas with rich natural resources are always the target of capitalists, thereby, leading to prolonged problems for the local community (see also Pellegrini et al., 2020). This means there is a capital accumulation practice which causes ecological damage and triggers social inequality and this is discovered to be the reason several third world countries with rich and abundant extractive resources are caught in a trap (Acosta, 2021; Gudynas, 2010; Nugraha and Purwanta, 2020).

The efforts to encourage the transformation from mining to tourism have become a complicated issue due to the inability of the government to take a firm stance towards abandoning mining. This means the tin economy trap exists even though the graph is experiencing a decline. This research points out that the regional government is indecisive in its efforts to encourage the tourism industry due to the profitability of tin mining. Moreover, Regional Regulation Number 3 of 2020 concerning the zoning plan for the Coastal and Small Islands of the Bangka Belitung Islands Province for 2020-2040 also renews the location of both sectors. There are at least 2 main factors to be considered in this transition effort. The *first* is the environmental impact of tin mining which is causing significant expansive damage considered to be dangerous for the community. The awareness of the long-term danger of this activity is required to be understood and serve as the reason for the government to take a firm stance. *Second*, the tin economy tends to be short-term, unsustainable and has the potential to trap people depending on it and this means there is a need to prepare for the post-tin era. Simamora and Sinaga (2016) showed the limited role of the regional government in the North Tapanuli as a facilitator in local tourism governance. Djuyandi (2020) also indicated the weak and limited role of the government in the village-based tourism economic transformation agenda which is considered not to be strong in the regional development flow. Therefore, a strong commitment is needed in the regulatory dimensions to encourage the acceleration of the transformation process in Bangka Island. This means the government is expected to take a position using a more assertive policy when it comes to focusing on the sector to be designated as the primary sector. This is necessary due to the fact that a weak role will only slow down the transition process.

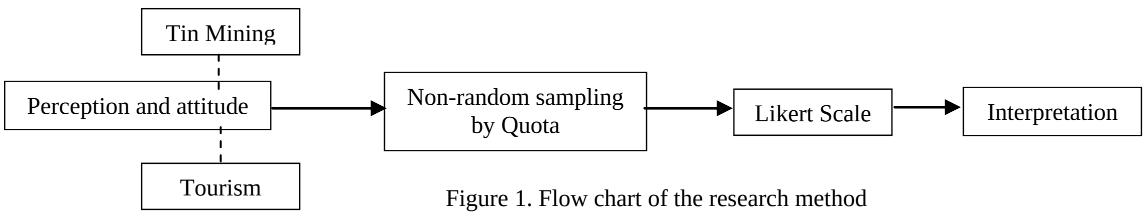

Figure 1. Flow chart of the research method

METHODS

This research used a quantitative approach with a descriptive statistical style. This includes the conduct of a survey in Pangkalpinang, Bangka, Central Bangka Regency, South Bangka, and West Bangka Regency which are in the territory of the Bangka Belitung Islands Province, Indonesia. They were determined through a *non-random sampling* mechanism which involves using a *quota sampling* based on the characteristics of the area studied. Meanwhile, the respondents for each quota were selected using the criteria that they have been in contact with tourism governance and this led to the selection of 363 people spread over 20 tourist area points which include managers, communities, and governments officials. The questions are arranged using a *Likert* scale with the grading scale including Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D), and Strongly Disagree (SD), then percentage based on the number of respondents who answered each statement for the analysis of the distribution of choices. Meanwhile, to conclude the answers to each statement, weights are given in gradation starting from 5 for Strongly Agree, 4 for Agree, 3 for Undecided, 2 for Disagree, and 1 for Strongly Disagree. The formula used is total score / Y x 100. The interpretation of the score is 0 – 19.99 % = Strongly Disagree; 20 – 39.99 = Disagree; 40 – 59.99 % = Undecided; 60 – 79.99 % = Agree; 80 – 100% = Strongly Agree, with a rounding of 0.5 and above. The statements are classified into 3 segments which include the perceptions of tin and mining, perceptions of governance and tourism development opportunities, and respondents' attitudes towards both sectors. Moreover, 23 statement indicators were used to measure the respondents' perceptions and attitudes which are the objectives of this study.

RESULTS AND DISCUSSION

The statements provided to the respondents are divided into three main segments which are (1) respondents' perceptions of the potential and management of tin mines (2) respondents' perceptions of the tourism sector opportunities, and (3) communities' choice when faced with the options of prioritizing both sectors

Table 1. Score, Scale, Formula, Rank, and Interpretation of the data

Score	Scale	Formula	Rank	Interpretation
5	SA	Total Score / Y x 100	80 – 100 %	SA
4	A		60 – 29.99 %	A
3	U		40 – 59.99 %	U
2	D		20 – 39.99 %	D
1	DA		0 – 19.99 %	DA

Perceptions of tin and its mining

Tin has been continuously mined on Bangka Island for hundreds of years starting from approximately the 25th century. The Palembang Sultanate, which controlled Bangka in the past, collaborated with the communities from Malacca and China to assist in the extracting process. The entrance of the Netherlands completed the process due to the need for tin by early capitalists in Europe (Sujitno, 2007; Nurdin et al., 2019). The mining is observed to have been continuous up to the present moment despite several changes in the government regime. Moreover, the excavation techniques have also changed from time to time along with technological developments starting from the *trench system* to the *production suction vessel system* (Ibrahim et al., 2019). The process is also observed to be conducted by companies controlled and allowed by the government to mine freely. Bangka and Bangka Belitung Islands are almost the only tin-producing areas in Indonesia, even in Southeast Asia considering the fact that Thailand and Malaysia have shut down their tin production for a long time. The Bangka Belitung Energy and Natural Resources Office as quoted by the Environment Agency (2019) reported that Bangka Belitung has a tin potential estimated at 1,832,839 tons. Interestingly, tin mining is now getting more massive due to the fact the policies being implemented from the last two decades have provided opportunities for the community to mine illegally. This means there are no firm and straightforward legal implications for the tin extraction process.

Moreover, Svampa (2012) showed this is similar to the occurrence in Latin America where there was an initial attempt to avoid the extractive economy but later became exporters of natural resource commodities despite its harmful effect on the ecology as well as the ability to cause other multidimensional crises. Massive tin mining has also led to massive environmental damage at the local level due to the absence of sustainable mining considering the fact that communities mine using their method. For example, the Bangka Belitung Environment Agency (2019) showed that a total of 96.588,62 hectares was damaged due to deforestation caused by mining in 2016. This is, however, different from the methods usually applied by registered companies which are usually focused on environmental friendliness and reclamation guarantees. Meanwhile, some other large companies also accommodate illegal mining but that seems to be the *status quo* allowed to be enjoyed by the masses. It is, however, difficult for the regional governments to prevent its occurrence due to the interest of several actors in the industry such as businessmen, *cukong*, and the consideration of community welfare.

This research focused on several key issues including the respondents' perception of the tin reserves richness in this area, daily reality faced by the communities, continuous mining of tin, illegal and legal mining, and the government's role in handling illegal mining. The impact of environmental damage caused by tin mining and the increasing awareness of the current conditions of the area was also important. The responses provided are, therefore, presented in Table 2.

Table 2. Perceptions of tin and its mining

Num.	Statement	SA	A	U	D	SD	Score
		In Percentage					
1	Bangka Island is still rich with tin resources	14	49	17	19	1	71
2	The community is very dependent on tin mining	10	51	11	24	4	67
3	Mining activity is still currently high	11	57	10	21	1	71
4	If I had to choose, I still tolerate official mining but not unconventional mining	6	35	19	28	12	59
5	The regional government finds it difficult to eliminate tin mining	18	58	14	8	2	76
6	People are divided (different opinions) in dealing with tin	12	67	10	8	3	76
7	Environmental damage due to tin mining is already severe	40	43	8	8	1	83
8	I am aware that the currently damaged environment will have a bad impact on future generations	57	37	2	3	1	89

Table 2 shows Bangka Island is still rich in tin resources as indicated by 63 % of the respondents with 49% reported to have A while 14% SA and this means tin is considered a potential wealth owned by the island. The total percentage on this statement is 70, 96 %, which means A. Furthermore, in line with these findings, 67,64 % of respondents also A, with details 62 % also stated that the community depends on tin mining while 11% were U and only 35% D and SD. It is, however, important to note that the respondents were selected across the board and not only local miners that depend on tin mining for their livelihood. Furthermore, 70,90 % believed mining activity is high and this is associated with the activities they observe daily. The findings also showed that 41% preferred official mining over illegal or unconventional mining while 19 % were expressly U and 40 % D and DS and this means the community is almost equally divided in making a choice as regards the preferable mining regime. It was found that the total answer data was at 58.9 % (in U) with details for this statement. It also shows they perceive illegal mining as being adequate due to the fact that it is a common activity used by the local community to support their family while legal mining is practiced by the entrepreneurs. The results showed that 76,36 % (A) believed it is difficult for governments to shut down tin mining due to the fact that the community depends on this natural resource for their livelihood as well as its potential availability. That's why, 75.59 % (A) respondents stated that the community was actually torn between agreeing and still needing tin mining and a small part felt it was unnecessary or could be abandoned. Meanwhile, they are SA with 82,53 % that tin mining has caused environmental damage and 89,36 % SA or believed this condition has a bad impact on future generations. The below graphic shows the summary of Perceptions on tin and its mining.

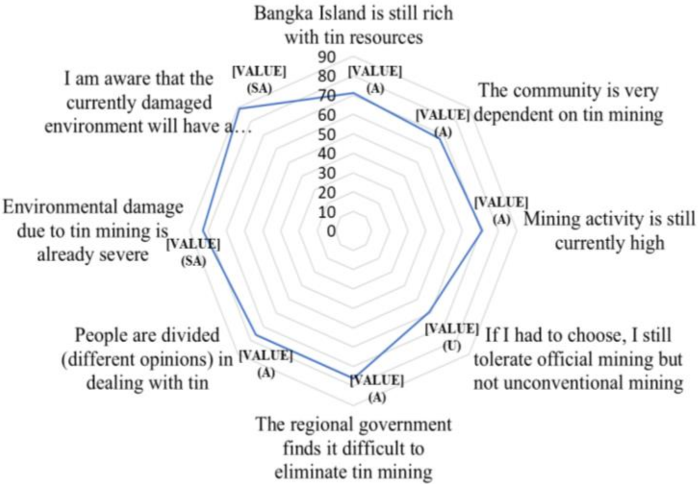

Figure 2. Graphic summary of Perceptions on tin and its mining

This means the community believes tin is a natural resource with high potential and dependence and this makes it difficult for the regional governments to shift from mining activities. Moreover, the community is also divided in their preference for legal or illegal mining but the majority agreed that mining causes massive environmental damage and this has a bad impact on future generations.

In this context, the current conditions were observed to be encouraging pragmatism while the growing ecological awareness is also quite important.

Perceptions of governance and tourism development opportunities

The concern for tourism development emerged since Bangka Belitung became a province in 2000 but the area was in the euphoria of free tin mining for the first decade of becoming a province and enjoyed its early days with massive infrastructural development. However, efforts are recently being made by the government to transform to a more environmentally friendly sector due to the environmental damage caused by tin mining and the potential exhaustion of the mineral resource sometime in the future. Coincidentally, Bangka Belitung has a lot of natural resources potential, especially in the beach and marine sectors. The government does not only design tourism through different regional development agendas but also plans to empower tourist areas but this process requires the participation of the host communities. Abrahams (2019) believed this plan has the ability to improve the economy, reduce unemployment, and create new entrepreneurs, especially when the participation is high (Nam-Sick, 2020; Giriwati et al., 2019; Naja, 2021; Putri, 2020; Bickford et al., 2017; Nofiarli, 2018). This study, therefore, formulated some statements related to this transformation to understand the perspective of the respondents and these include 1) the opportunity for the tourism sector to become an alternative economic sector after tin, 2) the seriousness of the government in developing the sector, 3) activities increased, and 4) the readiness of the community. These are important because they focus on tourism which is often opposed to tin mining and this means its prospects need to be deeply explored considering the high opportunities presently provided by tin mining.

The responses from the respondents are, therefore, presented in the following Table 3.

The tourism potential of Bangka Island is discovered to be very high as indicated by the approximately 87,93 % (SA) for the statement. This is associated with the fact that the community is surrounded by coastal areas with natural beauty potentials and islands with coral reefs. Furthermore, 82,92% is in interval of SA that tourism has the potential to be an alternative in the post-tin economy and in interval A (75,53 %) believed the government is prepared for this process as indicated by the increase in the number of infrastructures being developed in the tourist areas as well as the gradual education and awareness being created on the tourism sector. According to the information on the table, the statement that the tourism sector is showing signs of increasing activity, indicated the total of percentage is 78,40 % (in interval A), but tin mining is still dominant as indicated by 77,07 % (A) of respondents. Meanwhile, 69,24 % (A) showed that the community is not too optimistic about the ability of the tourism sector to improve the economy. Below is the graphic summary of the position of Perceptions on governance and tourism development opportunities:

This means the community is optimistic about the possibility of developing tourism as an alternative economic sector but the dependence on the mining sector is presenting a significant challenge. Moreover, most respondents showed a positive assessment of tourism opportunities but the significance decreases when it comes to the transformation process. It was also discovered that there is a positive perception of the tourism sector but mining activity is still considered more important.

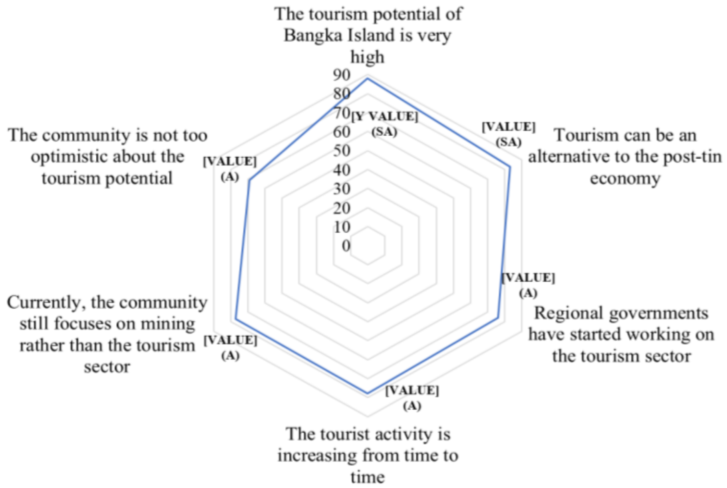

Figure 3. Graphic summary of Perceptions on governance and tourism development opportunities

Table 3. Perceptions of governance and tourism development opportunities

Statement	SA	A	U	D	SD	Score
	In Percentage					
The tourism potential of Bangka Island is very high	45	51	3	1	0	88
Tourism can be an alternative to the post-tin economy	27	55	12	6	0	83
Regional governments have started working on the tourism sector	13	60	20	6	1	76
The tourist activity is increasing from time to time	20	58	17	5	0	78
Currently, the community still focuses on mining rather than the tourism sector	13	53	16	14	4	77
The community is not too optimistic about the tourism potential	11	47	22	19	1	69

Perception of the respondents in prioritizing either mining or tourism

The Bangka Belitung Islands government is trying to encourage tourism development in order to reduce the dependence on tin mining, especially due to the need to prepare for the post-tin economic era. However, the basic challenge is the transition process which is observed to be running slowly due to the non-readiness of the community and local *stakeholders* to transit to a new sector. Table 2 already shows how tin dependence is considered an important issue with the respondents discovered to be ambivalent considering the expectations for the tourism development and the high dependence of the local economy on tin mining despite its massive negative influence on the environment. This, therefore, led this research to explore the perceptions of the community on the potential and prospects of the tourism sector management as well as the preference of the respondents when faced with the choice between mining and tourism. The responses are, therefore, presented in the following table. Table 4 shows 66,50 % (A) of the respondents confirmed that the government allows the continuous operation of tin mining while the tourism sector is currently being developed. It was also discovered that 76,25 % (A) believed the government is undecided on the sector to be selected for onward development and investment while 81,37 % (SA) reported it is important for the government to take a firm position on this issue. This simply means the government is encouraging tourism while tin mining is still allowed and this shows the inconsistency in its policies.

Table 4. Perception of the respondents in prioritizing either mining or tourism

No	Statement	SA	A	U	D	SD	Score
		In Percentage					
1	The government continues to allow tin mining to run even though the tourism sector is currently being developed	8	52	12	22	6	67
2	It seems the government is undecided in selecting between mining and tourism	12	57	22	7	2	76
3	The government should be firm in its decision to either manage mines or tourism	30	52	12	5	1	81
4	The government still prefers mining to the tourism sector	10	39	31	17	3	67
5	The attitude of the community is determined by the government	12	49	15	20	4	69
6	Tourism can go hand in hand with mining	6	35	14	33	12	58
7	If I had to choose, I would prefer the tourism sector	33	42	10	12	3	78
8	Since mining and tourism are both running, I'll just go along for now	3	53	14	24	6	64
9	If there is power, I want to move to resist the mine	22	31	20	22	5	68

On the statement that the local government prioritizes tin mining over the tourism sector, respondents choose A with the percentage of 67,32 %. If we look at the breakdown of the percentage of each choice, we find a balanced position between those who agree and disagree with this statement. The details are 10% that SA and 39 % that A to the statement while 31% were U. This is associated with the government's efforts to avoid blame considering the difficulties in the transition process, especially concerning finding a solution which is directly related to the welfare of the people. Moreover, the table shows 68,92 % (in interval A) agreed that the attitude of the community is determined by the government and this means the community is ready to implement the policy immediately the government decides to take firm action against tin mining and direct the local economic sector to tourism. The community was, however, observed to be divided on determining the possibility of tourism and tin mining working together with total of percentage is 58,01 % (in interval U), indicated by the 45 % that D and SD, 41 % A and SA while 14 % are undecided and this simply shows the two sectors are different. In reality, the uncertain attitude of the government in determining the sector to be prioritized was also observed to be in line with the perceptions of mining and environmental activists pushing for parallel use of both sectors.

Some of the respondents think both sectors can work together, especially with the potentials of mining in places such as in Kolong Biru, South Bangka while others believe tin mining degrades nature and damages the environment as observed from the coast damaged by offshore mining. This research confirms the significant differences between the opinion of the government and entrepreneurs as well as the mining and environmental activists. Moreover, Wijaya (2021) showed that the development is expected to focus on the preservation of the locality and ecological aspects to ensure conversation, and Holden (2007) further showed the possibility of planning the conservation process through tourism (see also Marlina et al., 2020). It was also discovered that 78,45 % (in interval A) prefer the tourism sector to mine and indicate their desire to take its management seriously but the majority follow the current trend as indicated by 64,46 % (in interval A). Furthermore, 51 % (total SA and A) of the respondents prefer to resist the mine if they have the power while 20% were found to be U and 27 % did D and SD. This shows the Bangka Island community tends to have a balanced attitude when faced with the choice of both sectors. Although the total proportion based on the percentage data tabulation is 68.42 % or is within the A interval, based on the details of the choices in this statement, respondents take a stand to make choices about the sector and tin mining. Below graphic shows the summary of the Perception of the respondents in prioritizing either mining or tourism:

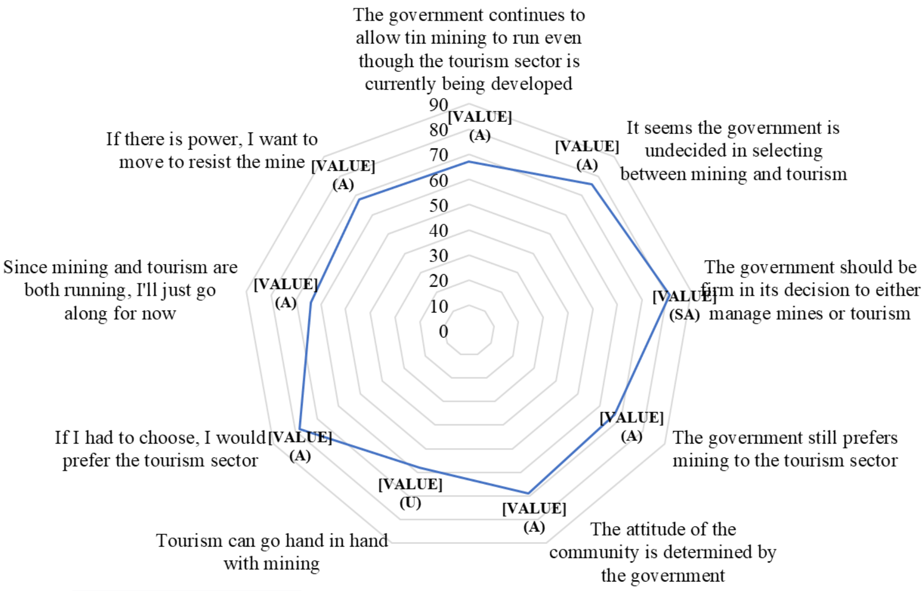

Figure 4. Graphic summary of perception of the respondents in prioritizing either mining or tourism

Reasoning public inconsistency

The findings show some interesting things.

First, the fact that the community is aware of the tin potential in Bangka Island is very promising and this obviously shows why the people depend on mining for survival. This situation further confirms the existence of several mining operations being conducted in the area without any serious action from the government. Moreover, the people understand the mining process is damaging the environment with long-term negative impacts on the future generations but still engage in illegal mining instead of participating in legal mining. This is, however, paradoxical to the opinion of Saari et al. (2021) that a higher perception of environmental risk usually leads to greater awareness and action to encourage sustainable development. This research, therefore, shows the anomaly reflected when concern and awareness of the environment do not run consistently with the knowledge and attitudes of the inhabitants.

Second, the community was found to understand that the tourism sector currently being developed by the government in collaboration with some stakeholders in the industry is a great opportunity for the post-tin economy. The people also know there is a need for more optimism to achieve the optimal potential of tourism towards improving the economy. This means the transition process or effort requires showing the people the proof that the new sector has the ability to enhance the local economy.

Third, the respondents representing the community were observed to be inconsistent in their attitude. This was indicated by the fact that they understand the negative impact of tin mining as well as the high opportunities for tourism development but still tolerate and provide mining opportunities even with insignificant degrees of gradation. This shows tin mining is not going to be abandoned despite different awareness made and developed by the government concerning the transition process. The following scheme shows the inconsistent perception and attitude of the community towards the issue of tin mining and tourism.

Figure 5. Communities' perceptions and attitudes

The scheme shows tin mining was perceived as something potential due to its short-term economic benefits but considered dangerous especially due to its negative impact on the environment and future generations. Moreover, the tourism sector was also perceived as potential which is currently being developed by the government but observed not to be economically attractive. Meanwhile, the community thinks both sectors have the ability to work together while the government was observed to be undecided in implementing its policies. The community was also discovered not to desire a strong resistance to mining activities and this means they prefer the two sectors are temporarily allowed to be run together.

The sustainability perspective shows tin mining as an unrenewable exploitative fossil commodity with the excavation process discovered to have a significant ecological impact on the environment in the long term even though the economic benefits are very high. Environmental damage has always been a fundamental problem for countries with rich natural resources after long-term exploitation (Schilling et al., 2020; Paat et al., 2021). Mining should be understood as a thing of the past while several sustainable activities are expected to be the logical choices implemented to conserve and protect nature. Moreover, Motesharrei et al. (2014) showed the reasons to direct ecological tensions and economic stratification towards the era of sustainability and equitable distribution of resources to avoid wider destruction. Buchs (2021) also used the term sustainable welfare to emphasize the importance of equitable distribution and democratic governance. The era of tin mining is, however, indicated in the scheme as the red zone which is the past while tourism is in the green zone due to its potentials but the community was discovered to be inconsistent in its choices by exploring both sectors at the same time.

This inconsistency was observed to be due to certain explanations and the *first* is related to those considered to be interested in tin mining. The chain of tin extraction and continuation of its trade is very profitable for high-end entrepreneurs and businessmen at the local, national, and international levels. Meanwhile, the mining process discovered to be the closest to those in the community with direct impact on their livelihood is illegal and this has been described in some studies as a trap for the local economy (Haryadi, 2019; Purnaweni et al., 2019; Rosyida et al., 2018). Most of these illegal miners were originally fishermen and farmers that turned to free mining since the implementation of the deregulation policy at the beginning of Indonesia's reformation in 1998. It is, however, difficult to stop this activity with several politicians using it as a political campaign issue to gain voter support during elections. Moreover, tin entrepreneurs also buy illegal mining products and convert them to legal trade while some local elites were also discovered to be supporting illegal tin production. These are, therefore, observed to be the reason for the reluctance of the respondents to support the abolishment of tin mining.

Second, the current regulations on the tin mining sector are overlapping, especially those concerned with the zone division of both sectors. The government already has a regulation on regional zoning but the inconsistency of its implementation makes it difficult to develop the tourism sector with several mining companies' production permit areas (IUP) discovered to be existing before this regulation was issued. This means tin mining expands continuously in the operational area despite the determination of the zones to be formalistic as indicated by the widespread mining conflicts due to territorial disputes. Furthermore, the conflicts between miners and non-miners are rife with some leading to physical assaults, destruction of mining equipment, and arrests of anti-mining activists in the name of law enforcement. This danger was reiterated in Gould's (2017) research that the ecotourism sector is projected to be under pressure along with changes in the political economy of natural resources as exemplified in the Belize study.

Third, both the regional and central governments do not take a firm stance to develop the tourism sector and are also observed to be undecided in implementing the policy to make a choice between mining and tourism sectors due to their unclear attitude. It is, however, important to note that the prioritization of the tourism sector depends on tin mining or even letting the two sectors work together. Therefore, the Bangka Belitung Islands government s issued Regional Regulation Number 7 of 2016 concerning the Master Plan for Tourism Development and the data retrieved showed the growth of the tourism sector decreased by 0.8% in 2017 from 4.06% in 2011 (Megawandi, 2020).

Rendy et al. (2020) confirmed that the local leadership in Bangka Belitung is weak from an ecological perspective due to its inability to provide a maximum portion in planning development through an ecological vision. Yanuardi et al. (2021) also reported the absence of serious discussion on the environmental and social impacts of extractive industries in Indonesia with a focus on the *sustainability assessment* described by Sala et al. (2015) or *Social multi-criteria evaluation* (SMCE) analyzed by Etxano and Eguiluz (2021). Moreover, Leonard (2017) found continuous mining with permits to be undermining tourism development and sustainability efforts at the local level. This, therefore, means the government needs to take decisive action to prioritize a specific sector rather than working on both simultaneously using the same treatment. There is a need to start preparing post-mining alternatives for the future economy and reducing the dependence on the tin economy.

Fourth, the tourism sector in Bangka Island was discovered not to be the main focus due to the high potential of tin mining. The tin economy still prevails despite the awareness of its environmental damage by the elites and the whole community and this is due to the belief that abandoning tin has the ability to shut down the key economic opportunities while the tourism sector is not yet very promising. The difficult question to answer is that "when will tourism become more promising than tin mining considering the inconsistency of society and government?"

The ideal figure is, therefore, presupposed as follows:

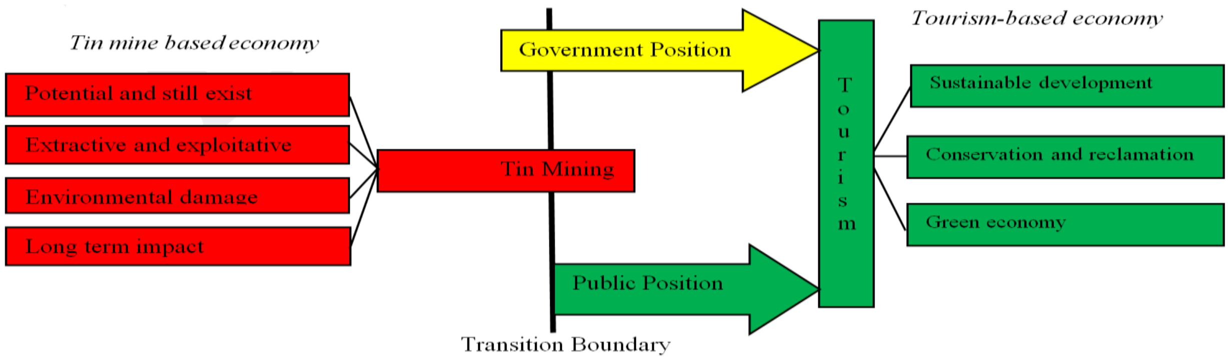

Figure 6. Reason for the (in)consistence public

The scheme shows the need for the general community to develop consistent reasoning which is based on the condition that the tin mining sector has potential and exists but should be understood as an extractive and exploitative industry measured in terms of sustainability. The massive environmental damage with long-term impacts caused by this sector is expected to make them understand that the longer exploitation of the tin economy has the ability to increase its long-term negative effects. This means the community needs to be consistent with its decision to build a better society such that a more decisive transition is implemented instead of running mining and tourism simultaneously. Moreover, a firm action needs to be effected on economic choices to ensure more sustainability, conservation, and reclamation of the damaged environmental conditions, and also to encourage the choice of a green economy with dimensions of sustainable development. Therefore, tourism is believed to be the best choice, not just accepting the situation and assuming that it will only fight if there is a power. The Figure 6 assumes the decision is to be made by the community in front of the transitional boundary. Some of the factors to be considered in determining the consistency of the community reasoning include the interests in small and illegal mining activities which are conducted with entrepreneurs owning large and legal mines. This is observed from Table 2 where the tolerance for illegal is generally associated with the involvement of small non-companies. Moreover, Ibrahim et al. (2018; 2019) showed the biggest profits from tin mining are usually obtained by big businessmen and outsiders while Auciello (2019) emphasized the need to stop the influence of extraction corporations due to the threat they present to social justice and ecological welfare. This means the opportunity of mining only prolongs corporate aggression and large-scale mining despite its short-term economic benefits to the grassroots due to the fact that these companies will continue production through the *supply* from illegal mining.

The spread of violent conflicts due to resistance to tin mining has been reported at several points (Sulista et al., 2019; Ismi, 2020; Bidayani and Kurniawan, 2020; Kurniawan, 2021). Meanwhile, the government rarely considers a divided community in making a critical decision due to the existence of the tin economy in the red zone based on its illegal and destructive aspects. It is also important to note that both the miners and other interested actors prefer the *status quo* and profit from its problematic short-term effects. The government is also expected to have implemented post-mining-oriented policies and take a position further from the frontier line. It is important to note that the encouragement of tourism involves targeting two things at once and these include ensuring a more sustainable development with long-term effects as well as a post-tin economy which is friendly to the environment. This is due to the fact that tourism development has an element of conservation which is the basic principle of future-oriented development.

Moreover, sustainability is inevitably an urgent matter which involves focusing on the long-term aspects and this means a fast and fair transition is a rational choice which can be implemented despite the uncertainty of the government. Cahill and Allen (2020), however, showed that a fair transition has the ability to strengthen the three pillars of sustainable development which are the community, environment, and economy. It is also an environmentally friendly economy containing procedural justice, participation, and empowerment.

CONCLUSION

The findings showed some important information related to the perception and attitude of the Bangka Island community towards tin mining, tourism, and reasoning concerning the inconsistencies associated with these sectors. The community has a lot of tin wealth even though it has been mined for hundreds of years as indicated by the current legal and illegal mining activities being conducted on a massive scale in the area. The people were observed to understand that the local government seems to have difficulty dealing with mining problems. Moreover, the people benefit directly from the mining activities and also tolerate illegal ones probably due to the locality rights and available opportunities as presented by half of the respondents. They are also aware of the significant environmental damages caused by this mining process and its subsequent negative effects on future generations.

Bangka Island community also realizes the potential of tourism as an alternative sector to be developed in the post-tin economy. The government was found to have made several efforts towards encouraging the management of this sector but it cannot work together with the mining sector. However, tin mining was observed to be dominant due to the non-maximization of the economic aspect of the tourism sector even though it is preferred by most of the respondents.

The community was discovered tend to be providing an opportunity for tin mining including illegal ones and also tends to work in line with the trend in both sectors. This means the people are ready to move in line with the actionable policies of the government. However, it was observed that there is no significant willingness to enforce the laws to stop mining as indicated by themselves to temporarily just follow the current condition.

It was also discovered that the community is inconsistent between both sectors with the government observed to be developing tourism for the future while tin mining is presently being supported instead of being left in the past. This inconsistency was associated with several reasons including the direct benefits of tin mining to the local economy despite different interests, overlapping of the regulations especially those concerning legal and illegal mining, inconsistencies in the implementation of these rules, inconsistent application of the zoning designed for the two sectors, and the non-consideration of the tourism has a sector with the potential to have a significant economic impact. Therefore, there is a need for the parties involved to formulate and implement a policy with consistent reasoning between knowledge and action as proposed in this research to ensure a smooth transition process.

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THE POSSIBILITY OF EXPLOITING THE TOURISM POTENTIALS IN BISKRA PROVINCE (SOUTH-EASTERN ALGERIA)

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Abstract: Saharan tourism in Algeria is promising and can give a boost to the country's tourism and the economic sector. The aim of this study is to measure the tourist appeal of Biskra through its natural and cultural assets. We will try to identify its potential and constraints in order to promote local tourism while taking into account the specificities of our territory. This study will focus on the Biskra province, which is one of the Saharan Algerian cities. It is located in the loop of oases, connecting the north and the south of the country. It is famous for its palm trees, dates (Deglet Nour) and its traditional architecture. Within the framework of spatial planning and tourism development our research theme will focus on the enhancement of local assets in order to promote the tourism sector so that it is equitable and sustainable while respecting moral and cultural integrity of the region. To do so, we opted for a theoretical and analytical approach by consulting a set of bibliographic references, interviewing local officials and conducting field visits. Driven by SWOT analysis (Strengths – Weaknesses – Opportunities – Threats), which is a diagnostic and decision support tool. The results show that our study area is rich in natural and cultural potential. Nevertheless, the development of tourism is lagging behind and it is therefore necessary to seek the tourism model adapted to the specificities of the region and the capacities to be developed to achieve the objectives defined by the SDAT 2030 (Master Plan for Tourism Development).

Key words: challenges of tourism, development, local assets, opportunities, SWOT analysis Biskra province, Saharan tourism

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INTRODUCTION

Tourism is a vital source of foreign exchange income for many countries and contributes significantly to the economy by creating jobs and providing development opportunities (Boulhila et al., 2022). And this translates into its share of global GDP (gross domestic product), 10% in 2018, with a number of tourists reaching 1.4 billion in the same year (UNWTO World Tourism Organization 2018). The contribution of tourism to Algeria's national GDP will remain very low at only 4% (ONS National Statistics Office 2017). The Algerian Sahara covers about 2 million square kilometers, or 80% of the total area, known for its scientific and tourist value, its oases and its animals that are rarely found elsewhere. Socially and culturally, its inhabitants have unique customs, traditions and heritage. Sustainable Saharan tourism means the optimal use of the available tourist areas. It represents the point of convergence between the needs of tourists and the needs of the state as a renewable tourist destination (Eshraghi et al., 2010). It is a trend tourism whose demand has increased in recent years, especially during the winter season, by the influx of foreign tourists, 90% of whom are European, French, German and Italian (WHO World Health Organization 2010). The province of Biskra is an important tourist hub (SDAT, 2030) because of its strategic location, natural potential, archaeological and historical sites, which are no less important than the other diversified regions tourist attractions in Algeria. This article will focus on promoting the tourism sector in Biskra while identifying strengths, weaknesses, opportunities and threats. The main problem of this research is to try to explore the various tourist attractions of the Algerian Sahara, especially in the oasis region, which contains important basic elements for sustainable tourism for people, the environment and the economy. From the, how can we put the local tourist wealth of Biskra province known for its specificity and fragility in favor of a sustainable tourism? It will also be necessary to highlight how the results of a SWOT analysis can help in decision-making regarding the development of the tourism sector in the province? We can assume that tourism is an effective tool for sustainable development in the event of rational exploitation of local resources under the 2030 SDAT. To answer our problem we will first of all identify the theoretical aspect of the study continues with an exhaustive study of the tourist potentialities of our area. As we have seen that it is essential to put everything in a scientific approach call to be the SWOT analysis in order to exceed the limits noted previously. In the end, we recommended more nuanced and clear proposals to overcome the various limitations encountered.

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LITERATURE REVIEW

Tourism becomes a hotly discussed topic because it has a significant impact on the economy, social, and culture (Waridin and Astawa, 2021). Support for growth and a key vector for the Tertiarization of the economy due to the potential for wealth creation, employment in the southern zone of the country (Aroub, 2015). Tourism is a multifaceted industry that can have an impact on most of the Sustainable Development Goals of the United Nations and of Agenda 2063 of the African Union. Agenda 2063 envisages a substantial increase in tourism's contribution to gross domestic product, for which tourism in Africa must grow at a faster pace. Tourism in the deserts is part of a series of paradoxes: it can be both a vector for development and poverty reduction if it is well managed and takes into account the specificity and the fragility of desert ecosystems, but can also very quickly be destructive of both modes of local populations and natural environments, if it is not sufficiently controlled. In the deserts, tourism is part of contexts that are fragile from an environmental and human point of view and therefore, more than anywhere else in the world, it must meet the challenge of sustainability in still relatively intact from these negative effects. These are therefore preventive messages that this guide tries to pass while giving the actors concerned some tips and tools international and local levels, in order to combat poverty and desertification while allowing tourism to play its true role as a vector for development. Our country has enormous potential in this area. The first in-depth publications on the subject began to appear in the late 1960s. This study aims to identify the tourist potential and quality of Biskra province to find the adequate solutions to estimate this sector, as it has an essential role in the economic development, and work to describe and overcome the impediments. The Algerian government's policy strategy tourism is emerging and integrated into the framework of the sustainable development strategy of Algeria.

The latter is summarized in the national report Algeria for the Summit Sustainable Development, World Cup in Johannesburg in 2002, this report constitutes the contribution of the Algerian Government to implement a specific sustainable policy. He has presented a summary of the progress of the implementation of Agenda 21 since the last UNCED follow-up conference (1997), through the implementation of the strategy of sustainable development, mainly represented by the economic recovery plan 2001-2004, from the Presidential program. As part of the development and diversification of Saharan tourist destinations, The Ministry of Tourism and Crafts is launching a study on the exploitation of thermal springs in order to contribute to the propulsion of tourism activities in this region with important tourist potential, classified as World Heritage. Algeria is developing an overall strategy. The approach is reflected in the development of the Master Plan for Tourism Development 2030 (SDAT). A long-term policy. The SDAT derives its essence and its coherence from the National Land Use Plan. Operationally broken down into concrete actions on the ground (in progress). In this context, the SDAT is an instrument that reflects the State's desire to exploit the country's natural, cultural and historical potential and to put it at the service of Algeria's "tourism development" in order to raise it to the status of a competitive destination. So the studies and the experiences in our field of study are diverse and rich in ideas but we really need an innovative exhaustive study and to have the data updated in a systematic way interpreted in collaboration with the various actors involved in the sector tourism.

MATERIALS AND METHODS

In this study**,** we opted for a theoretical and analytical approach. We are talking about identifying our theme with data that is summarized and presented using a graphical method to illustrate the results of the study and improve the level of perception of the information. To succeed, we adopted the SWOT Analysis matrix to identify the four key points**,** namely Strengths, Weaknesses, Opportunities and Threats. Allows a general development of the study area by combining two types of data: internal and external. The internal information taken into account will be the strengths and weaknesses. External data will address nearby threats and opportunities. The opportunities developed in our study as historical, natural and economic will be barometers and indicators for decision-making. To interpret the SWOT matrix, we use the reading grid. After from the matrix analysis, the situation allows to identify the major issues. Finally, the results of the SWOT analysis make it possible to establish a monitoring table for future decision-making by the local authorities and the central authorities of the state.

General presentation of the study area

The geographical location

The province of Biskra is located in the southeastern territory of Algeria. The geographic coordinates are 34°40'0" north and 5°25'0" east, at the foothills of the Aures massif. It occupies an area of 21,509 km² and it is about 422km from the Algerian capital city. It is bordered by state of Batna in the north, state of Ouargla in the south, state of El Oued in the southeast, M'Sila in the northwest and Djelfa in the southwest as shown on the map above (Figure 1).

Natural and environmental potentialities of Biskra

Natural factors

The Biskra climate is characterized by a very hot and dry summer with an average temperature of 43.5°C, an average relative humidity of 12%, and a very cold winter (minimum average temperature of 4°C, maximum relative humidity of 89%). Rainfall is rare and does not exceed 31 days per year. Moreover, its sub-desert climate is influenced by arid to relatively semi-arid climate due to its location on the outskirts of the North and the Sahara (Tartar, 2013).

Biskra have an average height of 128m and it is considered as one of the most relevant oases in Algeria. The geography of Biskra is situated between the mountainous ranges, which consist mainly of two main terrain chains, the Tell Atlas and the Saharan Atlas mountain ranges. This feature leads to the diversity of its relief units from mountain in the north, plains and plateaus in the middle and sub-Sahara steppe in the south, besides the oases extending from the east and the west. State of Biskra provides to the visitor the opportunity to explore the different features of the nature due to the combination of the mountains, wadis and the desert presenting authentic sites with palm forests, fruit trees and dunes.

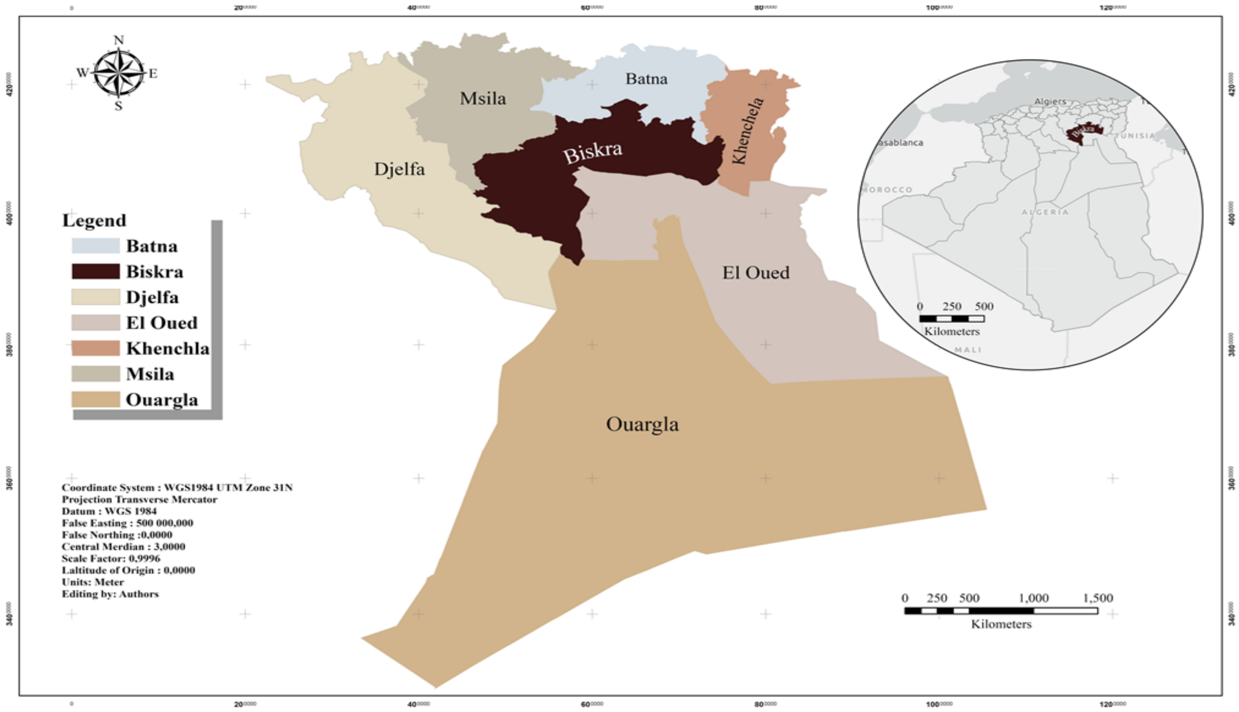

Figure 1. Location of Biskra province in Algeria (Source: Authors)

The diversity is noticed in the distinct natural features distinguished through the natural richness of the barren mountainous areas (Kelfaoui et al., 2021), and the flat agricultural land interspersed with hydrographic grid consisting of Wady, lakes and dams along with the great expansion of palm groves all over the region (Kadiri, 2009): The first part is situated in the northeastern area of the Tell Atlas Mountains of the province, which extend from the plains to the mountainous regions to the north such as: The bends of M'Chouneche (Figure 3) , the bends and the strait of El Kantara (Figure 4), the saddle of Beni Souik, the mountain forests of Djammoura and Ain Zaatout .

The second natural part is situated in the southwest of the Saharan Atlas, which is relatively a flat land with attractive landscapes that extended all along the Atlas range westward. It is characterized by the high quality dates from the region of Tolga to Sidi Khaled (DTH, 2012). Biskra includes a group of natural and artificial wetlands, the most relevant is a part of Chott Melrhir, which is the greatest basin in Algeria that covers an area of 5515 km².

These regions are identified by biodiversity, and they are a major habitat for migratory birds from the Mediterranean Sea to the Sahara especially in winter. The artificial wetlands are represented by both Manbaa al-Ghezlane dam with a capacity of 55.5 million m³ shared by the two municipalities of EL Kantara and Loutaya, with a perimeter area of 9.5 km² and a regular annual capacity of 14 million m³ of fresh water used for irrigation. In addition to the dam of Fom El Gharza, with a capacity of 47 million m³ and capacity of 8 million m³. The region has two nature reserves; the first with an area of 8.61 km², and the second one with an area of 311 km² (DTH, 2012).


Figure 2. Photos of natural sites of Sidi Okba (Source: Authors)


Figure 3. Photos of the throats of M'chouneche (Source: Authors)


Figure 4. Photos of natural sites El kantara (Source: Authors)

The thermal and mineral sites:

The region is known for its mineral springs that the highest amount of water in the region comes from a group of mineral water sources for consumption, such as the water of Droh, EL Kantara, Echaiba and El Branis, which is known for its health value after drinking. The thermal sources are divided, in terms of exploitation, into two parts:

-Untapped sources of water: There are more than 20 untapped sources in the province located on an axis extends from the city center to the southwest of the province, from Oumach to Ras El-Miaad municipalities, where their components differ according to the components of the mineral water and its temperature that ranges between 39°c-75°c, and these are high temperature levels considering the active volcanic layers through the high flow rates of up to 50 l/s. (HTI, 2019).

These sources are used on the local level by the nomadic Bedouin population, individually or collectively without health culture. The sources of the tapped thermal water will be mentioned under the tourism front office structures of the province.

Demographic and human characteristics of Biskra

This table (Table 1) provides information on the dynamics of changes in the composition of Biskra. The total population is estimated at 774,681, an average density of 36 inhabitants/km2. Employed population (2010): 277,976. Unemployment rate (2010): 10.01%. Distribution of the employed population as follows:- Administration: 37.169

- Agriculture:113.120
- Services:51.730
- BTPH:31.544
- Industry:11.573; - Other:32,382

So we estimate a population in full evolution distributed through various economic sectors that can only be benign for the touristic sector through the upgrading of the tertiary sector (Benbelaid, 2022).

Table 1. The population evolution in Biskra (Source: DTH of Biskra, 2019, completed by authors)

Year	Population	Men	Women	Median age
1950	151,557	77,068	74,489	19
1962	198,492	99,683	98,809	18
2000	530,270	268,722	261,548	22
2010	614,575	310,236	304,338	26
2022	774,681	391,399	383,281	29

Table 2. The tourist movement in Biskra (Source: DTH of Biskra, 2019, completed by authors)

years	Number of tourists by category		
	Local	Foreigners	Total
2009	70919	5384	76303
2010	90146	4514	94660
2011	73102	3293	76395
2012	73282	3033	76315
2015	75325	3603	78928
2016	63427	3255	66682
2017	56414	3516	59930
2018	63033	3441	66474

The tourist movement in Biskra

The number of the foreigner tourist's arrival to Biskra was estimated to 2826 foreigners; French, German, Italian and Swiss, while the number of local visitors was 46582 tourists in terms of overnights till May, 2019 DTH (Direction of Tourism and Handicraft). According to the table (Table 2), and the two figures (Figure 5 and 6), we notice a fluctuation in the number of tourists from one year to the next. The year 2010 saw a significant increase in the number of tourists with a percentage of 19,40%, it decreased in 2011 by 19,30%. In 2012, a slight decrease in the number of tourists was recorded, despite an increase of 3,32% in 2015. From 2016 until 2018, a decrease that varies from 14% to 11% and does not reflect the actual tourist qualifications involved in Biskra. Thus the situation in Biskra does not differ from that of the country. From 1969 to 2019, the very attractive South did not receive more than 200,000 foreign tourists as part of the tour-operating, that is to say the trips organized by tour operators and travel agencies. The biggest tourist flows we received during the 70s and 80s (170,000 approx.). Only 25% of Saharan tourist territories have been visited by tourists since 1969 (MTH Ministry of tourism and Handicraft, 2018).

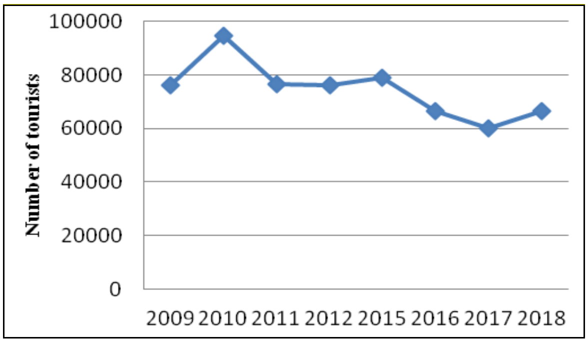

Figure 5. The tourist movement in Biska 2009-2018

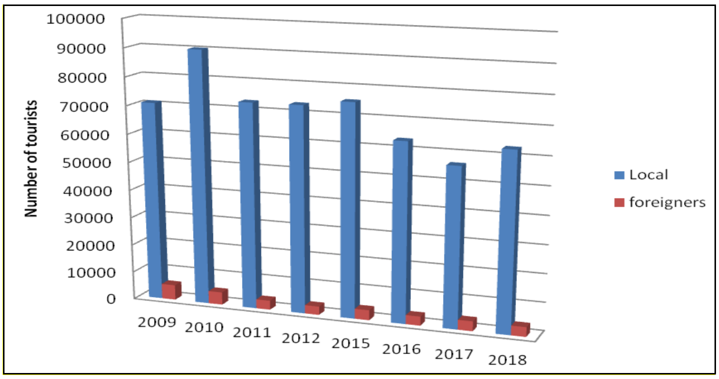

Figure 6. Evolution of tourists by category (Source: Authors)

The Historical Potential

To talk from Biskra requires a return to its ancient history. It is rooted in the depths of history and each of these historic periods has left an urban legacy that is also considered a state tourist attraction (Lak et al., 2020).

Historic sites

Culture can contribute to a healthier society, facilitates civic involvement and gives tourists a reason to visit. It continued to shape the heritage and identity of cities, creates jobs and introduces pro-social behavior (Morar et al., 2020).

Archeological sites

Archaeological sites are currently considered as one of the most important tourism industry drivers, becoming an autonomous economy (Rahal et al., 2020). The province of Biskra has several historic sites that are spread across its areas (Figure 7), besides many archaeological features dating back to different periods. Cultural heritage, such as museums, churches, historical landscapes (Figure 8), urban parks, and exhibitions attract many visitors and countries (Kherrour et al., 2020), regions and cities which house such historic-cultural amenities have seen increasingly large waves of tourists (Girard and Nijkamp, 2009). These features can be classified according to the nature and the era they belong to:

- Primordial relics: They are represented by rock paintings in Ouled Djelal, Petroglyphs in El-Besbes and Ras El-Miaad municipalities, also the ruins of Djemina castle or Tadjmount in Meziraa.
- Roman ruins: They exist in all municipalities of the province (Haif et al., 2013) and they are variable in terms of

emergence and importance, including: the remains of the Roman bathhouse in the university campus in Biskra, and the Roman arch in El Kantara (Figure 9).

-Colonial remains: The most relevant ones are St. Germain castle in Biskra, and the military camp in Bordj Ben Azouz.

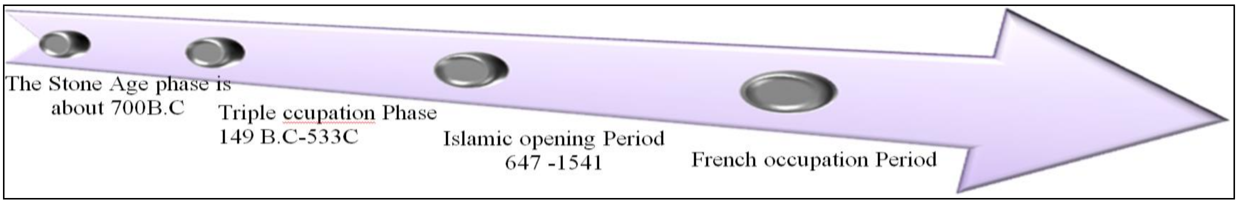

Figure 7. The Historic Periods in Biska (Source: DTH of Biskra, 2019, completed by authors)

Figure 8. Photos Ghoufi balcony (Source: Authors)

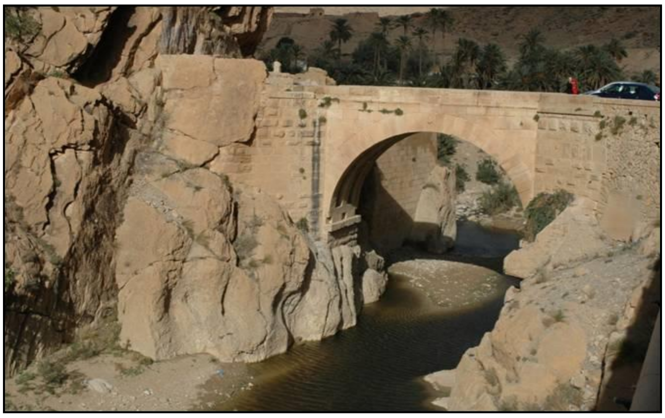

Figure 9. Photos El-Kantara Monument (Source: Authors)

Figure 10. Photos Okba Ibn Nafaa Mosque (Source: Authors)

Figure 11. Photos of Ottoman Zaouiya (Source: Authors)

Figure 12. Photos Shrine and Mosque of Sidi Khalid (Source: Authors)

The religious places

The remains of the Islamic antiquities are considered to be rare, including the Turkish relics of El Haouch, and the oldest non diacritic inscription in Sidi Okba (Figure 2), Shrine and Mosque (Figure 10 and 12), Ottoman Zaouiya (Figure 11) and the gate of El Mahdi mosque.

Tourism infrastructure review

The province of Biskra contains a group of tourist structures. However, it suffers from extreme weakness in its tourism potential.

Hotel and restaurant

24 hotels in a total, with a capacity of 2201 beds over 1011 rooms: (DTH, 2019). The hotel management ownership is limited to institutional framework. The public sector such as the hotel of the thermal bathhouses Hammam Essalihine and Hammam Ziban, are under the Tourism Management Company South. For the rest of the hotels, they are owned by private properties as we note by naming some of them with the names of their owners. Furthermore, the hotel structures of the province consist of classified and unclassified hotels that among 24 hotels are used in tourism front office, we find 09 classified hotels including two with 3 stars rating, where they have a large number of capacity and overnights for tourists, and employ a number of the tourism work labor force which includes:

-Hammam Essalihine hotel.

-Ziban Hotel (designed by the French architect "F.Pouillon" which it was opened in 1969 (Chouaib, 2009).

For the unclassified hotels, there are 15 hotels which represent one third of the total capacity of the tourism structures in the province (DTH, 2019), which have no annexed services such as: restaurants and any other services, as their services are only dedicated for accommodation where "Dar El Moualem" is the most relevant hotel that provides services within conference tourism, in addition to scientific and cultural meetings of national and international dimension. It is also classified under the semi-hotel structures in the province which are designated for reception including two youth hostels in Biskra and El Kantara. The restaurants have an advertising role to introduce the traditional and popular dishes of the province (Alloui, 2021) of which there are two types: The hotel restaurants and other restaurants (Figure 13) that do not belong to any hotel or tourist structure. There are classified restaurants in the province such as the restaurant of Hammam (bathhouse) Essalihine with a capacity of 190 seats, and the restaurant of Ziban hotel with 80 seats (DTH, 2019), which are identified by the preparation of the varied traditional dishes (Figure 14) such as the plate of Chakh'choukha of all kind, in addition, to serve some good quality local dates. However, these restaurants do not make the world's varied dishes.

Figure 13. Photos of traditional restaurant (Source: Authors)

Figure 14. Photos of traditional dishes (Source: Authors)

The thermal activity

Its potential is an essential touristic tool, since the mineral therapy became adopted by the medical community (Drouin, 2004). The province has significant potential, yet the thermal activity (Table3) is set in few treatment facilities, which are limited compared with the number of the untapped thermal sources. (Boumaraf and Amireche, 2020).

Table 3. Hammam mineral (Source: Directorate of Tourism and Handicraft of Biskra, 2019)

Hotel institution	Therapeutic sessions
The thermal complex of Hammam Essalihine	-140 rooms; - 363 bads
The thermal Hammam of El Baraka El-Hadjeb	- 30 single rooms - 02 collective rooms -cafeteria +restaurant - super market - handcraft pavilion
The thermal Hammam of rest and recuperation El Raouda	- 30 single rooms
The thermal Hammam of Sidi Yahia (Figure 15)	-118 Rooms; -267 Bads
The thermal Hammam of Chegga	Only the hotel that works

One of the main therapeutic centers in the province is the bathhouse of Hammam Essalihine (Figure 15). Where the rate of its mineral water flow reaches 65 l/sec, and is the highest rate in the province with a considerable capacity due to its accommodation structure and the potential of the medical care. Traditional treatment is also adopted, as the treated patient number reached to 7074 medically treated patients, and 100.089 traditionally treated persons compared to the mineral bathhouse of Hammam El Baraka which has no front office structure. However, a hotel project of 100 beds will be planned. The number of the therapists of both Hammam Essalihine and Hammam Elbaraka bathhouses reached 9066 therapists, and they hire in total 67 workers of the medical and paramedical fields.

Moreover, we should mention the treatment of land filling with hot sand which is called "sand-therapy" or " the sand bathhouse" (Magherbi, 2014), but currently it is used traditionally and spontaneously to heal dermatological disease and rheumatism disorder. Sand treatment is performed by the wind-borne sand which is deposited in the western slopes of the Saharan Atlas Mountains, where it is exposed to high heat during the hot season; particularly the slopes of Ain Bennaoui and EL Hadjeb, but this type of healing did not evolve due to the lack of the structures of medical and technical exploitation in this field (Fertas et al., 2022). The travel agencies in the province is estimated to 38, most of them are situated in the center of the province, and they hire 133 tourist agents with little experience including 77 temporary workers and 56 permanent workers (DTH, 2019). These agencies have the following activities and tasks: visa issues, but some of them cannot afford this service due to the lack of professional credibility (Souiher and Rezzaz, 2020). They also introduce land and air travel on domestic and international airlines, and organize touristic trips and seasonal camps, in addition to the organization of travel itinerary of Umrah and Hajj to the holy sites. The lack of financial and operational potential is one of the main reasons that made tourists not use these agencies, besides the bureaucracy and the prejudgment about its organizational incapability, which lead tourists to self-service concerning travel procedures (Cole, 2006). Although the contribution of tourism agencies in the promotion and the development of tourism, they are only limited to ticketing and sending local tourists according to a time schedule, in addition to the absence of any real commitment to attract tourists through advertising the tourism potential of the province.

Tourist routes

A tourist circuit is a tourist product that includes routes between different sites. In Biskra we have five circuits:

1- Biskra – El outaya - Djemora - Ainzaatout – Elkantara (Figure 17); 2- Biskra - T'houda - Sidi Okba - Khanget sidi Nadji – Djemina 3- Biskra - Lehbal - M'chouneche – Baniane; 4- Biskra - Lichana - Zaatcha - Tolga - Bordj ben Azzouz – Mekhadma (Figure 18). 5- Biskra - Leghrouss - Doucen - OuledDjellal - Sidi Khaled – Chaiba

These tours are used by authorities and tourist organizations for various visits and activities. However, their condition is very poor and poorly managed; it remains to be revalued.

Figure 15. Photos of thermal hammam El Salihinne (Source: Authors);

Figure 16. Photos of thermal Hammam Sidi yahia (Source: Authors)

Figure 17. Photos of tourist circuit El outaya-Elkantra (Source: Authors)

Figure 18. Photos of tourist circuit Lichana-Mekhadma (Source: Authors)

Tourism investment in Biskra

Tourism is one sector of the economy that contributes greatly to the economic development of a country (Kodir, 2018). In this sense, we will spread out on the scale of investments in our area (Table 4), as well as the analysis of the potentialities and constraints facing the development of Saharan tourism (Isac et al., 2022). The ZET (tourist expansion zone) is a very important tourist development tool and according to an official at the Ministry of Tourism, Algeria has 225 ZET and the south contains 23 exploitable sites for the realization of tourist projects for the year 2021.

Table 4. Tourism investment projects (Source: DTH of Biskra, 2019+ completed by authors)

Tourism investment projects	Num -ber	Jobs to be created	Costs (D.A)
Inside the ZET	11	685	10.303.571.907,59
Outside the ZET	62	5204	46.107.460.000,95
Total	73	5889	56.411.031.908,54

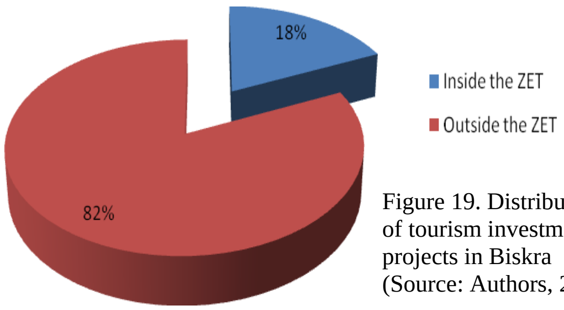

Figure 19. Distribution of tourism investment projects in Biskra (Source: Authors, 2022)

Table 5. Synthesis of the SWOT matrix (Source: Authors 2022)

	Internal factors		External factors	
	strengths	**weaknesses**	**opportunities**	**threats**
chance factors	9+		8 +	
Sum	17+			
challenge factors	9 +			5-
Sum	4+			
conflict factors		9-	8+	
Sum	1-			
hazard factors		9-		5-
Sum	14-			

Based on the previous situation (Figure 19) 81.83% of the investments are localized outside the ZET which calls to examine the state of the ZET. The tourist expansion area Ain bin al-naoui. Department of Elhajeb with an area of 0.51 Km², the legal nature of the land ownership of the state, the area can be configured of 0.34 Km².

-Chagga tourist expansion area is 0.24 Km², the legal nature of state + private land ownership, the area can be configured to 18 hectares.

-the area of tourist expansion corresponds to El gharza of the area of plantation of 0.71 Km², to the legal nature of the lands and assets of the state, to the area able to prepare 0.44 Km².

- The tourist expansion area: hammam Salihine, which can be configured, 0.274 Km². the legal nature of the land: ownership of state property. Recently to catch up in terms of land and tourism investment; there is a preliminary draft of three proposed Tourist Expansion Areas for classification:

-Elkantara Tourism Expansion Zone; **-**Khanget sidi Nadji tourist expansion areas; - Biskra Tourist Expansion Areas.

RESULTS /ANALYSIS

The SWOT analysis is a strategic analysis tool (Figure 20). It combines the study of the strengths and weaknesses of an organization, of a territory, a sector, etc. with that of the opportunities and threats of its environment, to help define a development strategy (Teddy, 2019). It is a decision-making tool designed to take into account a strategy for developing internal and external factors by maximizing the potentials of strengths and opportunities and minimizing the effects of weaknesses and threats. To interpret the SWOT matrix, we use the following reading grid (Table5):

1. High Strengths/Opportunities: The odds factors are high=> Take advantage of opportunities by building on your strengths.
2. High Forces/Threats: Challenge factors are high=> Use your strength to make a place for yourself.
3. High Weaknesses/Opportunities: Conflict (decision) factors are high=> Neutralize weaknesses to take advantage of opportunities.
4. High Weaknesses / Threats: Risk factors are high => Circumvent difficulties by revising positions or take measures to reduce weaknesses and neutralize threats.

From the matrix analysis, the situation allows to identify the following major issues:

- Review the tourism investment policy in Biskra province by directing tourism projects in tourist expansion area to enhance their initial vocation.
- Improve the hotel offer and the quality of accommodation
- implement the guidance and directives of the SDAT in the field of tourism.

-Value natural and cultural sites by attributing them normative tourist qualities.

-Maintain tourist routes to open up most historic and natural sites. In addition to many archaeological and historic sites, Biskra has diverse natural and environmental potential dated back to different periods, which can be classified under primitive relics, Roman ruins, Islamic antiquities and colonial traces,besides significant and nationally classified religious sites including the tomb and the Mosque of Uqba Ibn Nafi al-Fihri.

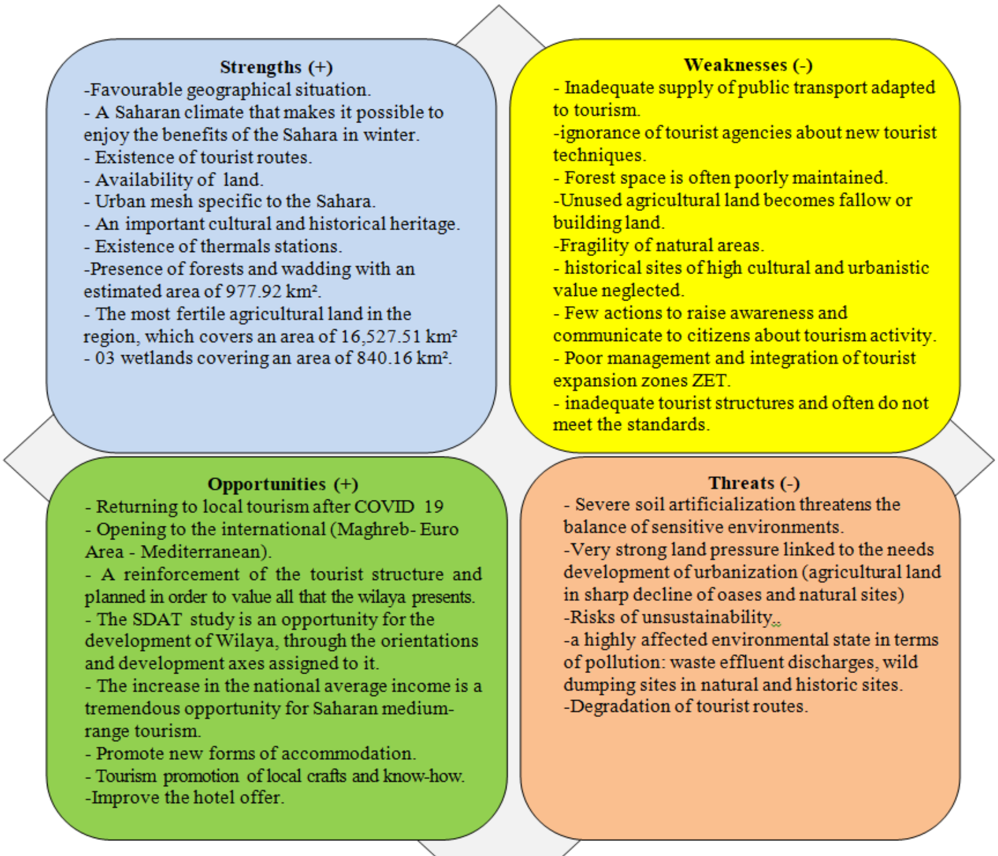

Figure 20. SWOT Analysis (Source: Authors, 2022)

The province of Biskra has different tourism structures including classified and unclassified hotels, in addition to thermal water structures with curative properties. Moreover, travel agencies are a key tool to revitalize tourism in the region.There are many impediments that face tourism sector in the province of Biskra including:

-Pollution which threatens the environmental and natural sites, and present a significant risk to their biological diversity.

- Historic sites abandonment and the absence of security which can frighten the visitors.
- The considerable weakness of front office structures which are not up the level of global services, and they are only specific to lodging and food services.

CONCLUSION

The assessment of the tourism sector in Biskra province needs further efforts for a successful strategic plan that can stand against the impediments of the sector through the implementation of proper plans for the maintenance and the restoration of archaeological sites to protect them from extinction and disappearance (Yankholmes, 2018).

Following the tourist movement in recent years, we note that demand is growing slowly and fluctuating, following the lack of a clear strategy taking into account the elements of tourist attractions (Zuo et al., 2017), in addition to poor services, high prices, lack of promotional campaigns and lack of adequate facilities and incentives for tourists to visit the region.

The province of Biskra is an important touristic area which has distinguished tourist attributes, due to its unique location and its varied history as the diversity of the past civilizations that made it an important tourist pole and a destination for local and foreign tourists (Bouchama, 2018). However, this potential faces many impediments, particularly pollution and abandonment on one hand, and the absence of a serious attempt to advance this sector on the other hand.

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INNOVATION: A MODERATING FACTOR FOR THE EFFECTIVENESS OF DIVERSIFICATION STRATEGIES ON THE SUSTAINABILITY OF HOSPITALITY FIRMS IN NIGERIA

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Abstract: The study aims to examine the effect of innovation as a moderating factor for the effectiveness of diversification strategies on the sustainability of hospitality firms in Nigeria. The study applied a quantitative method involving a survey design. A questionnaire measurement instrument was constructed and deployed on a sample of 104 respondents from 3 four-star hotels in the study area. Confirmatory Factor Analysis (CFA) was used to validate the constructs in the measurement instrument. Multiple regression analysis was used to test the study hypotheses. The results showed that concentric and conglomerate diversification strategies have a significant positive effect on the sustainability of hospitality firms. Also, innovation has a significant positive moderating effect on the relationship between diversification strategies and the sustainability of hospitality firms. Therefore, the study concluded that hospitality firms, particularly hotels should consistently innovate and diversify their services and product to gain market share, customer patronage and improve organizational performance in the long run while also remaining sustainable.

Key words: innovation, diversification strategies, sustainability, hospitality firms, concentric diversification, conglomerate diversification

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INTRODUCTION

Hospitality firms, particularly hotels operate in a dynamic and increasing business milieu with stiff competition and other factors which present significant challenges for hospitality firms to operate sustainably while also maintaining their competitive position in the market and attracting customer patronage. This situation has impeded the performance and sustainability of most hospitality firms. In response to the challenges faced by firms in the hospitality industry, most hotel firms adopted diversification strategies to remain competitive. Despite the potential of diversification strategies in changing the fortune of most hospitality firms who may want to adopt the strategies to improve the business performance by diversifying into related and unrelated business and develop products and services that will expand the firm's market and competitive position, diversification strategies still present significant challenges and uncertainty due to poor evaluation of the market, lack of skill and experience manpower to implement the strategy, lack of production technique and inadequacy of data on these new ventures. However, there is a noticeable paradigm shift in the hospitality industry in Nigeria as most of the firms, particularly hotel conglomerate has in recent decades adopted diversification strategies to diversify into related and unrelated businesses to gain greater market visibility and share as well become more profitable and sustainable. Diversification strategies have over the years become a game-changer for several hospitality firms, due to the potential of diversification strategies in enhancing business growth and sustainability (Omaliko and Okpala, 2022).

Furthermore, most hotels in Nigeria have in recent times diversified into power generation, gas, and beverages production, etc. The adoption of a diversification strategy by hotels has further widened their market share and is present in several industries (Arte and Larimo, 2022). Diversification strategies have been effective in creating new products, services, and markets and enhancing the competitiveness and sustainability of firms that adopted them (Benito-Osorio et al., 2012; Han et al., 2019). Diversification strategy enables enterprises to expand their scope of business and venture into

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related and unrelated businesses to gain a competitive advantage and established market presence. Businesses, particularly hospitality firms spend significantly to diversify to increase the firm performance and sustainability, while also establishing the presents of the company in several sectors and industries (Marinelli, 2011). A diversification strategy enables a firm to assess competitors in the market or industries and develop products and services which will help the company to remain competitive in the market, sustainable, and perform efficiently in the long run (Rubio-Andres et al., 2022). Organizations that desire to diversify their product and services need to consistently adopt innovative techniques in product designs and services that will bring about competitive advantage and improve performance (Benko et al., 2022).

However, most hospitality firms adopt diversification strategies such as concentric, conglomerate, or product diversification to enhance their firm's performance and sustainability. These diversification strategies could be effective and achieve the required results of improving performance, sustainability, and competitive advantage as well as shareholder value if adequately implemented (Singh, 1994). Unfortunately, most enterprises particularly hospitality firms in developing nations, like Nigeria have not been able to effectively apply or implement diversification strategies such as concentric, conglomerate, or product diversification which are capable of increasing business performance and the firm's sustainability (Xie et al., 2022). This situation has been attributed to inadequate evaluation of the market and the business environment to identify products and services that are needed by customers which could attract significant customer patronage after diversification. Furthermore, most hospitality firms fail to carry out adequate feasibility analyses and adhered strictly to the recommendations during the diversification process, leading to poor diversification and undesirable results. Also, due to the lack of skill, experience, and knowledgeable personnel in most hospitality firms, the hotels often fail to include significant details that could aid the implementation of the diversification strategies during the strategy formulation process which impeded the strategy implementation in the long run. Most hotels appear to face challenges of poor implementation of concentric diversification strategy leading to a situation where the firm add unrelated products and market to its current product portfolio, this situation affects workers' performance as employee struggle to perform efficiently. Furthermore, the lack of innovative products and services and poor implementation of conglomerate diversification strategy impeded the performance and sustainability of hotels. Also, the lack of innovation in most hospitality firms affects the diversification effort of hotels and impedes the firm's performance and sustainability. Therefore, the study aims to investigate the effect of innovation as a moderating factor for the effectiveness of diversification strategies on the sustainability of hospitality firms in Nigeria.

LITERATURE REVIEW

The growth or entry into new markets that are distinct from the firm's present product lines or markets is referred to as a diversification strategy (Hoskisson and Hitt, 1990). It is a technique used by top executives to accomplish corporate expansion through the acquisition of new firms to generate above-average returns by capitalizing on new possibilities. Diversification strategy is a technique that is regularly employed to adapt to environmental conditions (Arte and Larimo, 2022). While there are many motivations for a company, particularly a hospitality firm to diversify, the most important is the quest for improved performance and sustainability. Diversification enables businesses to achieve a higher return on investment by pooling resources and spreading capacity (Deepak et al., 2014). Diversification permits a firm to branch out into new business areas that are not related to its current activities. Diversification strategies such as concentric, conglomerate, and product diversification are used by businesses to extend their business functions by bringing new markets, products, services, or phases of manufacturing to their present operations to get better outcomes (Omaliko and Okpala, 2022). When businesses have possibilities incorporated in market structures and technology, as well as the potential for development in their core business, they adopt a diversification strategy (Chatterjee and Singh, 1999). This means that businesses expand into other industries or markets if, after solidifying their positions in their primary industry or market, they still have resources that may be deployed to other industries. Diversification is thought to increase economic advantages by more effectively utilizing corporate resources across various markets (Cavaliere et al., 2019).

Diversification helps businesses to increase their value by broadening the range of markets and sectors in which they compete and expanding their offering to additional clients (Hitt, 1997). Tushman et al. (2010) described diversification as the introduction into new markets with new goods to better grasp the idea. According to Tushman et al. (2010), companies desire diversification primarily for financial reasons. Furthermore, diversification of the company was seen as a way to increase the size of the business, get economies of scale, and promote better operating efficiency of businesses (Xie et al, 2022).

Some hospitality firms' economic success, financial effectiveness, market domination, and risk reduction have all been linked to diversification (Ismail, 2021). Diversification appears to be essential for other types of companies as well, even though much of the current research concentrates on large industrial enterprises. Nerkar and Roberts (2004), for instance, showed that diversification is extremely significant for service businesses. Diversification of products, services, or market operations provides firms with competitive advantages. Its effective execution, nevertheless, necessitates extensive knowledge and a comprehensive evaluation of the company and its surroundings. Even though diversification might be challenging for certain businesses, it is often necessary when their primary markets become unviable. Onsomu (2013), indicated that diversification provides varied results in some cases and that firms are limited in establishing enterprise-wide diversification capability owing to the absence of managerial expertise and abilities. He stressed that if adequate managerial competencies are available to promote the diversification strategy it will enhance its effectiveness. Diversification helps an organization to develop, according to Wheelwright (1987), and diversification purposefully leads the company far from its existing product lines with the ultimate goal of increasing the variety that can be managed by the business. Also, Chai-Aun et al. (2009) stated that diversification enhances the performance of the organization and has the potential of expanding a firm's product portfolio. Han et al. (2019) asserted that diversification includes both reviewing the inputs and the outputs and it helps in the creation of synergy with corporations to improve performance and sustainability of the firm. According to Gerry et al. (2005), this synergy allows for a cumulative return on assets that is higher than the amount of the individual elements. A diversification strategy, according to Gerry et al. (2005), is a corporate growth plan that allows a firm to enter new lines of business that are distinct from its present goods, services, and markets. According to Sahu (2017), firms diversifying into unrelated industries have indeed been able to outperform those with mostly connected operations.

Concentric diversification strategy

Concentric diversification is a type of diversification in which a company acquires or develops new products or services (closely related to its core business or technology) to enter one or more new markets (Gunjan and Rambabu, 2010), or when a company creates goods or services that have been mainly associated to its existing product offerings or market. Concentric diversification, according to Chen and Yu (2012), enlarges the products portfolio by adding new products or services to successfully leverage the potential of current technology and marketing techniques. Furthermore, Chen and Yu (2012) state that strategic fit arises when one or more operations in the supply chain of various companies are sufficiently comparable to provide an opportunity for the diversified organization to be successful in the long run. Concentric diversification is a large-scale approach that entails the administration of a company that gains from the firm’s core strengths. Thompson et al. (2003) stress that when the value chains of various firms present opportunities, it led to low costs by incorporating the effectiveness of associated business processes. Diversification helps the company to benefit from the competitiveness of skills transfer, reduced costs and enhanced performance and sustainability (Cavaliere et al., 2019).

According to Mashiri and Sebele (2014), diversification increases the product portfolio of firms and their competitive advantage. Berry (1995), stresses that diversification increases a firm ability to generate value for its customers by conducting more relationships with existing customers and decreasing business failure. As stated by Thompson et al. (2003), companies with higher comparative market dominance have a more competitive edge. A study by Landi and Venturelli (2001) indicated that diversification improves product and service offering and lead to an increase in the performance of firms. Also, Berry (1995) found a significant influence of diversification on organizational performance.

Conglomerate diversification strategy

Conglomerate diversification is a growth strategy that involves adding new products or services that are significantly different from the organization's present products or services. Conglomerate diversification occurs when the firm diversifies into an area unrelated to the organization’s current business Mashiri and Sebele (2014). Conglomerate diversification may come from synergy through the set of management experience or resources available, although the fundamental goal of conglomerate diversification is to increase the performance of an organization. According to Mishra and Akbar (2007), conglomerate diversification refers to that diversification in which a company goes into a new business that is completely unrelated to the current business of the company or in simple words company develops products or services which have no relation to current core products or services of the company. Investing in conglomerate diversification is a strategy to reduce the risk associated with the company's current activities. There are three major motivations for a firm's decision to adopt conglomerate diversification strategy. According to Gerry et al. (2005), the first rationale is the market–power concept, which holds that if a company grows larger, it will be able to gain a better position. The agency approach is the next one that has been recognized. This is when managers use diversification to improve the firm's position and protect the firm's financial position during times of economic instability. The third rationale, known as the resource view, supports diversification when the business has extra resources that might be put to better use elsewhere. Therefore, conglomerate diversification is vital to ensure that a firm diversifies its products portfolio into an unrelated area to widen the portfolio and the firm’s market and enhance the firm profitability and sustainability (Putri and Pan, 2022).

Innovation

Innovation is a vital process that involved the procedure of turning an idea or invention into goods and services that provide value to a firm (Benko et al., 2022). Innovation, according to Mishra and Akbar (2007), is the way of transforming innovative ideas into products or services. Innovation, according to Phung and Mishra (2017), is an organizational learning process that leads to the development of new and improved ideas. Innovation, according to Christensen and Montgomery (1981), is a prospective new synthesis that leads to the development of knowledge and ideas which improve goods and services in a firm and enhance growth and business performance. As indicated by Wheelwright (1987), innovation is the development of ideas that can be translated into goods and services which enhances the performance and sustainability of firms. According to Hitt et al. (1997), to succeed in innovation, businesses must prioritize consumer demands and satisfy them with creative products and services. He, therefore, defined innovation as the process of bringing new products and services to a target market. Innovative activities introduce new products, create new demand and substitute for old products, thereby enhancing the performance of hospitality firms (Chivandi et al., 2020). Therefore, it is important for hospitality firms to continually innovate while diversifying to produce goods and services that meet customers' desires, expand the firm’s portfolio, improve performance and enhance the sustainability of the firm.

Sustainability

Sustainability has become a critical perspective in managing firms via a holistic approach by considering the economic, environmental, and social dimensions of hospitality firms (Hyasat et al., 2022). With the rising significance of sustainable development, the theories of sustainability in firms have evolved during the past six decades. Though Gray (2010) established that ‘sustainability’ refers to a state, while sustainable development refers to the process for achieving this state. Cella-De-Oliveira (2013) said that sustainability is an approach born outside organizations such that; when it enters the internal ambient it lacks management tools. Therefore, there is little in terms of how to systematically articulate these concepts to become organizational actions and decisions (Han et al., 2019). As such, a set of tools become a necessity for the adequate management of organizational sustainability, and the organizational competence approach has proven to be sufficient, as demonstrated in empirical works (Berry, 1995; Cella-de-Oliveira, 2013; Phung and Mishra, 2017). Meanwhile, Colbert and Kurucz (2007), identify the colloquial definition of sustainability as being to “keep the business going”, whilst another frequently used term in this context refers to the “future-proofing” of organizations.

Dyllick and Hockerts (2002) defined corporate sustainability as meeting the needs of a corporation’s current direct and indirect stakeholders without compromising its ability to meet the needs of future stakeholders as well. Sustainable growth encompasses a business model that creates value consistent with the long-term preservation and enhancement of financial, environmental, and social capital. In that context, the Chartered Institute of Personnel and Development (CIPD, 2012, P.17) therefore said that: the essence of sustainability in an organizational context is “the principle of enhancing the economic, environmental and societal systems within which a business operates”. Therefore, Cella-De-Oliveira (2013), stresses that Economic sustainability must guarantee sufficient liquidity cash flow, by producing an average return for its stockholders. Therefore, it becomes pertinent for firms to adopt diversification strategies to diversify into the related and unrelated products, services, or markets to enhance the performance and sustainability of the firm.

The study aims

The research aimed to investigate the effect of innovation as a panacea for the effectiveness of diversification strategies on the sustainability of hospitality firms in Nigeria. The specific aims of the research include:

1. To examine the effect of concentric diversification strategy on the sustainability of hospitality firms in Nigeria s.
2. To investigate the effect of conglomerate diversification strategy on the sustainability of hospitality firms in Nigeria.
3. To examine the moderating effect of innovation on the relationship between diversification strategies and the sustainability of hospitality firms in Nigeria.

Hypotheses formulation

Ho$_1$: Concentric diversification strategy does not have a significant effect on the sustainability of hospitality firms in Nigeria.

Ho$_2$: Conglomerate diversification strategy does not have a significant effect on the sustainability of hospitality firms in Nigeria.

Ho$_3$: Innovation does not have significant moderating effect on the relationship between diversification strategies and the sustainability of hospitality firms in Nigeria.

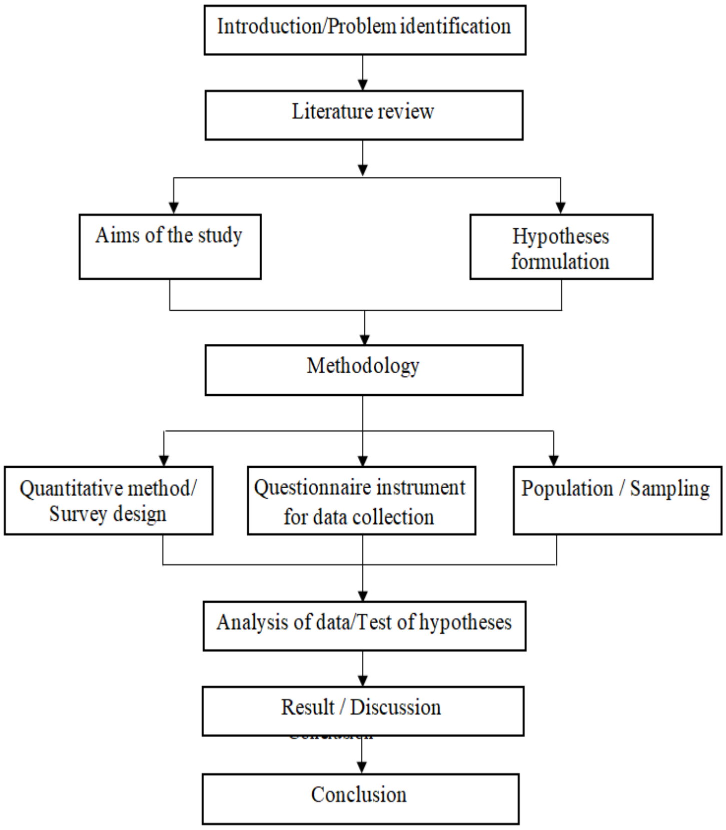

Figure 1. Flowchart of the research

MATERIALS AND METHODS

The study applied a quantitative method involving a survey design to investigate the influence of innovation as a panacea for the effectiveness of diversification strategies on the sustainability of hospitality firms in Nigeria. The population of the study was the entire 104 employees from 3 four-star hotels in Cross River State, Nigeria. The sampling technique adopted for the study was the census method. Since the study adopted the census method, the criteria were to select all the three four-star hotels in the study area. The rationale for this sampling method/criteria for selection was to enable all the 104 employees from the three hotels in the study area to have full and equal participation in the study. Based on the survey method employed for the research, a questionnaire instrument was developed on the variables of the research and conveniently distributed to the sampled 104 employees in the hotels included in the study. The questionnaire instrument was developed to cover the variables of the study; innovation; diversification strategies measured by (concentric and conglomerate diversification) and sustainability of hospitality firms.

A total of 104 copies of the questionnaire instrument were produced and administered in the three selected hotels. However, 80 copies of the instrument representing 77 percent were retrieved. The first version of the questionnaire measurement instrument comprised 24 items measuring the four variables: Innovation (Inn), Concentric Diversification (ConcentD), Conglomerate Diversification (CongD), and Sustainability (Sust). In conducting the Confirmatory Factor Analysis (CFA) to test if the measures of the variables are consistent with the aim of the study and to validate the measurement instrument, the Composite Reliability (CR), Standardized Factor Loadings (SFL), Average Variance Extracted (AVE) and Cronbach's alpha coefficients with values of 0.70 or higher were used (Hair et al., 2010). After conducting the CFA analysis, six items were deleted, two each from (Inn) and (ConcentD), and one each from (CongD) and (Sust) variables respectively due to low factor loadings. The remaining 18 items were retained and used in the study. Multiple regression analysis was used to test the study hypotheses and to establish the influence of innovation as a moderating factor for the effectiveness of diversification strategies on the sustainability of hospitality firms in Nigeria.

RESULTS

Table 1 presents the summary of descriptive statistics (means, standard deviations (SD), and correlation matrix) for the study constructs. As indicated in Table 1, the means were well above 2.5 and the standard deviation was all below one in (innovation, concentric diversification, conglomerate diversification, and sustainability respectively indicating a good response and clustered around the mean. Also, Table 1 indicated a satisfactory and acceptable discriminant validity of the variables since the square root of AVE between any two variables was higher than the variance between the variables and other constructs as well as their corresponding intercorrelations (Fornell and Larcker, 1981).

Table 1. Summary of descriptive statistics (mean, standard deviation and correlation matrix)

VARIABLES	Mean	SD	1	2	3	4
Innovation (Inn)	4.413	0.563	**0.887**			
Concentric Diversification (ConcentD)	4.493	0.654	0.443	**0.846**		
Conglomerate Diversification (CongD)	4.310	0.532	0.404	0.386	**0.877**	
Sustainability (Sust)	4.261	0.712	0.421	0.433	0.437	**0.884**

Table 2 presents the summary results of the CFA for the measurement instrument. The constructs evaluated in the analysis were diversification strategies (concentric diversification and conglomerate diversification), innovation, and sustainability of the hospitality industry. In conducting the CFA analysis, SFL higher than (>.70), AVE (>.50), CR (>.50), and Cronbach Alpha of .70 or higher were used to evaluate the measurement instrument (Hair et al., 2010; Kline, 2015). However, the results of the CFA in Table 2 indicated SFL for the variables in the study, Inn variable had an SFL range of (0.813-0.901), ConcentD (0.811-0.888), CongD (0.821-0.916), and Sust (0.822-0.921) respectively. Also, the model indicated a CR range of (0.874-0.893), AVE (0.777-0.793), and Cronbach Alpha range of (0.865-0.893) (Hair et al., 2010; Kline, 2015). Also, the goodness of fit indices of the measurement model was examined using RMSEA (<0.08), CMIN/DF (<3), CFI (> 0.9), and GFI (>0.9) (Hair et al., 2010; Kline, 2015). The results in Table 2 indicated the following indices (RMSEA 0.073; CMIN/DF 2.891; CFI 0.937 and GFI 0.902) for the study constructs (ConcentD, CongD, Inn, and Sust) respectively, which indicated the goodness of fit of the model and was satisfactory and acceptable.

Table 2. Summary of CFA results for the measurement instrument

Variables	Items Codes	SFL	AVE	CR	Cronbach Alpha	Collinearity Statistics Tolerance	VIF
Innovation (Inn)	Inn	0.901					
	Inn	0.866					
	Inn	0.813	0.784	0.874	0.865	.433	1.447
	Inn	0.822					
Concentric Diversification (ConcentD)	ConcentD	0.811					
	ConcentD	0.843					
	ConcentD	0.888	0.793	0.893	0.893	.448	1.489
	ConcentD	0.817					
Conglomerate Diversification (CongD)	CongD	0.899					
	CongD	0.916					
	CongD	0.855	0.745	0.887	0.867	.446	1.501
	CongD	0.821					
	CongD	0.911					
Sustainability (Sust)	Sust	0.842					
	Sust	0.822					
	Sust	0.862	0.777	0.879	0.887	.449	1.436
	Sust	0.863					
	Sust	0.921					
	Summary of model fit indexes						
	CMIN/DF		RMSEA		CFI	GFI	
	2.891		0.073		0.937	0.902	

Note: RMSEA=Mean Square Error of Approximation; CMIN/DF=Chi-Square / degree of freedom=CFI; Comparative Fit Index; GFI=Goodness of Fit Index

In assessing the results of the collinearity statistic, Tolerance value (>0.2) and Variance Inflation Factors (VIF <5.0) were used (Hair et al., 2010). The result in Table 2 showed that the obtained tolerance values range from (.433-.449) and VIF (1.436-1.501), which was satisfactory and acceptable.

Table 3. Model summary for diversification strategies and sustainability

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.785[a]	.748	.747	1.213
a. Predictors: (Constant), ConcentD, CongD				
b. Dependent Variable: Sustainability				

Table 4. ANOVA result for diversification strategies and sustainability

ANOVA[a]						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	4283.041	3	4283.041	212.084	.000[b]
	Residual	1534.851	76	20.195		
	Total	5817.892	79			
a. Dependent Variable: Sustainability						
b. Predictors: (Constant), ConcentD, CongD						

Table 3 present the result of the model summary for diversification strategies and sustainability. The Adjusted R2 showed that the model was able to explain 74.7 percent of the variations in the sustainability of hospitality firms with the remaining 25.3 percent not explained by the model. The significance of the model demonstrated by the ANOVA F-test in table 4 revealed a value of 212.084 and was found to be significant at 0.05 (p=0.000) thus establishing the validity of the model. Also, the results of the standardized coefficients Beta in table 5 were 0.238 and 0.102 for concentric and conglomerate diversification strategies respectively, indicating that a 1 percent increase in these constructs, will increase the sustainability of hospitality firms by 0.238% and 0.102% respectively. The model coefficients result show that the t-tests of the constructs had a p-value that was less than 0.05 (p=0.000) in concentric and conglomerate diversification strategies respectively, indicating that the two diversification strategies constructs used in the study had a statistically significant impact on the sustainability of hospitality firms. Based on these results the relationship between whether or not the sustainability of hospitality firms is influenced by diversification strategies was significant at p=0.000. Therefore, the null hypotheses were rejected and it was concluded that concentric diversification strategy has a significant positive effect on the sustainability of hospitality firms. Also, conglomerate diversification strategy has a significant positive effect on the sustainability of hospitality firms.

Table 5. Coefficient result for diversification strategies and sustainability

		Coefficients[a]				
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3.624	.61020		-4.175	.000
	Concentric diversification	.451	.021	.238	11.286	.000
	Conglomerate diversification	.181	.031	.102	4.416	.000

Dependent Variable: Sustainability Sig. @ p<0.05

Table 6. Model summary for the moderating effect of innovation on diversification strategies and sustainability

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.826[a]	.767	.766	.68585	.767	743.075	3	76	.000
2	.833[b]	.781	.780	.64477	.013	55.867	1	78	.000
a. Predictors: (Constant), ConcentD, CongD; b. Predictors: (Constant), ConcentD, CongD									

Table 7. ANOVA result for the moderating effect of innovation on diversification strategies and sustainability

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1608.136	3	1608.136	462.506	.000[b]
	Residual	264.257	76	3.4770		
	Total	1872.393	79			
2	Regression	1636.304	4	1636.304	542.901	.000[c]
	Residual	226.101	75	3.014		
	Total	1862.405	79			
a. Dependent Variable: Sustainability; b. Predictors: (Constant), ConcentD, CongD c. Predictors: (Constant), ConcentD, CongD						

Table 8. Coefficients result for the moderating effect of innovation on diversification strategies and sustainability

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.072	.511		-8.672	.000
	Concentric diversification	1.157	.131	.182	8.071	.000
	Conglomerate diversification	2.408	.114	.431	16.617	.000
2	(Constant)	-8.182	.607		-12.228	.000
	Concentric diversification	1.147	.121	.178	8.384	.000
	Conglomerate diversification	2.036	.112	.432	14.527	.000
a. Dependent Variable: sustainability						

Table 6 presented the model summary for the moderating effect of innovation on diversification strategies (concentric and conglomerate diversification) and sustainability. The R Square Change column demonstrated an increase in variation explicated by the addition of the moderating variable (innovation). The result shows that the R square change for models 1 and 2 were 0.767 and 0.013. This result indicated that there is a 76.7 and 1.3% change in the effect of diversification strategies when innovation is introduced in the hospitality firms (hotels). The Sig. F Change column revealed that this change is statistically significant at (p = 0.000 < 0.05). However, the adjusted R square shows that the model accounted for 78% and 76.6% effect on the sustainability of hospitality firms when innovation is introduced in the hotels. The significance of the model demonstrated by the ANOVA F-test in Table 7 revealed a value of 462.506 and 542.901 for models 1 and 2 respectively and was found to be significant at 0.05 (p=0.000) thus establishing the validity of the model.

Furthermore, the Beta values in Table 8 were (0.82, 0.431) and (0.178, 0.432) for concentric and conglomerate diversification strategies respectively, in models 1 and 2, indicating that a 1 percent increase in these constructs after the introduction of innovation, will increase the sustainability of hospitality firms by 0.82%, 0.431%, 0.178%, and 0.432% respectively. The model coefficients result show that the t-tests of the constructs had a p-value that was less than 0.05 (p=0.000) in concentric and conglomerate strategies in models 1 and 2 respectively. Based on this result, the null hypothesis was rejected and it was concluded that innovation has a significant moderating effect on the relationship between diversification strategies and sustainability of hospitality firms in Nigeria.

DISCUSSION

The results of the study further showed the importance of innovation as a moderating factor for the effectiveness of diversification in hospitality firms. From the test of the hypotheses, the result indicated that concentric diversification has a significant positive effect on the sustainability of hospitality firms in Nigeria. The finding implied that hospital firms (hotels) that consistently innovate while diversifying into related and unrelated products, services, or markets may remain more sustainable. The result was consistent with previous studies. For instance, the findings from the study of Arte and Larimo (2022) found that diversification has a significant relationship with the performance of firms. Also, Gunjan and Rambabu (2010) found that a concentric diversification strategy significantly influences the performance of service organizations. Corroborating the finding of the study, Berry (1995) study found that diversification strategy impacts the performance of organizations as well as profitability. Also, the research conducted by Landi and Venturelli (2001) found that diversification enhances organizational performance. This finding implies that hospitality firms that adequately carry out concentric diversification could increase their organizational performance and sustainability in the long run. Omaliko and Okpala (2022) indicated that corporate diversification has a significant influence on the sustainability of firms.

Similarly, the study found that conglomerate diversification strategy has a significant positive effect on the sustainability of hospitality firms. This finding was reached after the test of the hypotheses revealed a p-value that was less than 0.05 ($p=0.000$) across the dimensions of diversification strategies utilized in the research, indicating a statistically significant positive effect of the two constructs of diversification on the sustainability of hospitality firms. This finding was supported by Xie et al. (2022) who found that financial diversification enhances the sustainability of firms. Also, Chandan (1987) found that diversification strategy has a significant positive influence on organizational performance. The outcome of the research was also supported by the findings of Thompson et al. (2003) who found that intra-industry product diversification influences firms' performance. Also, the finding was supported by the study of Nastase and Hotaran (2011) who found that diversification strategies enable firms to gain new markets and expand the business scope as well as enhance the firm performance. Han et al (2019) indicated that effective diversification strategies enhance the financial sustainability of firms.

Finally, from the test of hypothesis three, it was found that innovation has a significant positive moderating effect on the relationship between diversification strategies and the sustainability of hospitality firms. This finding was reached after the Sig. F Change reveals a statistically significant effect of innovation on the regressand constructs ($p = 0.000 < 0.05$). The model showed that with the introduction of the moderator (innovation), diversification strategies increase the sustainability of hospitality firms by 78% and 76.6% respectively as indicated by the adjusted R-square. This implies that innovation plays a vital role in enhancing the effectiveness of diversification to related and unrelated products, markets, or services in hospitality firms in Nigeria. The finding was supported by Rubio-Andres et al. (2022) who found that innovation enhances share value and sustainable growth and performance in a firm. Also, Mishra and Akbar (2007) study found that innovation has a significant mediating effect on diversification strategies and the performance of manufacturing firms' nexus. Corroborating the findings were Hoskisson and Hitt (1990) who found that innovative products diversification relates to hospitality firms' performance. This finding implied that effective innovation of products and services of hospitality firms (hostels) will consequently enhance the performance, customer patronage, and sustainability of the hotels in Nigeria. Also, Cavaliere et al. (2021) indicated that innovation plays a vital role in enhancing business portfolio diversification and performance.

CONCLUSION

Hospitality firms the world over strive to remain competitive, profitable, and sustainable. To this end, proper diversification of goods and services in hospitality firms (hotels) becomes imperative to enhance performance and sustainability in the industry. It is obvious from this study that concentric and conglomerate diversification strategies significantly and positively influence the sustainability of hospitality firms in Nigeria. Hospitality firms and other businesses can grow and remain competitive by implementing diversification strategies.

This is because diversification increases a firm's product and service delivery thereby improving sales growth of the enterprise, profitability, and sustainability. Furthermore, offering unique products through diversification enhances customers' patronage and the market share of hospitality firms. Hospitality firms gain new market niches by diversifying into businesses that improve the overall performance of a firm. It is important for hospitality firms (hotels) to consistently diversify its product and services through the adoption of concentric and conglomerate diversification strategies to improve performance, productivity, and sustainability. Therefore, it becomes pertinent that hospitality firms, particularly hotels consistently innovate and diversify their services and products to gain markets share, customer's patronage and improve organizational performance in the long run while also remaining sustainable.

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DEVELOPING A MODEL OF SUSTAINABLE DEVELOPMENT GOALS (SDGs) AT THE AGROPOLITAN-BASED ORO-ORO OMBO TOURISM VILLAGE

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Abstract: This study examines the agropolitan-based Oro-Oro Ombo Tourism Village. It aims to (1) determine the potential, (2) analyze 4-A (attraction, accessibility, amenities, and ancillary) in the development, and (3) know the achieved Village Development Index (Indeks Desa Membangun – IDM) based on the parameters of Sustainable Development Goals (SDGs) in 2021 of the village. This quantitative-descriptive study used primary data (field observations, measurements, and interviews) and secondary data (study of previous research and information from related agencies such as the Central Bureau of Statistics and Tourism Office). The data were processed using descriptive statistics from the Analysis of Operational Area of Natural Tourism Attractions and Objects (Analisis Daerah Operasional Objek dan Daya Tarik Wisata Alam – ADO-ODTWA), which was converted using scoring and single tabulation techniques. The ADO-ODTWA results show that Oro-Oro Ombo has potential tourist attractions, and based on the 4-A analysis, this tourism village has excellent local potential. These results are relevant to the IDM of Oro Oro Ombo that is 0.9981. Based on the explanation above, it shows that sustainable development in agropolitan tourism villages cannot be separated from stakeholders (government, local communities, and private parties) to optimize the local potential of the region and improve the economy and welfare of the community to achieve Indonesia's 2021 Sustainable Development Goals.

Key words: sustainable development goals, local potentials, tourism village, agropolitan

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INTRODUCTION

Tourism development plays an essential role in the development of an area. Tourism activities can stimulate the growth of basic and local tourism potential so that the region develops better (Sumarmi et al., 2020). One of the effective solutions to increase employment (Dwiningwarni et al., 2021) and income (Martini, 2020) is the development of a tourism village that will ultimately improve the community's economy (Wijijayanti et al., 2020). In addition, the development of a tourism village can help improve access to the village to benefit the local community (Herdianawati, 2020). Therefore, developing a sustainable tourism village has a high urgency, especially in areas with local potentials. The development of tourism villages based on local potential is increasingly needed. The existing local potentials offer better economic quality but lower risk and cost so that it provides more uncomplicated planning than to build new attractions (Egbali et al., 2011). Those conditions encourage the emergence of growth centers in economic activity (Tambunan et al., 2021), diversification of economic activities and livelihoods (Ćurčić et al., 2021), industrial and trade development (Triyuni et al., 2021), a new market for local agriculture commodities, as well as better regional economic base (Xuyan and Na, 2021).

Besides, a village is rich in natural and cultural resources (Rahayuningsih et al., 2016), so the opportunity to develop a tourism village is greater by paying attention to sustainable local values (Pavel, 2013). Previous related studies have shown that rural tourism generates various needs, aspirations, and attitudes of tourists towards local communities (Wang and Pfister, 2006). Rural tourism has been proven to increase tourist visits and become one of the drivers of economic growth (Wang and Lalrinawma, 2016). By comparing the availability of tourist attractions, accommodation, facilities, and human resources, the development opportunities of each tourism village are diverse and varied (Wijaya et al., 2020) for

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better tourism services (Paresishvili et al., 2017). Tourism village is one form of community-based and sustainable tourism development implementation. A tourism village is a form of tourism where a small group of tourists stays in or near traditional life, such as in remote villages, to study rural life and the local environment (Leonady et al., 2021). Tourism village development emphasizes developing or advancing the village through tourism activities (Hakim et al., 2018). More specifically, the development of a tourism village can be interpreted as an effort to complete and improve tourism facilities to meet the needs of tourists. As a form of rural tourism, tourism villages can provide many benefits for local communities to develop various local resources (Komariah et al., 2018), one of which is the tourist attractions offered.

The attractions in tourism villages are unique and oriented to the typical village activities. In a tourism village, there are 1) uniqueness and authenticity of the tourist attractions; 2) strategic location and accessibility to other famous places; 3) values, culture, and ethics of local community; and 4) regional growth opportunities, both in terms of basic infrastructure and other facilities (Pantiyasa and Supartini, 2017). The study of rural tourism either in Indonesia or international scope is relatively new. The first publications appeared just as rural tourism started its major growth in the late 1980s. Initially, the purpose of the study was instrumental—to understand how tourism can be a good tool for rural development (Nordbø, 2018; Ohe, 2008). The study of rural tourism continues to develop in following the behavior and demand of tourists for tourism objects and attractions (Singgalen and Simange, 2018). In line with the typology of tourism village development, this has received much attention from experts regarding the causal effect on socio-economic phenomena (Yu et al., 2018), service quality (Dewi, 2013), new demand analysis, political implications (Krisnani and Darwis, 2015) and gender issues. On the other hand, several studies (Sidik, 2015) have focused on rural tourism development in the long and medium term. Still, only a few have focused on developing local potential in tourism and other sectors in recent years. This condition is also affected by the juridical power as the functional management of local potential.

The development of local potential and rural tourism in Indonesia refers to the Regulation of the Ministry of Village, Development of Disadvantaged Regions, and Transmigration of Republic of Indonesia Number 13 of 2020 concerning the use of village funds in 2021, which contains 18 development goals and targets through the village Sustainable Development Goals (SDGs), namely (1) no poverty; (2) no hunger; (3) healthy and prosperous; (4) good education; (5) gender equality; (6) clean water and sanitation; (7) clean and renewable energy; (8) employment and economic growth; (9) innovation and infrastructure; (10) equality; (11) sustainable settlement area; (12) environmentally-aware consumption and production; (13) climate change and control; (14) marine ecosystem; (15) land ecosystem; (16) peaceful and just; (17) partnership for village development; and (18) dynamic village institutions and adaptive village culture. The strong point of village SDGs lies in point 18, where village development must be based on the local wisdom of the local culture. Localizing the global SDGs into the village context eases the implementation and the control from the central government to the village. In this study, the 18 SDGs priorities above are limited to (1) clean water and sanitation; (2) sustainable settlement areas; (3) environmentally-aware consumption and production; (4) climate change and control; (5) land ecosystem; (6) partnership for village development; and (7) dynamic village institutions and adaptive village culture. This limitation is related to the research objectives, which are to (1) determine the potential of agropolitan-based Oro-Oro Ombo Tourism Village; (2) analyze 4-A (attraction, accessibility, amenities, and ancillary) in its development; and (3) know the achieved Village Development Index (*Indeks Desa Membangun* – IDM) based on the parameters of SDGs in 2021.

MATERIALS AND METHODS

Research Design

This study employed a quantitative descriptive method. A quantitative descriptive study uses a numerical approach to describe the data through textual depiction (Rukajat, 2018). There are two types of data in this study. The first is primary data obtained through observation, measurements, and interviews. Then there were data in the form of literature studies (data publications) from related agencies such as the Central Bureau of Statistics and the Tourism Office and documents issued by the Government of Batu City. Secondary data is needed as an alternative solution to provide a new perspective and overcome biased research results (Johnston, 2014).

Research Locations

This study took place in the administrative area of Oro-Oro Ombo Village, Batu City, Indonesia. Oro-Oro Ombo is located at an altitude of 850-970 meters above sea level (Jadid et al., 2020) with an astronomical location of 07°53’40.6552” south latitude - 112°32’00.4776” east longitude. Physiographically, Oro-Oro Ombo (16.92 km^2) stretches from Mount Panderman to the center of Batu City, with a flat and hilly topography (Idajati et al., 2021). This varied spatial distribution impacts the land use, dominated by local potentials such as agriculture and tourism. Based on the regional geological map of Indonesia, Oro-Oro Ombo is included in the Qv (n, p) geological formation unit, which means upper quarter volcanic rock with volcanic material such as volcanic breccia, tuff breccia, lava, and tuff of Mount Penanggungan and Mount Panderman. The complexity of such physical and non-physical attributes becomes a research consideration so that Oro-Oro Ombo is selected as a model for Sustainable Development Goals (SDGs) in optimizing the local potential of agropolitan-based tourism villages.

Research Instrument

The research instrument of this study were observation sheets, interview guidelines, and questionnaires. Analysis of Operational Area of Natural Tourism Attractions and Objects (*Analisis Daerah Operasional Objek dan Daya Tarik Wisata Alam* – ADO-ODTWA) was also used to find out the potential in the village. As for the instrument to do factual verification, this study used indicators and criteria for tourism villages, including 1) biological or natural variables, 2) physical environment variables, 3) cultural variables, 4) amenities or infrastructure variables, 5) institutional variables, 6) human resources variables, 7) attitudes and community life variables, and 8) accessibility variables. The management data of tourism villages was obtained using the 4-A instrument (attraction, accessibility, amenity, and ancillary). The results of the analysis and measurement of those parameters are classified into primary research data. In addition, the research results were supported by using secondary data through a literature study on the achievement of IDM based on the 2021 SDGs parameters using the data from the achievement report of the village submitted by the Ministry of Villages of the Republic of Indonesia.

Research Data Analysis Techniques

The data analysis technique is taken to obtain results based on collected analyzed with established techniques. Data analysis is an essential step in research activities (Sun et al., 2020). The initial activity was carried out by examining the potential attractions in the tourism village through observation, measurement, and interviews. This study used a scoring index and presented a single tabulation to understand the results of observations and measurements. The steps taken include 1) collecting field data through observation, measurement, and interviews; 2) scoring the data obtained based on the specified parameters; 3) entering the scoring results into the tabulation matrix for result verification; 4) identifying and classifying the scoring results, and 5) drawing conclusions based on predetermined criteria.

Figure 1. Data Measurement Technique (Source: Research analysis, 2021)

RESULTS AND DISCUSSION

Local Potential of Agropolitan-based Oro-Oro Ombo Tourism Village

Oro-Oro Ombo Village is located at the foot of Mount Panderman with beautiful panoramas, making it a unique attraction for tourists. Oro-Oro Ombo is a village in an urban area with an altitude of 850-970 meters above sea level, with an average annual rainfall of 2000-3000 mm, an average wet month of seven months, and an average dry month of five months (Jadid et al., 2020). The average temperature in this village is between 24^0C – 26^0C (Mahfud et al., 2020). Administratively, Oro-Oro Ombo is located in Batu City, Indonesia. This village is divided into three hamlets, namely Krajan, Gondorejo, and Dresel. In general, the land in Oro-Oro Ombo is dominated by dry land with the primary commodity of oranges, vegetable crops, Napier grass for animal husbandry, and pine forest (Figure 1). Oro-Oro Ombo is also designated as the center for City Area Zone I (*Bagian Wilayah Kota* – BWK), with the main function of supporting any tourism activities (Idajati et al., 2021).

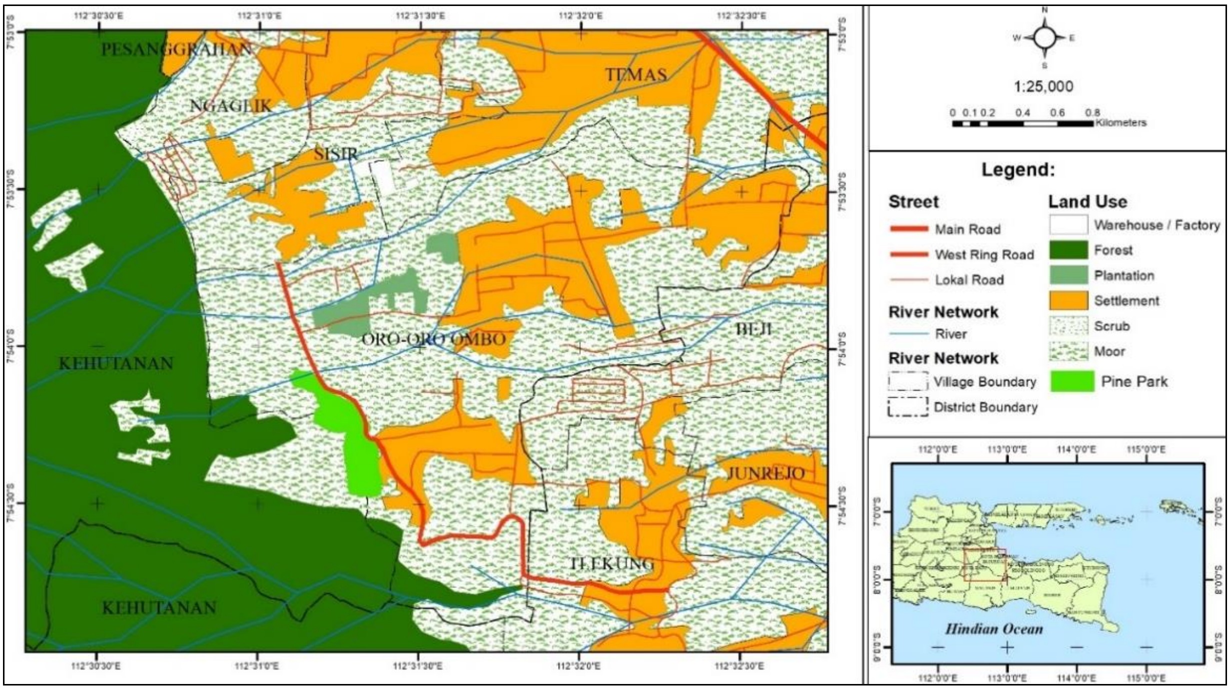

Figure 2. Land Use Map of Oro-Oro Ombo Village (Source: Yandex Maps, PODES East Java, Authors documentation, 2021)

The main livelihoods of Oro-Oro Ombo people are farmers and dairy farmers. As the area with the highest number of breeders (591 households), each breeder in Dresel has a minimum of three to 30 livestock with total milk production of around 4,000 liters per day. The milk is collected by the Local Cooperative Unit (*Koperasi Unit Daerah* – KUD) of Batu City to be made into pasteurized milk. Therefore, Oro-Oro Ombo is very famous for its cow's milk. These milk products are massively distributed to several tourist destinations in Batu City. In addition, Batu City, with an agropolitan-based urban area development, supports Oro-Oro Ombo through tourism village activities based on agricultural and forestry commodities.

Figure 3. (a) homestay integrated with orange plantation(b) and (c) Oranges Plantation Oro-Oro Ombo Village Homestay, Batu City (Source: Research documentation, 2021)

Figure 4. (a) Agricultural Land for Fodder and (b) Cow Cages in Oro-Oro Ombo Village, Batu City (Source: Research analysis, 2021)

Analysis of ADO-ODTWA and 4-A in the Development of Local Potential of Agropolitan-based Oro-Oro Ombo Tourism Village

The development of a tourism village requires an assessment instrument to determine the level of development. The assessment instrument will later become a guideline to develop the tourism village. Based on this matter, the strengths and weaknesses of a tourism village can be identified to be an evaluation tool in regional planning and development. This study used ADO-ODTWA guidelines and tourism village assessment criteria developed by Arida and Pujani (2017). Moreover, the collected data include nature (biological), physical environment, culture, amenities or infrastructure, institutions, and accessibility. The data regarding the village criteria were obtained through field observations and interviews. The interviews were conducted on selected informants by purposive sampling using a deep interview technique. The data needed were: 1) attractiveness, 2) accessibility, 3) conditions around the area, 4) accommodation, 5) facilities and infrastructure, and 6) clean water availability. Based on the analysis of existing local potentials, Table 1 above shows that the three research sites are Very Fit to develop into a tourism village. However, Village 2 has the lowest score on attractiveness compared to Village 1 and Village 3.

Table 1. Results of ADO-ODTW Assessment at Oro-Oro Ombo Tourism Village (Source: Research analysis, 2021)

No	Parameter	Scores	Index (%)
1	Attractiveness	990	91.67
2	Accessibility	600	85.71
3	Conditions around the area	675	75.0
4	Accommodation	90	100
5	Facilities and infrastructure	240	80.0
6	Clean water availability	720	80.0
Total		3300	83.12
Very Fit			

Table 2. Results of Local Potential Assessment at Oro-Oro Ombo Tourism Village (Source: Research analysis, 2021)

No	Parameter	Scores	Index (%)
1	Biological or natural potential	31	83.78
2	Physical environment	32	82.05
3	Culture	42	73.68
4	Amenities	18	94.74
5	Institutions	15	83.33
6	Human Resources	16	100.00
7	Attitudes and community life	23	85.16
8	Accessibility	9	75.00
Total		186	82.67
Highly Potential			

Table 3. Results of 4-A Assessment at Oro-Oro Ombo Tourism Village (Source: Research analysis, 2021)

No	Parameter	Scores	Index (%)
1	Tourist attractions	26	86.67
2	Accessibility	9	75.00
3	Amenities	18	94.74
4	Ancillary/facilities	20	100.00
Total		73	90.12
Very Good			

Table 4. Community Organizations at Oro-Oro Ombo (Source: Research analysis, 2021)

No	Community Organizations	Number of Groups
1	Clean Water Business Association	1
2	Street Vendors Association	1
3	Farmers Group	9
4	*Posyandu*	7
5	Local Forest Community Group	1
6	Joint Farmer Groups	2
7	Youth Organization	1
8	Homestay Association	3
9	Community Information Group	1
10	*Pokdarwis*	1
11	Religious Organizations (NU, Anshor, Remas, Fornita)	4

Table 5. 2021 IDM of Oro-Oro Ombo Village Source: 2021 IDM, Rank 1: Oro-Oro Ombo Village, Batu City, East Java

No	Composite Index	Dimension	Indicator Device	Indicator per Item	Score
1	Social Resilience Index	Health	Health Service	Nearest health facility (distance)	1
			Community Empowerment for Health	Access to village maternity clinics or *Posyandu*	1
				The activity level at *Posyandu*	1
			Health Insurance	BPJS (health insurance) participation rates	1
		Education	Access to Primary and Secondary Education	Access to primary school < 3 km	1
				Access to secondary school < 6 km	1
				Access to senior high school < 6 km	1
			Access to Non-Formal Education	Pre-school activities	1
				Community learning services	1
				Course activities	1
			Access to Public Knowledge	Community reading park or village library	1
		Social Capital	Social Solidarity	The habit of cooperation (*gotong royong*)	1
				Public space	1
				Sports group	1
				Sports activities	1
			Tolerance	Ethnic diversity	1
				Daily language	1
				Major religion	1
			Sense of Security	Security post	1
				Community participation at the security system	1
				Mass fight	1
			Social Welfare	School for people with special needs	1
				Street children and beggars	0.8
		Settlement	Access to Clean Water	The majority of the people have a source of clean water	1
				Access to bath and wash	1
			Access to Sanitation Facilities	The majority of the people have latrines	1
				Landfills	1
			Access to Electrical Facilities	Households that have access to electricity	1
			Access to Communication Facilities	Cell phones and strong signal	1
				Internet access to the village office	1
				Community internet access	1
2	Economic Resilience Index	Production diversity	Production diversity	There is more than one type of community economic activity	1
		Trading	Trading center	Access to trading centers (shops and markets)	1
		Distribution access	Logistics distribution access	Post office and logistic service	1
		Credit access	Access to financial and credit institutions	Banking institutions	1
				Access to credit for residents	1
		Economic institutions	Economic institutions	Economic institutions, like cooperatives and Village-owned Enterprises (*Badan Usaha Milik Desa*- BUMDES)	1
				Small and medium enterprises such as restaurants and hotels	1
		Openness	Openness	Modes of transportation with regular routes and operating hours	1
				Nearest health facilities	1
				Roads for motors, cars, or other four-wheeled vehicles	1
				Village road quality	1
3	Environmental Quality Index	Environmental quality	Environmental quality	Water, soil, and air pollution	1
		Disaster potential and response	Disaster potential	Natural disasters such as floods, landslides, forest fire	1
			Disaster response	Efforts or actions towards potential natural disasters	1

Table 2 confirms that the three hamlets in the research area have local potential to develop into tourism villages. However, Village 2 has the potential value of culture, physical environment, institution, as well as attitudes and community life lower than Village 1 and Village 3. Referring to the results of the analysis and studies that have been carried out, it can be said that the villages in Batu City have very potential local wealth.

Therefore, it is very feasible to be developed into a tourist destination or a tourism village. Besides the potential, the assessment of 4-A also shows that the villages in Batu City are at a very good level.

IDM Achievement based on the 2021 SDGs Parameters

In general, the facilities and infrastructure of Oro-Oro Ombo Village have reached the fit criteria. Basic infrastructure such as educational institutions like primary school is available on three hamlets with Krajan as the village center. In addition, Krajan also has other educational facilities in the form of secondary school. Then, in terms of health infrastructure facilities, there are seven Integrated Healthcare Posts (*Pos Pelayanan Terpadu* – Posyandu), namely Melati 1 to Melati 7. Hence, the health infrastructure in Oro-Oro Ombo can be said to be fit and proper. Such conditions can also be seen through the availability of space for community gatherings such as Community Hall or *Balai RW*. Another massive development as one of IDM parameters is the availability of worship infrastructure as the implementation of religious learning programs. Some of the organizations in Oro-Oro Ombo are listed in the following table. The historical review of Oro-Oro Ombo Village shows that the village was a fairly large area (vacant land) used as a gathering place for Mataram Kingdom officials to rest during their journey (Profil Desa, 2010).

Oro-Oro Ombo Village is located at the foot of Mount Panderman with beautiful panoramas and breezy air that attracts everyone on their way to rest in this place. With the construction of the BNS (Batu Night Spectacular) tourism site, there was an agreement regarding converting village agricultural land (Obot and Setyawan, 2017). This has made the land of the eight villages turn into artificial tourism and become new tourist destinations. Currently, many residents work as traders, while farming is only done by landowners or farmers who work on other people's land.

Along with the development of artificial tourism, vacant land in the village is converted into houses, villas, or homestays rented out to tourists. From year to year, the land price in Oro-Oro Ombo, the plantation areas, soars due to the high growth of public settlements. The community's increasing population growth and socio-cultural development also affect the soaring land price (Ayu, 2019). In terms of employment, businesses that arise through tourism, such as restaurants and tourist attractions in Oro-Oro Ombo, can provide job opportunities for the community to reduce the unemployment rates in Batu City. The tourism sector also stimulates community economic activities (Moreno de la Santa, 2020) to increase income by selling food and beverages or other tourist needs such as homestays and others (Astuti et al., 2020). Before the construction of BNS and Jatim Park II, Oro-Oro Ombo was a suburb in Batu District and can be said to be far from economic activity. However, to date, this village is a dense area visited by tourists every day. The local people take the opportunity to set up small businesses such as kiosks, food stalls, workshops, and others.

With the existence of Jatim Park II and BNS, local people also offer homestays as a means of accommodation for tourists and boarding houses for workers. Those are changes that have occurred since the development of tourism in Oro-Oro Ombo. The results of IDM in this village are presented in the table below.

The facilities and infrastructure to support artificial tourism in Batu City has resulted in the expansion of built-up areas and air pollution due to the high number of motor vehicles. Therefore, it has negative impacts on the environment (Panjaitan, 2020). Significant environmental impacts in Batu City are related to renewable energy (Azis et al., 2019), including the reduced number of springs and the increased air temperature. Batu City is located in a mountainous area with abundant water resources. This is indicated by the number of springs in the region. Springs are crucial for the survival of the people of Batu City, especially as an agropolitan area because it is used for agricultural irrigation.

However, this condition changed when the Environment Agency (*Badan Lingkungan Hidup* – BLH) of East Java Province found that the springs in Batu City were reduced from 117 to 53. It is undeniable that tourism also causes an increased price of goods and services in a destination. According to I Gusti Bagus Rai Utama, the increase in demand will affect the selling price for goods and services and property. Along with the development of Batu City as an economic destination, the demand for land in Batu City has increased, and this is directly proportional to the increase in land prices and land conversion. Oro-Oro Ombo becomes one of the targeted areas for investors following the establishment of BNS and Jatim Park II. Initially ranged from IDR 300,000 – IDR 500,000 per meter, the land price has drastically increased to IDR 3,000,000 per meter. Previously, the Oro-Oro Ombo community depended on the agricultural and livestock sectors. This condition triggers landowners to sell their agricultural land, and in the end, it is converted into built-up land. As a result, Batu City as an agropolitan area experienced a decrease in agricultural land area.

CONCLUSION

Based on the results above, it can be concluded that Oro-Oro Ombo Village has (1) great potential as an agropolitan-based tourism village; (2) become a 4-A (attraction, accessibility, amenity, and ancillary) agropolitan-based tourism village; and (3) reached optimal Village Development Index (*Indeks Desa Membangun* – IDM) based on the parameters of Sustainable Development Goals (SDGs) in 2021. This cannot be separated from the ideal role of interactivity between government, community, and private sectors in developing a tourism village based on local potential.

Therefore, the results of this study are expected to be the basis for considerations and policies in overcoming empirical gaps in the field related to regional development to improve the socio-economic welfare of the community through effective local potential management.

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ENVIRONMENTAL SELF-IDENTITY AND ENERGY SAVING BEHAVIOUR OF HOTEL EMPLOYEES: THE MEDIATING ROLE OF INTRINSIC MOTIVATION

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Abstract: The emission of carbon dioxide and other greenhouse gases through energy (electricity) consumption by firms is one the significant drivers of climate change. Energy conservation is one of the ways to achieve a cleaner, healthier environment and manage climate change. Energy conservation in firms is to a large extent dependent on employee participation and personal factors are significant determinants of pro-environmental behaviour. The aim of the paper is to examine the relationship between environmental self-identity and energy saving behaviour of employees of hospitality firms. In addition, the study investigates whether intrinsic motivation (measured by obligation-based intrinsic motivation and enjoyment-based intrinsic motivation) mediates the relationship between environmental self-identity and energy saving behaviour. The study uses the quantitative research design and the cross-sectional survey method is adopted for data collection. The hypotheses of the study are tested using the Partial Least Square Structural Equation modelling (PLS SEM). The results of the empirical study indicate that environmental self-identity is positively related to energy saving behaviour. The mediating effects of obligation and enjoyment-based intrinsic motivation are significant. The results suggest that intrinsic motivation is a mechanism through which environmental self-identity can affect employee energy saving behaviour.

Key words: electricity saving behaviour, employee, environmental self-identity, obligation-based intrinsic motivation, enjoyment-based intrinsic motivation

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INTRODUCTION

The emission of carbon dioxide and other greenhouse gases through energy (electricity) consumption by individuals and firms is one the significant drivers of climate change (Mardiana and Riffat, 2015). Most of the energy produced currently is from non-renewable energy sources. Coal mining for the production of energy can pollute water and create solid waste (Liu et al., 2020). Coal accounts for approximately 75% of primary energy supply and over 90% of electricity generation in South Africa and the country is ranked amongst the top 15 largest carbon dioxide emitters in the world (Akinbami et al., 2021). Energy conservation is one of the ways to achieve a cleaner, healthier environment and manage climate change (Moriaty and Honnery, 2019). One way to ensure energy conservation is the behavioural change of individuals at home or at work. Therefore, it is important to investigate energy conservation in the business context. The performance of a firm's environmental programme is to a large extent dependent on employee behaviour (Wesselink et al., 2017). Energy conservation by employees is often discretionary and not a required task. Individually, the impact of each employee in respect of energy conservation may look small, but collectively the effect is significant (Zhang et al., 2014; Wesselink et al., 2019). Electricity is the main form of energy conservation in organisations, thus the focus will be on electricity conservation (saving) behaviour of employees (Zhang et al., 2014).

Lalot et al. (2019) point out that many factors affect the pro-environmental behaviour of individuals. Personal values, ethics and self-identity are critical to more enduring sustainable behaviours (Steg and Vlek, 2009). Whitmarsh and O'Neill (2010) and Barbarossa et al. (2017) describe environmental self-identity as a person's overall perceived identification as an environmentalist and is a motivation for different types of pro-environmental behaviour. However, the mechanism through which environmental self-identity is linked to pro-environmental behaviour is under-explored (Lalot et al., 2019). Kim (2016) remarks that the issue of how individuals with a strong environmental self-identity tend to act more pro-environmentally is unclear. This study draws on intrinsic motivation as a mediating variable between environmental self-identity and energy conservation behaviour. Intrinsic motivation in the context of the environment refers to the tendency of an individual to engage in pro-environmental behaviour out of the affection that they have for the environment (Silvi and Rosa, 2017; Ali et al., 2020; Ojo, 2021). The motivation comes from within and not dependent on external reward (Budzanowska-Drzewiecka and Tutko, 2021).

Intrinsic motivation can be divided into enjoyment-based intrinsic motivation and obligation-based intrinsic motivation. Enjoyment-based intrinsic motivation depicts the enjoyment that individuals experience when they engage in pro-environmental behaviour (Taufik et al., 2014). Obligation based intrinsic motivation is similar to personal norms and can be described as the feeling of being morally obliged to perform a behaviour (Van der Werff et al., 2013; Kim, 2016). Studies

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by Van der Werff et al. (2013), Zhang et al. (2014), Hwang et al. (2015) and Kim (2016)) show that enjoyment-based intrinsic motivation and obligation-based intrinsic motivation can influence pro-environmental behaviour. This suggests that employees with a strong environmental identity may engage in energy saving behaviour because they enjoy it or because they feel the moral obligation to do so. The goal framing theory suggests that an individual's pro-environmental behaviour can be linked to hedonic, gain, and normative goals (Lindenberg and Steg, 2007). Thus, the aim of this study is to investigate if enjoyment-based intrinsic motivation and obligation-based intrinsic motivation mediate the relationship between environmental self-identity and energy saving behaviour of hotel employees.

This study has theoretical, empirical and policy significance. First, research on the mediating effect of the two types of intrinsic motivation in the relationship between environmental self-identity and energy saving behaviour is scarce. While the direct effects of environmental self-identity and intrinsic motivation on different types of pro-environmental behaviour have been investigated, there is the need to examine the indirect effects (Barbarossa et al., 2017). In addition, Ahn et al. (2020) remark that research on personal norms shows that individuals behave environmentally friendly because of moral obligations, but this does not explain why people engage in pro-environmental behaviour because they enjoy it. Limited studies have tested enjoyment-based intrinsic motivation because it was originally considered less relevant in the environmental domain. However, recent studies have focused on the role of enjoyment in pro-environmental behaviour. This study intends to test a theoretical model that includes the mediating effects of both obligation and enjoyment-based intrinsic motivation in the relationship between environmental self-identity and energy saving behaviour. Second, studies on energy conservation behaviour of individuals have mainly focused on households with scant attention paid to employees in the business context. However, hotels consume a lot of energy and are ranked among the top five in terms of energy consumption in the tertiary building sector (Hotel Energy Solution, 2021). Therefore, it is important for researchers to understand the factors that can influence energy conservation in hotels. Third, the United Nations Framework Convention on Climate Change (COP26) agrees that net zero emissions should guide business principles and operation. Understanding the factors that can positively affect energy conservation can help the hospitality sector in South Africa to contribute to net zero. This study will be guided by two research questions. RQ1: What is the relationship between environmental self-identity and employee 'energy saving behaviour? RQ2: does intrinsic motivation mediate the relationship between environmental self-identity and employee energy saving behaviour?

LITERATURE REVIEW AND RESEARCH HYPOTHESES

1. Energy (electricity) saving behaviour

Energy (Electricity) saving behaviour refers to the behaviours that an individual performs to reduce overall energy (electricity) use (Sweeney et al., 2013). Energy saving behaviour include (1) *curtailment behaviours*- This kind of behaviour saves energy through reduced use. Curtailment behaviour such as turning off lights, reducing appliance usage and unplugging appliances must be repeated frequently for consistent energy saving (Boudet et al., 2016) (2) *efficiency behaviours*. This approach is related to the purchase of more efficient appliances (3) *maintenance behaviours*- this involves saving energy by better maintaining appliances as this improves their performance and efficiency (Azizi et al., 2019).This study focuses on how curtailment behaviour can improve energy saving behaviour in hospitality firms. Curtailment behaviour is relatively low cost compared to efficiency behaviour (Karlin et al., 2014).

2. Environmental self-identity

Biddle et al. (1987, p. 326) define self-identity as "a person's self-conception, self-referent cognitions, or self-definition that people apply to themselves as a consequence of the structural role positions he or she occupies or a particular behaviour he or she engages in regularly". Theoretically, the concept of self-identity is derived from the identity theory (Stryker, 1968, 1980; Burke, 1991). The theory views the self not as an autonomous psychological entity but as a multifaceted social construct that emerges from people's roles in society and the behaviours they perform. Environmental or green self-identity can be described as the perception of an individual about supporting pro-environmental causes (Whimarish and O'Neill, 2010). Van der Werff et al. (2013) define environmental self-identity as the extent to which an individual sees him/herself as a person whose actions are environmentally-friendly. Studies such as Van der Werff et al., (2013) and Kim (2016) have linked environmental self-identity to different pro-environmental behaviours.

3. Intrinsic motivation

The Self-Determination Theory (SDT) by Ryan and Deci (2000) focuses on the extent to which the behaviour of an individual is self-motivated and self-determined. The SDT explains the motivation behind the choices made by an individual in the absence of external influences and distractions. SDT distinguishes between intrinsic and extrinsic motivations. Intrinsic motivation focuses on the engagement of activities for the inherent rewards of the behaviour. Intrinsic motivation can be used to describe activities done for their own sake or for their inherent interest and enjoyment (Grobbelaar et al., 2019; Ryan and Deci, 2020; Van den Broeck et al., 2021). Extrinsic motivation focuses on behaviours done for reasons other than their inherent satisfactions and can be divided into four major types.

These are (1) external regulation which focuses on rewards and punishments that are externally imposed. (2) introjected regulation which focuses on extrinsic reward that is partially internalised and motivated by the reward of self-esteem for success or the avoidance of guilt or shame for failure. (3) Identified regulation which refers to an individual identifies or endorses the value of an activity and (4) integrated regulation which refere to when an individual's recognition and identification with the value of an activity (Ryan and Deci, 2020).

Van der Werff et al. (2013) point out that intrinsic motivation can be divided into enjoyment-based intrinsic motivation and obligation-based intrinsic motivation. Enjoyment-based intrinsic motivation shows itself in warm glow that individuals experience when they engage in pro-environmental behaviour because they enjoy it (Taufik et al, 2014). Obligation- based intrinsic motivation is similar to personal norms and can be defined as the feeling of being morally obliged to perform a behaviour (Van der Weiff et al., 2013; Kim, 2016; Wang et al., 2021).

4. Hypotheses

4.1. Environmental self-identity and energy saving behaviour

Whitmarish and O'Neill (2010) investigate the effect of environmental self-identity across different pro-environmental behaviours in the United Kingdom. The findings of the study indicate that environmental self-identity positively predicts pro-environmental behaviours such as recycling, energy conservation and water conservation. Dean et al. (2012) examine the role of self-identity and past behaviour in predicting the intention to purchase fresh and processed organic food. The findings of the study indicate a significant positive relationship between self-identity and organic food. Gatersleben et al. (2014) find that values and identities are important factors in explaining individual pro-environmental behaviours. The study by Van der Werff et al. (2013) find a significant positive relationship between environmental self identity and intention to conserve energy. Barbarossa et al. (2017) remark that environmental self-identity positively affects consumer green product purchase behaviour. This is because individuals that identify with the environment tend to derive personal satisfaction from pro-environmental behaviour. Consequently, it is hypothesised that: H1 Environmental self-identity is positively related to energy conservation behaviour.

4.2. Environmental self-identity and obligation-based intrinsic motivation

Barbarossa et al. (2017) describe moral obligation as a personal internal state construct that focuses on how an individual feels a sense of responsibility to act morally in an ethical situation such as pro-environmental behaviour. The more an individual sees him/herself as a green consumer, the more likely the individual will feel a moral obligation to protect the environment. Van der Weiff et al. (2013) investigate the relationship between environmental self-identify and obligation-based intrinsic motivation. The results indicate that environmental self-identity influences obligation-based intrinsic motivation in the context of intention to use green energy. This suggests that individuals with a strong environmental self-identity will feel morally obliged to act in an environmentally-friendly.manner. It is hypothesised that: H2 Environmental self-identity is positively related to obligation-based intrinsic motivation.

4.3. Environmental self-identity and enjoyment-based intrinsic motivation

Taufik et al. (2014) point out that acting environmentally friendly can elicit psychological rewards through positive feelings. Intrinsic benefits can show themselves in warm glow that individuala experience when they feel good about themselves because of pro-environmental behaviour. Thus if an employee enjoys pro-environmental behaviour such employee will engage in environmentally friendly behaviour (Pugno and Sarracino, 2021). The findings of the study by Tanu and Parker (2018) show that students engage in pro-environmental behaviour because they enjoy it and because it is the fun thing to do. Venhoeven et al. (2016) investigate the relationship between environmental self-identity of individuals and the emotions elicited by their purchases. The results indicate that environmental self-identity is positively associated with positive emotions that people feel about their green purchases. Kim (2016) points out that environmental self- identity will affect enjoyment-based intrinsic motivation because acting on self-identity makes people feel good and enables them to maintain or enhance a positive self-esteem. The findings of the study by Kim (2016) indicate a significant positive relationship between environmental self-identity and enjoyment-based intrinsic motivation. It is hypothesised that: H3 Environmental self-identity is positively related to enjoyment-based intrinsic motivation.

4.4. Obligation-based intrinsic motivation and energy saving behaviour

Van der Weiff et al. (2013) investigate the relationship between obligation-based intrinsic motivation and intention to use green energy. The results indicate that obligation based intrinsic motivation as measured by personal norm predicts the intention to use green energy. Kim (2016) finds that obligation-based intrinsic motivation positively affects the purchase of eco-friendly apparel. Barbossa et al (2017) find that that moral obligation is a significant predictor of consumer intention to use electric vehicles. Hwang et al. (2015) examine Generation Y's moral obligation and purchase intention of green products. The results indicate a significant positive relationship between moral obligation and purchase intention of organic and recycled products. This suggests that individuals with a strong obligation-based intrinsic motivation will engage in pro-environmental behaviour because they feel morally obliged to do so. It is hypothesised that: H4 Obligation-based intrinsic motivation is positively related to energy conservation behaviour

4.5. Enjoyment based intrinsic motivation and energy saving behaviour

Kim (2016) finds that enjoyment-based intrinsic motivation positively affects the purchase of eco-friendly apparel. Van der Werff et al. (2013) point out that enjoyment based intrinsic motivation does not affect pro-environmental behaviour. Only obligation-based intrinsic motivation does. Pro-environmental behaviour such as electricity saving behaviour is difficult to describe in terms of inherent satisfaction. Lindenberg and Steg (2007) note that not all environmentally friendly behaviours are pleasurable or enjoyed. Individuals that want to feel good should not include pro environmental behaviour in their goals because it often involves personal sacrifice. Zhang et al. (2014) however remark that enjoyment of a particular behaviour can significantly motivate the performance of such behaviour. Enjoyment can positively influence the knowledge of pro-environmental action and attitude towards electricity saving. Individuals can get involved in pro-environmental behaviour because they enjoy it (Ahn et al., 2019). It is hypothesised that: H5 Enjoyment-based intrinsic motivation is positively related to energy conservation behaviour.

4.6. Mediating effects of obligation-based and enjoyment-based intrinsic motivation

Van der Weiff et al. (2013) investigate the mediating effect of moral obligation in the relationship between environmental self-identity and pro-environmental behaviour. The findings indicate a significant mediating effect. Environmental self-identity is associated with pro-environmental intentions through the moral route.

Barbosa et al. (2017) find that the effect of green self-identity on intention through moral obligation becomes stronger at higher levels of self-transcendence. Kim et al. (2012) indicate that social norms mediate the relationship between green identity and purchase intentions, whereas personal norms do not. Ali et al. (2020) find that green intrinsic motivation as measured by enjoyment mediates the relationship between green altruism and green thinking and purchase intention for green electronic products. This suggests that individuals with a strong environmental self-identity can perform environmentally-friendly behaviour because they enjoy it or feel morally obliged to do so. It is hypothesised that:

H6: Obligation-based intrinsic motivation mediates the relationship between environmental self-identity and energy conservation behaviour.

H7: Enjoyment-based intrinsic motivation mediates the relationship between environmental self-identity and energy conservation behaviour

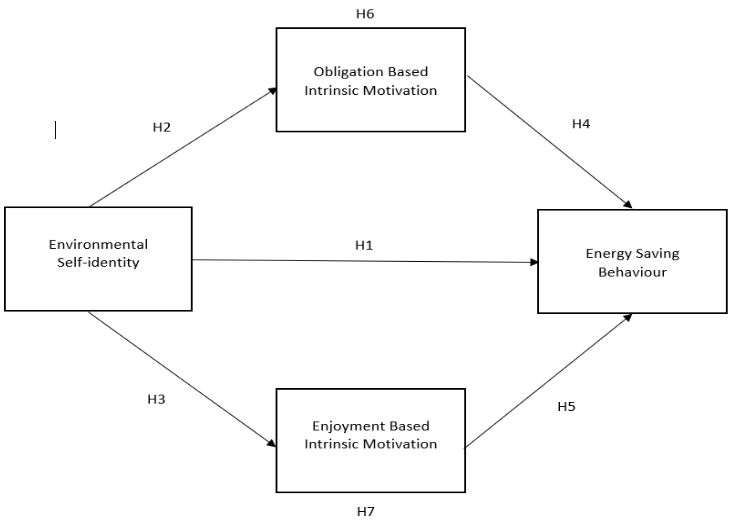

Figure 1. The conceptual model

RESEARCH METHODOLOGY

The quantitative research approach was adopted for the study. The cross-sectional survey method was used to collect data from the respondents. Data was collected through the self-administered questionnaire method. The survey was conducted in Johannesburg and Pretoria of the Gauteng Province and Polokwane in the Limpopo province of South Africa. The three cities contain a large number of s firms in the hospitality sector.

The convenience sampling method was used to identify the survey participants from the website of Trivago, a hotel search firm and a data collection agency assisted in the process. The study followed two processes. First the participating firms were identified. The owners and managers of the identified firms were contacted through personal meetings, emails and telephone calls to explain the purpose of the research and seek for permission to contact their employees. The number of employees working in each firm was obtained from the owner/manager.

Before actual data collection, a pilot study was done with ten firms and thirty employees following the same process. These firms or the employees did not participate in the main survey. The results of the pilot study led to minor adjustments to the questionnaire. In addition, the questionnaire was examined by two experts in the area of sustainability and their comments were incorporated in developing the final questionnaire. The participants were all office staff. The cell phone numbers and or the email addresses of the employees were obtained after the delivery of the questionnaire. Each participant was given two weeks to complete the questionnaire. If the questionnaire is completed, it is then collected. The participants were reminded every two week through phone calls or email messages to complete the questionnaire. This process was repeated for eight weeks. If the questionnaire is not completed after eight weeks, it is considered as non-response. The participants in the survey were assured of anonymity and confidentiality. The Partial Least Square Structural Equation Modelling (PLS SEM) was used for data analysis.

Measures: The items used to measure the constructs of the study were obtained from past studies and were anchored on the five-point Likert scale ranging from “1 strongly disagree to 5 strongly agree”. The items used to measure environmental self-identity were adapted from Van der Werff et al. (2013). The items used to measure obligation based and enjoyment based intrinsic motivation were adapted from Van der Warf et al. (2013), Zhang et al. (2014) and Kim (2016). The items used to measure energy saving behaviour were adapted from Chen and Liu (2019). All the items are indicated in the measurement model.

RESULTS

1. Response rate and biographical detail

Nine hundred and ten questionnaires were distributed and four hundred and four hundred and fifty-five questionnaires were returned. Eleven questionnaires were not used because the respondents did complete some important parts of the questionnaire. Four hundred and forty four questionnaires were usable.

The biographical details of the respondents are: gender: 229 females and 215 males. Age: 21-30 years (135 respondents), 31-40 years (185 respondents), 41-50 years (98 respondents), 51-60 years (26 respondents). Educational qualifications: 256 with Matric qualification and 188 with post matric qualification.

2. PLS SEM

Hair et al. (2019) remark that the PLS SEM consists of two sub-models. The measurement model which depicts the relationships between the observed data and the latent variables and the structural model which shows the relationship between the latent variables. The evaluation of the measurement model should include the factor loadings (>0.708), Average variance explained (>0.500), Cronbach's alpha (>0.700) and composite reliability (0.70 to 0.95).

Table 1. Measurement model

Construct	Measurement items	Loading	Cronbach's alpha	Composite reliability	AVE
Environmental self-identity (ESI) (Mean 3.52Standard deviation 1.01)	I am the type of person that saves electricity at work) ESI1	0.805	0.805	0.826	0.612
	I see myself as someone that is engaged in electricity saving (ESI2)	0.782			
	Saving electricity at work is an important part of whom I am (ESI3)	0.760			
Obligation-based (OBL))Mean 3.45 Standard deviation 1.04)	I feel morally obligated to save electricity at work (OBL1)	0.775	0.813	0.833	0.624
	I would feel guilty if I did not save electricity at work (OBL2)	0.793			
	I would be a better person if I would save electricity at work (OBL3)	0.801			
Enjoyment-based intrinsic motivation (Mean 3.15 standard deviation 0.98)	Saving electricity at work is pleasurable (ENJ1)	0.836	0.736	0.836	0.627
	I enjoy saving electricity at work (OBL2	0.799			
	I am delighted to save electricity at work (OBL3)	0.742			
Energy Conservation behaviour (ENE) 4.26 standard deviation 1.03	I turn off the lights at work when going out even for a short time (ENE1)	0.819	0.762	0.901	0.564
	I reduce the use of the fan/ air conditioner by opening the windows at work (ENE2)	0.729			
	I switch off the computer at work when it is not used. (ENE3)	0.808			
	I limit the duration that the refrigerator door is kept open at work in my workplace. (ENE4)	0.731			
	I turn off the lights at work when the sunshine is bright enough (ENE5)	0.747			
	.I properly close the room when I use the air-conditioner at work (ENE6)	0.726			
	I switch off all lights when leaving work as the last person (ENE7)	0.759			

Table 2. Discriminant validity

CON	ESI	OBL	ENJ	BEH
ESI	0.782			
OBL	0.648	0.790		
ENJ	0.601	0.593	0.792	
ENE	0.574	0.526	0.626	0.751

Table 4. Path coefficient and T-statistics* p<0.01; ** <0.05

Hypothesised path	Path coefficient	T-statistics	Decision
H1 ESI→ENE	0.207	7.214 *	Supported
H2 ESI→OBL	0.229	5.068 *	Supported
H3 ESI-ENJ	0.107	2.813**	Supported
H4 OBL- ENE	0.215	4.935*	Supported
H5 ENJ-ENE	0.117	2.862**	Supported

Table 3. HTMT

CON	ESI	OBL	ENJ	BEH
ESI				
OBL	0.425			
ENJ	0.541	0.586		
ENE	0.596	0.561	0.690	

Table 5. Mediation results* P<0.01; ** <0.05

Mediation path	Indirect effect	Total effect and T-statistics	Confidence interval bias (corrected)		Decision	VAF
			LL	UL		
H6 ESI→ OBL→ENE	0.196*	0.241* (1.398)	0.067	0.232	Accepted (full mediation)	81.32%
H7 ESI→ ENJ→ENE	0.138**	0.308** (1.116)	0.053	0.177	Accepted (partial mediation)	44.81%

Table 1 shows that all these requirements are met and convergent validity is established. To assess discriminant validity, the study used the Fornell-Larcker test and the heterotrait–monotrait ratio (HTMT). Tables 2 and 3 depict the results of the Fornell-Larcker test and the HTMT The square root of the AVE should be higher than the correlations among the latent variables (Hair et al., 2019). In addition, all the values of the HTMT ratio depicted in table are below the conservative threshold of 0.850 (Henseler et al., 2015). These two tests confirm an adequate discriminant validity of all latent variables. Diagonals in bold signify the square root of the AVE while the other figures depict the correlations.

Structural model

Hair et al. (2019) point out that the assessment of the structural model should include the analysis of the common method bias (CMB), the $R^{2,}$ the Q^2 and the evaluation of the path coefficients. The variance inflation factor (VIF) values range from 1.58 to 2.18 and below 3.3. This suggests that the model is free of CMB. In addition, the values of the GOF range from 0 to 1 with 0.10, small, 0.25 medium and 0.36 large. The GOF obtained by the study is 0.471 which is higher than the 0.36 standard for good model fit. This suggests that that the empirical data satisfactorily fits the model. The $Q^2 >$ 0.5 is considered a predictive model. The Q^2 obtained in the study ranges from 0.139 to 0.264. These figures are greater than zero and indicate the cross validity of the model. The effect size (f^2) shows the effect of one construct on another construct and values are 0.02 (small), 0.15 (medium) and 0.35 (large). The effect sizes obtained in the study range from 0.272 to 0.299. The standardised root mean square residual (SRMR) was used to measure the model fit. SRMR has values from 0 to 1.The SRMR obtained in the study is 0.03. Table 4 depicts the results of the structural model.

The results (β 0.207, T 7.214, $p<0.01$) show a significant positive relationship between ESI and ENE Hypothesis one is supported. The results (β 0.229, T 5.068, $p <0.01$) depict a significant positive relationship between ESI and OBL Hypothesis two is supported. The results (β 0.107, T 2.813, $p <0.05$) show a significant positive relationship between ESI and ENJ. Hypothesis three is supported. The results (β 0.215, T 4.935, $p <0.01$) show a significant positive relationship between OBL and ENE. Hypothesis four is supported. The results (β 0.117, T 2.862, $p <0.05$) show a significant positive relationship between ENJ and ENE. Hypothesis five is supported. Table 5 depicts the results of mediation. The indirect path between ESI, OBL and ENE is positive and significant. Thus a complementary full mediation is confirmed. Thus, hypotheses six is supported. In addition, the indirect path between ESI, ENJ and ENE is positive and significant and a complementary partial mediation is confirmed. Hypothesis seven is supported.

DISCUSSION

The emission of carbon dioxide and other greenhouse gases through energy (electricity) consumption by individuals and firms is one the significant drivers of climate change. Energy conservation is one of the ways to achieve a cleaner, healthier environment and manage climate change. One way to ensure energy conservation is the behavioural change of individuals at work as this will reduce energy demand. The study examined the relationship between environmental self-identity and energy saving behaviour of employees of hospitality firms. In addition, the study investigated whether intrinsic motivation (measured by obligation-based intrinsic motivation and enjoyment-based intrinsic motivation) mediates the relationship between environmental self-identity and energy saving behaviour. The findings indicate a significant positive relationship between environmental self-identity and energy conservation behaviour. The findings suggest that individuals with environmental self-identity derive personal satisfaction from pro-environmental behaviour. The findings are consistent with the results of previous empirical studies. Whitmarish and O'Neill (2010) find that environmental self-identity and pro-environmental behaviours are significantly positively related. Van der Werff et al. (2013) find a significant positive relationship between environmental self –identity and intention to conserve energy. The findings indicate a significant positive relation between environmental self-identity and obligation-based intrinsic motivation.

The results suggest that the more an individual see him/herself as a green consumer, the more likely that individual will develop the feelings of moral obligation to perform pro-environmental behaviour. The findings are consistent with the results of similar empirical studies. Van der Werff et al. (2013) find a significant positive relationship between environmental self-identify and obligation-based intrinsic motivation. The findings indicate a significant positive relationship between environmental self-identity and enjoyment-based intrinsic motivation. The findings suggest that individuals with environmental self-identity can have intrinsic motivation to act pro-environmentally because they enjoy doing so. The findings are consistent with previous empirical studies. Taufik et al. (2014) remark that acting environmentally friendly can elicit psychological rewards through positive feelings. Intrinsic benefits can show themselves in warm glow that individuals experience when they feel good about themselves because of pro-environmental behaviour. Kim (2016) finds a significant positive relationship between environmental self-identity and enjoyment-based intrinsic motivation. The results indicate a significant positive relationship between obligation-based intrinsic motivation and energy saving behaviour**.** The findings suggest that individuals with strong obligation-based intrinsic motivation will engage in pro-environmental behaviour because they feel morally obliged to do so.

Van der Werff et al. (2013) find that obligation based intrinsic motivation as measured by personal norm predicts the intention to use green energy. Kim (2016) finds that obligation-based intrinsic motivation positively affects the purchase of eco-friendly apparel. Hwang et al. (2015) find that moral obligation has a significant positive effect on purchase intention of organic products and recycled materials. The results indicated that enjoyment based intrinsic motivation and energy saving behaviour are significantly positively related. The findings suggest that the enjoyment of a particular behaviour can significantly motivate the performance of such behaviour. The study by Kim (2016) finds that **e**njoyment-based intrinsic motivation positively affects eco-friendly apparel purchasing behaviour.

Zhang et al. (2014) find that enjoyment can also positively influence knowledge of pro-environmental action and positively affect attitude towards electricity saving. The findings of the study indicate a full mediating effect of obligation-based intrinsic motivation and partial mediating effect of enjoyment-based intrinsic motivation. The findings suggest that individuals with a strong environmental self-identity can perform environmentally-friendly behaviour because they enjoy it or feel morally obliged to do so. Van der Weiff et al. (2013) find a significant mediating effect obligation-based intrinsic motivation in the relationship between environmental self-identity and pro-environmental behaviour. Ali et al. (2020) find that green intrinsic motivation as measured by enjoyment mediates the relationship between green altruism and green thinking and purchase intention of green electronic products.

CONCLUSION

The study examined the relationship between environmental self-identity and energy saving behaviour of employees of hospitality firms. In addition, the study investigated whether intrinsic motivation (measured by obligation-based intrinsic motivation and enjoyment-based intrinsic motivation) mediates the relationship between environmental self-identity and energy saving behaviour. Theoretically, the study tested a model that shows the mediating effect of intrinsic motivation in the relationship between environmental self-identity and energy saving behaviour. To improve attitude towards electricity saving, employees must be able to obtain intrinsic motivation. This can be done through an increase in the level of environmental concern and knowledge that high energy consumption significantly contributes to climate change. Training of employees by hospitality firms about the importance of environmental protection can help to improve knowledge about environmental issues and enhance self-identity and intrinsic motivation. The study has some limitations. First data was collected from employees in three cities in South Africa and this may limit the generalisability of the results. The study depended on self-reported data of employees rather than rather than objective observations. This may lead to social desirability bias. Other studies can examine the moderating effects of demographic factors (age level of education and gender) in the relationship between environmental self-identity and energy conservation intention.

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SLOW TRAVEL IN TOURISM - AN OUTLINE OF CONCEPTUAL FRAMEWORKS: POTENTIAL AND LIMITS IN THE CONTEXT OF POST-PANDEMIC RECOVERY

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Abstract: The fast pace of life and the pressure to maximise performance, particularly in developed countries, has led to an increase in time poverty and the value of time as an intangible and irreversible commodity. The response to the rise of time poverty was the formation of the Slow Movement. Its main objective is to return to the natural pace of everyday activities and seek to gain control over its management in terms of appropriateness adapted to current individual needs. The Slow Movement sees the basic premise of a healthy society as the "slowing down" of life by creating a sustainable alternative to the mainstream culture of a consumption-driven society, fed by disproportionately increasing pressures for efficiency and performance. Slow tourism is understood in this study as a mental model based on slow travel. The review article´s main objective is to outline the conceptual frameworks of slow tourism. In this context, the study aims to identify the key attributes of the concept and the theoretical basis of slow tourism. Methodologically, we draw on a set of nine empirical studies from the pre-pandemic period. These studies were analysed and then compared with other proposed models. On their basis, we have created an overview of the differential attributes in relation to the "fast" mode of tourism products. The following discussion is based on the subjective perception of the time required to achieve the set goals of slow tourists. We understand the dichotomy of fast and slow travel within slow tourism as two complementary components necessary to achieve travel goals. Slowness is perceived attitudinally rather than behaviourally. In conclusion, the review article also highlights the limits of the concept in view of the opportunities offered in the process of post-pandemic recovery of the sector.

Key words: slow movement, slow travel, slow tourism, motivations, sustainability

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INTRODUCTION

A precondition for the development of tourism in its early stages was sufficient resources to cover the costs and sufficient time, determined by the limitations of the available means of transport. Even from the current perspective, we tend to regard time as a limiting factor. This is a consequence of the ever-increasing pressure to be efficient and to

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maximise work output and, ultimately, most everyday activities. Patterns of 'fast behaviour' with an emphasis on elaborate time management, not infrequently at the expense of leisure activities, make 'time' a scarce, non-reproducible asset stimulating demand for time-saving products. In tourism, they are more often linked to the demand to reduce the length of transfers to/from or within tourist destinations. In particular, the use of modern means of transport makes it possible to reduce the time required for these transfers. In the past, before the advent of modern means of transportation, travelling was much more time-consuming. The total length of stays, e.g. Grand Tours (17th-19th centuries), was often several months or even years. Travellers spent several weeks or even months in each city they visited (Matlovičová et al., 2015). The duration of the transfers was determined by the way the journeys were organised, in which all transfers were considered part of the travel experience. Such journeys combined travel experiences and learning about the cultures of the local communities that travellers came into contact with during their journeys (Towner, 1985; Murray and Graham, 1997). These journeys were mainly pilgrimaged, religious, cultural and romantic in nature.

The acceleration of the development of means of transport and the necessary infrastructure, together with rising living standards and accelerating pace of life, led to a gradual massification of tourism. The initial phase of optimism about the profitability and high degree of versatility of the sector, fuelled by the growing demand for relatively homogeneous products, regardless of local specificities, was replaced by sobering and later frustration about the negative environmental impact and, due to the impact of increasing globalisation, the loss of authenticity of the tourist destination offer. These trends were perhaps most evident in the food and gastronomy sector, where the traditional, original offer was initially supplemented and later replaced by 'new' elements that were alien to local culture and traditions.

Slow Movement

The fast pace of life and the pressure to maximise performance, particularly in developed countries, has led to an increase in time poverty and the value of time as an intangible and irreversible commodity. Its long-term scarcity began to manifest itself in the deteriorating mental health of workers, which logically triggered the need to slow down and the desire to escape, at least for a while, into a bubble-free of time stress. One of the reactions to the described problem was the emergence of the Slow Food movement in the 1980s and 1990s (Slow Food as a response to the expanding fast-food culture), and later Slow City (the Citaslow movement promoting slow lifestyles in cities; Fullagar et al., 2012; Hall, 2012; Oh et al., 2016, Bujdoso et al., 2019; Spilkova, 2016). These initiatives were the basis for the more broadly construed Slow Movement, built on the principle of slowness. However, the goal is not slow movement but finding its natural pace, or rather the appropriate speed for everything we do. Thus, the main idea of the philosophy of slowness is not the cult of slowness but the search for a balance between fast and slow so that we achieve an optimal ratio between performance (activity goals) and speed (also in terms of effort; Honoré, 2005). A return to the natural pace of everyday activities and the attempt to gain control over their management in terms of appropriateness adapted to current individual needs is an essential assumption for a slow and healthy society. Slow Movement is seen as a cultural trend encouraging healthy personal development of individuals, with the support of the use of time-saving technologies.

It aims to "slow down" life on our planet and offer a sustainable alternative to the mainstream culture of a consumption-driven society fueled by disproportionately increasing pressures for efficiency and performance. Advocates of the slow lifestyle point to the unsustainability of the current fast pace of life and, in the long run, also its threats to the health of the population (Ilieș and Rogovská, 2015; La Fabrica del Sol, 2021). According to Calzati and de Salvo (2018), building a "slow society" means paying more attention to the quality of life, ethical responsibility and the value of solidarity between different social groups of the population. One of the important pillars of this ideology is, mindfulness and responsibility as collective ideals shaping harmonic relationships between people, culture, food and work, with reflection in new tourism practices (Howard, 2012). The philosophy of moving slowly, or slowing down, is one way of maintaining and managing life at a controllable pace, without the hectic, stressful and superficial practices characteristic of the cultural mainstream of today. The popularity of the cult of slowness has spread over the years to almost all walks of life, including travel, leisure and has led to the formation of Slow Travel and Slow Tourism. In addition, the coronavirus (COVID-19) pandemic has also added an unprecedented crisis in the tourism economy, given the immediate and immense shock to the sector (OECD 2020). In this context the review article assesses the conceptual underpinnings of slow travel in tourism, potential and limits in the context of post-pandemic recovery.

MATERIALS AND METHODS

In the context of the outlined tendencies, the review article aims to outline the main conceptual frameworks of slow tourism. Based on existing empirical studies, we will attempt to sconceptualise the main theoretical bases of slow tourism and elaborate an overview of distinctive attributes in relation to the "fast" mode of tourism products. We will point out both the possibilities and the limits of the concept with respect to the emerging opportunities in the process of post-pandemic recovery of the sector. Methodologically, we draw on a set of nine empirical studies from the pre-pandemic period, namely Shang et al., 2020; Serdane, 2020; Fusté-Forné and Jamal, 2020; Pawlusiński and Kubal, 2018; Özdemir and Çelebi, 2018; Lin, 2017; Lannoy, 2016; Lowry and Back, 2015; Park and Kim, 2015: Marrocu and Paci, 2013.

RESULTS AND DISCUSSION

Slow travel and slow tourism in the context of its development potential

In the area of seeking consensus on the definition of Slow Travel, we base our definition on the essence, meaning and main motivation of travel for tourists, which is to relax by changing the everyday stereotype and the established way of life, to seek distraction, entertainment, relaxation and regeneration of physical and mental strength, or balance. The adjective 'slow', despite its genesis in the gastronomy environment as a counterbalance to fast food, should be understood more broadly in this case.

A key is a proper understanding of time perception, not necessarily as the opposite of "fast" but as an attribute absent in ordinary life, for a sufficient depth of experience of activity (Oh et al., 2016). Slowness is understood attitudinally rather than behaviourally (Oliver, 1999). Nor is it necessarily the opposite of mass tourism. The emphasis is not on the volume in the sense of its quantity but on the quality of the experience, or the experience of the tourist journey, regardless of whether it is undertaken en masse or individually. According to Oh et al. (2016), both slow and fast modes of travel often form a dichotomous whole. In their coexistence, they constantly interact within the same travel unit, for the same traveller, and within and between destinations. That is, the dichotomy of slow and fast tourism is more a matter of categorising convenience (Oh et al., 2016), reflecting a general pace, mode or pattern of tourism within which the traveller deliberately chooses either a slow or fast mode of travel, or combines them to maximise the goal of travel, be it satisfaction, personal well-being or self-fulfilment (Moore, 2012; Singh, 2012; Ilieș, and Rogovská, 2015). Rather, fast vs. slow travel should be seen as competing and complementary simultaneously, but not as mutually excludable choices aimed at achieving the goal of travel and smaximising comfort and relaxation (Weaver, 2013).

Slow travel can thus be understood as a mental model based on the subjective perception of the time required to achieve the set goals of the participants. In this case, transport to the destination can also be perceived as a goal, i.e. part of the travel experience, and to a significantly greater extent than in 'fast travel'. Slowness here is perceived attitudinally rather than behaviourally (Oliver, 1999). Fast and slow travel are not mutually exclusive within slow travel but rather coexist and complement each other in each travel unit to maximise the achievement of travel goals (Oh et al., 2016).

In other words, slow travel involves travel to and from the tourist destination, with the focus on the quality of both the travel and the experiences during the trip being consumption-oriented. That is, it primarily focuses on the demand issues of slow travel tourists, while not considering the industry's differentiation and dynamics or the supply dimensions of growth (Conway and Timms, 2012). Under certain conditions within the broader conceptual framework of slowness, Slow travel can also be understood as the antithesis of fast 'inventory' travel (in the sense of having 'been there') within the bubble of one's own culture (tourist ghettos; Honoré, 2004; Andrews, 2006), which it fundamentally avoids.

Slow tourism, of which Slow travel is a key attribute, can also be seen in this context. Slow travel determines the approach to cognition, which can thus acquire more depth and a higher degree of spontaneity. According to Peters (2006), slow tourism has three pillars that are perceived as differentiating attributes in relation to fast tourism: (1) doing things at the right speed, (2) changing attitudes towards time and its use, and (3) sprioritising quality over quantity.

In the academic field, many authors from different branches have tried to define and sconceptualise the theoretical basis of slow tourism, but so far there is only a partial consensus on its three distinct aspects:

(a) The hedonistic and experiential dimension - the enjoyment of the journey as an essential attribute of the experience - links enjoyment throughout the journey, including travel at the destination, with interaction with local stakeholders as an important determinant of the quality of the experience (Conway and Timms, 2012; Holbrook and Hirschman, 1982). In this sense, the following can be considered as relatively universal criterial variables in assessing the outcome effects of Slow tourism: satisfaction, intention to return in the future, or recommendation intention (Baker and Crompton, 2000; Bowen et al., 2005; Lam and Hsu, 2006; Bowen and Clarke, 2009).

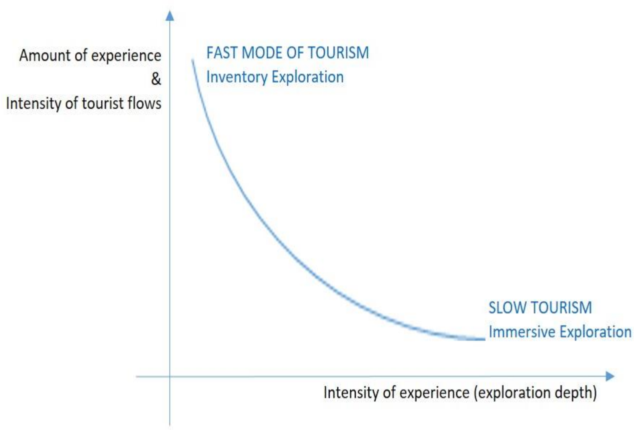

Figure 1. Slow tourism from the perspective of experience intensity and tourist flows

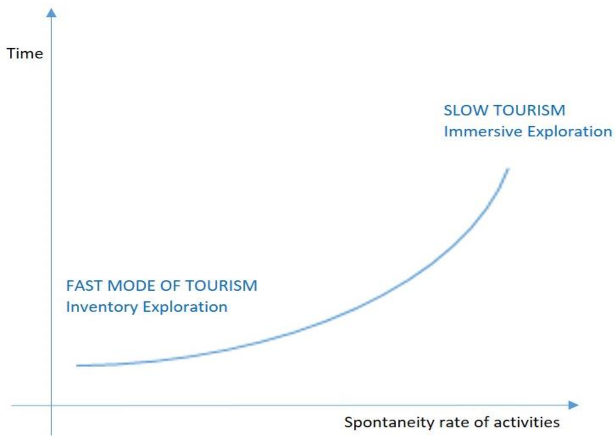

Figure 2. Slow tourism from the perspective of the dependence of the degree of spontaneity and the length of stay

(b) Positive impact on health and the spontaneous - soft mobility in the form of relaxed and unhurried movement that is not tied to a strict schedule reduces time stress, and induces a natural feeling of well-being that is beneficial to one's health. The slow pace of travel allows for a higher level of intensity of experience, quality and depth of exploration of the visited areas, based on interaction with local people (Sonia, 2015). The differentiating moment between mass tourism and immersive exploration within slow tourism is the motivation and the way of achieving relaxation. While in the first case the main objective is a physical change of location, in the case of Slow Tourism the change is primarily on a mental level. Avoiding the pressure of time stress, i.e. allowing oneself enough time to process all stimuli within the travel in order to achieve the most intense experience of the activity, is also referred to as immersive travel (e.g. Fullagar et al., 2012; Ilieș and Rogovská, 2015).

(c) Environmental sustainability - the use of slower eco-friendly means of transport with a low carbon footprint throughout the stay - so-called Low Carbon Travel, e.g. public transport, cycling, walking, animals (Holbrook and Hirschman, 1982; Dickinson and Lumsdon, 2010; Dickinson et al., 2010, 2011; Sonia, 2015; Acharya et al. 2021, 2022). Conscious tourists who are environmentally aware and have sufficient time at their disposal also largely use eco-friendly means of transport (e.g. Serdane, 2017; Lochman and Wagner, 2022). Exceptions may be remote destinations where it is not possible to reach by such modes of transport, or it takes too long, and therefore even slow-oriented tourists may choose to use a fast mode of travel, i.e. air transport, as a necessary partial part of the transfer, despite their principles (Lumsdon and McGrath, 2011; Mika et al., 2019). At their destination, they may revert to the responsible, i.e. slow mode of travel (Conway and Timms, 2012). The above review shows that the defining attributes of slow tourism are time, distance and motivation, with the strongest emphasis on different modes of environmentally sustainable transport. Slow travel is considered an immanent attribute of Slow Tourism, which may lead to confusion between the two terms. In this context, some also argue that there is no distinction between Slow travel as a journey and Slow tourism as a way of enjoying and experiencing a destination (e.g. Conway and Timms, 2012; Lumsdon and McGrath, 2011).In contrast, another group of authors (e.g., Sonia, 2015; Holbrook and Hirschman 1982; Dickinson and Lumsdon, 2010; Dickinson et al., 2010, 2011) consider Slow travel to be the central differentiating point of Slow tourism, setting it apart from other forms of 'fast' tourism. We are in favour of this view and provide a set of differentiating attributes of Slow Tourism in relation to 'fast' tourism in support of this view (Figure 4).

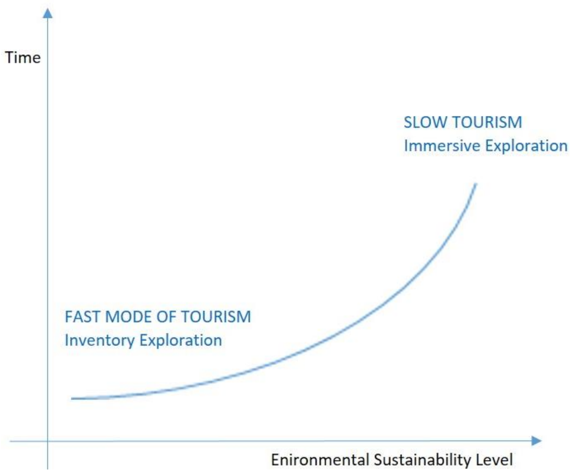

Figure 3. Slow tourism from the perspective of environmental sustainability and length of stay

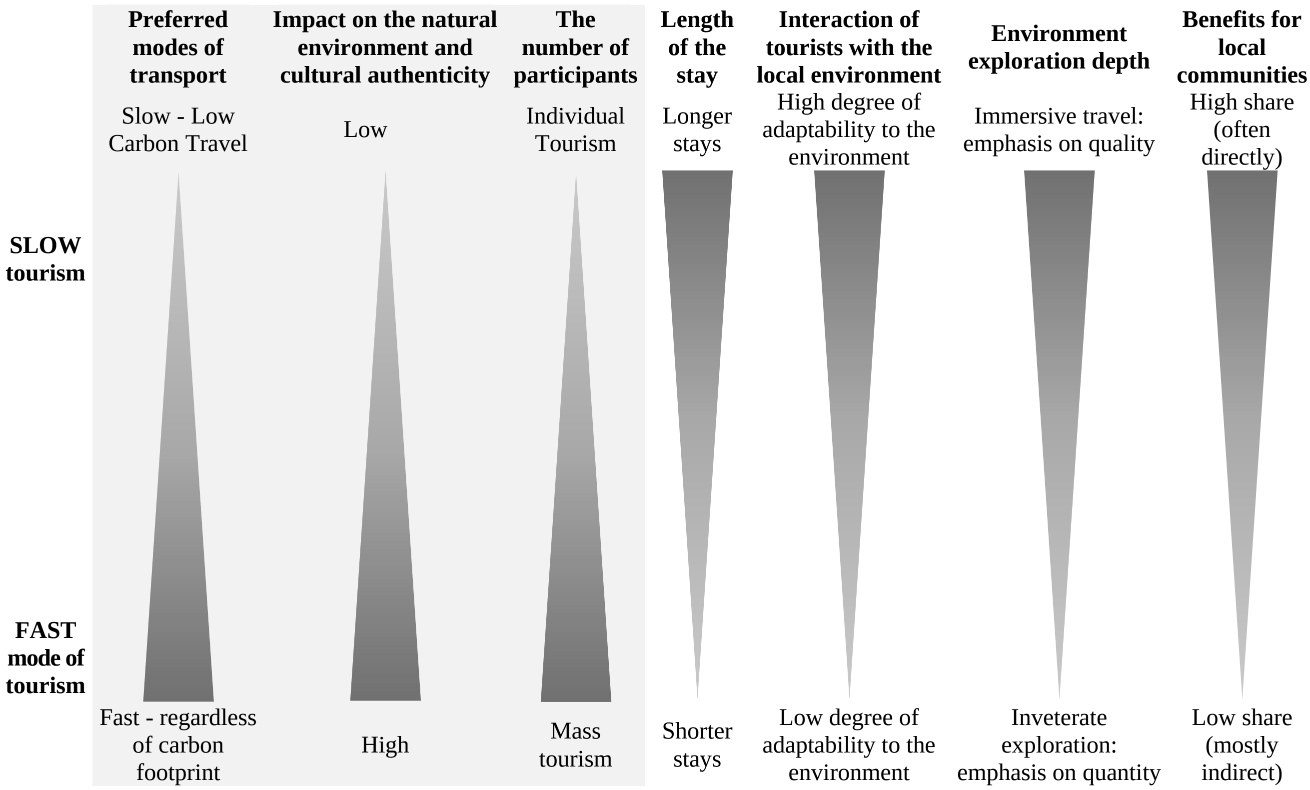

Figure 4. Differential attributes of slow and "fast" mode of tourism

The overview was based on nine empirical studies from before the pandemic, namely Shang et al., 2020; Serdane, 2020; Fusté-Forné and Jamal, 2020; Pawlusiński and Kubal, 2018; Özdemir and Çelebi, 2018; Lin, 2017; Lannoy, 2016; Lowry and Back, 2015; Park and Kim, 2015; Marrocu and Paci, 2013. In this case, it should be noted that this is a highly sgeneralised svisualisation that aims to highlight differences, especially at the extremes. Most forms of tourism are a combination of both forms, with the mix of attributes mentioned varying at the individual level. For this reason, we outline each characteristic as intervals of transition between its extremes.

° **Preferred modes of transport**

As mentioned earlier in the text, the key differentiating attribute, according to most authors, is the preferred modes of transport. Slow tourists prefer so-called Low Carbon Travel as much as possible. They reject the use of air transport as a representative of unsustainable modes of transportation, or they allow its use only when necessary and to the minimum extent possible.

° **Impact on the natural environment and cultural authenticity**

In a wider context, we also consider the impact on the environment of the follow-up set of activities related to the srealisation of tourism in the destination. Numerous studies address these, e.g. Edgell, 2020; Leung et al., 2018; Hammitt el al., 2015, Mccool and Bosak, 2016, Heberlein, 2012, Stern, 2018 and many others. Slow tourism in this context has emerged as one of the possible alternatives to sminimise its impacts. We consider both its impact on the natural environment but also its socio-cultural impacts. The aspect of the impact of tourist activities on the authenticity of local culture is considered in terms of the negative impacts of mass tourism on the scommercialisation of local culture and the loss of its authenticity. This occurs in the case of disproportionately high demand and the attempt to make the most of the business opportunity offered by local communities (staged presentations of local customs and traditions, ad hoc demonstrations of traditional crafts in open-air museums, etc.).

° **The number of participants**

There is a direct causal link between the intensity of tourist flows and the environmental impacts mentioned above. While the increased concentration of population that mass tourism leads to is a preferred option in terms of economic efficiency and profitability of the sector (e.g. economies of scale), it runs into the problem of sustainability in all its aspects (environmental, social and, consequently, economic; e.g. Caciora et al., 2021; Chakrabarty and Sadhukhan, 2020; Matlovičová and Husárová, 2017).

° **Duration of stay**

The length of stay is determined by the objectives of the stay. Most mass forms of tourism are targeted at inventory exploration conditioned by sminimising the time required for transfers, or using fast modes of transportation (from/to as well as within the destination) without considering environmental or social impacts. Slow tourism, on the other hand, prefers "slowness" in this respect as a prerequisite for immersive and conscious cognition.

° **Tourists' interactions with the local environment and depth of exploration of the environment**

Slow tourists are, in some way, more demands on the quality of the experience. To gain an authentic experience, they are willing to interact more with local communities and adapt to them in terms of temporarily adopting their way of life (in terms of both culture and natural environment; Sumarmi et al., 2021; Herman el al., 2019; 2020, Susilo et al., 2021). Adaptability to local conditions often requires accepting a degree of inconvenience as an inherent part of the experience.

° **Benefits for local communities**

Immersive cognition ultimately has the potential to sustainably support local communities whose living conditions and way of life are only minimally affected. In this context, we are thinking in particular of poor communities for whom slow tourism activities could provide an acceptable way of income and support for their sustainable development.

Limits of the slow tourism concept

Although the possibilities described for the development of a slow approach to tourism development indicate a considerable, as of now, the insufficiently developed potential for sustainable tourism development, the application of the concept faces many problems. One of the most frequently mentioned limitations is the inconsistency of information about the possibilities of slow tourism, misunderstanding of its nature and ultimately the failure to meet expectations both on the supply and demand sides. The interviews conducted with tourists (e.g. Serdane, 2020; Shang et al., 2020; Serdane, 2020; Fusté-Forné and Jamal, 2020; Pawlusiński and Kubal, 2018; Özdemir and Çelebi, 2018; Lin, 2017; Lannoy, 2016; Lowry and Back, 2015; Park and Kim, 2015; Marrocu and Paci, 2013) have shown that the perception of slow tourism products is largely marked by stereotypical thinking about its sorganisation and an unwillingness to take the risk associated with the spontaneity of ad hoc planning. For example, Serdane, 2020 describes that tourists approached the arranged stays as pre-planned stays. They perceived the slowness as a burdensome aspect of organising a stay arranged individually (they describe that they planned and organised individual activities in advance with farmers, etc.).

This in turn led to a perception of 'slow' tourism products as merely more sophisticated, exclusive, expensive and higher quality tourism offerings. The supply-side planning aspect has led to certain distortions of the natural way of life, in an attempt to maximise income from tourism and thus exploit the commercial opportunity offered by the presence of tourists at the expense of authenticity. Ultimately, this has led to a contradictory perception of the different attributes of slow tourism in terms of the ambivalence of the experience of commercial vs. non-commercial. Indeed, the growth in demand causes a natural commodification of slow tourism experiences (Serdane, 2020). A problem with the aforementioned approach to the implementation of slow tourism activities is the described frustration of tourists with the inordinately long time needed to plan a trip and the absence of the necessary supporting information that was essential from their point of view to secure their stay (list of accommodation and catering providers, transport options, etc.). However, in this case, the spontaneity aspect of planning in the sense of ad hoc decision-making on the spot and according to the circumstances disappears. A misunderstanding of the nature of slow tourism as a form that considers preparation and travel time as part of the tourist experience is also described by Moeller et al. (2011).

According to them, tourists perceived the time to plan and organise a trip as a waste of time - literally as more work for the same money (Serdane, 2020). The more conscious among them perceived it as an increased price that they inevitably have to pay (sacrifice) as their contribution to the sustainability of this tourism experience.

The question then arises about how to regulate the intensity of tourist flows so that they do not have an impact on changing the way of life of local communities or affect the character of the natural environment? The last two years have shown that tourist flows can be redirected in terms of sustainable transport to destinations that do not require the use of air transport. On the other hand, it has also shown the need to regulate flows so that the absorption limits of the environment are not exceeded in terms of environmental and socio-cultural sustainability.

Implicitly, it is possible to regulate the intensity of tourist flows by slowing them down, or by excluding fast forms of transport (currently mainly air and individual car transport), with a consequent reduction of the radius of action of tourism on the surrounding areas generating tourists. In this case, however, it is necessary to ensure adequate transport accessibility in the places of perception, while respecting the principles of Low Carbon Travel. This aspect of slow tourism is also gaining importance in the context of the current crisis in the availability of fossil fuels, which is forcing the public sector to reconsider plans for the development of transport infrastructure towards the promotion of green mobility (cycling infrastructure, walking, shared transport, public transport, e.g. based on hydrogen or green electricity, etc.).

CONCLUSION

In the context of the theoretical frameworks outlined in the definition of the concept, slow tourism can be seen as a beneficial addition to the tourist offer of the places, which has an interesting differentiation potential in the process of branding a tourist destination. We consider slow travel to be an immanent attribute of slow tourism, in which slowness is understood as a mental model based on the subjective perception of the time required to achieve the set goals of the participants. We perceive travel to the destination as part of the experience. Thus, slowness is perceived attitudinally rather than behaviourally (Oliver, 1999). Fast and slow travel coexist within slow travel and they are complements to each other for smaximising travel goals (Oh et al., 2016). An advantage of the 'slow' organisation of tourism in a tourist destination is also a certain degree of implicit regulation of the intensity of tourist flows due to the limits of the means of transport used. Thoughtful planning of transport infrastructure has the potential to direct tourist flows so that they can be dispersed over space and time. An undeniable benefit of 'slow' tourism products is the exploitable innovative potential of existing products that can be offered in a 'new' slow way. The emphasis is on their hedonistic and adventure dimension.

Existing tourism resources are thus used with a view to their environmental and socio-cultural sustainability (Dehoorne et al., 2019; Bujdoso et al., 2019). Finally, the slow pace of travel allows for a higher intensity of experience, quality and depth of knowledge of the areas visited (immersive exploration), based on interaction with local people (Sonia, 2015). Soft mobility in the form of relaxed and unhurried travel eliminates time stress, inducing a natural state of well-being beneficial to health. In the context of unprecedented anti-pandemic restrictions and the subsequent impacts on tourism, there is also an opportunity to shape tourists' attitudes and motivations to travel by diversifying the service providers offer. The current tourism acceleration, fuelled by frustration with long-term travel restrictions, can thus be seen as an opportunity to shift product offerings towards environmentally conscious sustainable travel (e.g. through the promotion of Low Carbon Travel; Sharma et al., 2021). From a socio-cultural perspective, the current situation can be seen as an opportunity for the development of slow tourism aimed at supporting local communities, especially groups that are particularly at risk of poverty (poverty reduction through Pro-Poor Tourism). This aspect of the development of slow tourism in local, especially marginalised communities, brings numerous socio-economic benefits: the revitalisation and support for the preservation of cultural heritage or the maintenance of local cultural specificities (e.g. the revitalisation and development of forgotten traditional crafts, traditions, local art, etc.), as very valuable differentiating attributes of tourist destinations, increasing their competitiveness with the consequent enhancement of social ties (Ilieș et al., 2021). As mentioned above, caution is needed in this regard, as inappropriate commodification of cultural heritage can lead to a loss of authenticity and a consequent reduction in the destination's attractiveness.

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DEVELOPMENT E-TOURISM AS AN EFFORT TO SUPPORT TOURISM CHARM PROGRAMME IN INDONESIA

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Abstract: The prospect of developing the tourism aspect is increasingly unstoppable. Tourism is one of the world's markets and a mainstay sector that is growing significantly. To increase the role of tourism, it is necessary to organize and innovate from tourism managers. Adapting to developments in technology, communication, and information is important as a tourism promotion and development strategy. This study aimed to develop an Android-based "GoTRIP" e-tourism which would serve as a need for an effective and efficient promotional tool in supporting and succeeding the title of tourist charm of Indonesia. This study used the R & D method by adopting the Borg & Gall development model (planning, data research and collection, product draft development, limited field trials, revision of results of limited field trials, wider field trials, revision of results of field trials more breadth, and dissemination and implementation). The results showed that the development of e-tourism "GoTRIP" was very feasible in supporting tourism promotion and supporting tourism charm titles in Indonesia. This was evidenced by the results of the feasibility assessment which included usability of 96.4% and 92%, functionality showed 87.5% and 89.30%, and visual communication of 90% and 92%, respectively. Meanwhile, the results of the media trial by taking into account the attractiveness, efficiency, and effectiveness indicators were stated to be very good with a result of 81%. This application is packaged in a practical way so that tourists no longer have difficulty finding tourist objects along with tourism supporting information. Travelers can use the app during the trip hence its accessibility and easy connection. In addition, the development of this application can certainly be a medium for developing sustainable tourism.

Key words: e-tourism, promotion strategy, tourist destination, Indonesia

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INTRODUCTION

Tourism is one of the world's markets and a key sector that significantly keeps growing. It is the fastest growing industry sector in the world (Goliath-Ludic and Yekela, 2021), main factor for economic growth (Garcia et al., 2015; Wahyuningtyas et al., 2020, Wahyuningtyas et al., 2019; Idris et al., 2021) and sectors that can change socio-cultural and environmental (Dayananda and Leelavathi, 2016). The number of international tourist arrivals totals 1.5 billion globally (UNWTO, 2020). Tourism accounts for 10.4% (US$9.2 trillion) of GDP and 9.9% (313 million) of total employment worldwide (WTTC, 2017). This sector provides a significant contribution to state revenues in the Southeast Asia region, with growth reaching 8.3% above global growth of only 3.6%. (Mafruhah et al., 2020). Meanwhile, in Indonesia, the number of foreign tourist arrivals continued to increase by 12.58%, from 14.04 million in 2017 to 15.81 million in 2018 (BPS, 2018, 2019). Thus, tourism is a potential sector that becomes a source of income (Neto, 2003; Nurhajati, 2018; Wahyuningtyas et al., 2020, Wahyuningtyas et al., 2019), job vacancy (Kim et al., 2016; Martin et al.,

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2008), healthy investment provider (Thompson, 2011), and a source of increasing community income (Du et al., 2016). The prospect of tourism development is increasingly unstoppable by progress and changing times.

To increase the role of tourism, it is necessary to manage, regulate, and organize from the manager of tourist destinations (Buhalis and Law, 2008; Mamycheva et al, 2017; Van & Vanneste, 2015). Organizing tourism management balanced with technological innovation is an important thing in the current era. Tourism managers can easily introduce tourism objects, infrastructure, accessibility, and amenities to consumers.

This can be done effectively and efficiently through social media and the use of information technology systems (Fauzi, 2018; Kusumo et al., 2019). The role of information technology in tourism development, both in the world and in Indonesia, is recognized as the most strategic tool in increasing the effectiveness and efficiency of tourism destination promotion (Berne et al., 2012; Huang et al., 2017; Sigala, 2018; Xiang, 2018; Idris et al., 2021). Today's technology has become a transformational tool in the structure and operations of the tourism industry (Sigala, 2018, Idris et al., 2021) and become a basic need for the tourism industry (Sigala, 2018; Idris et al., 2021).

Tulungagung is one of the areas in East Java, Indonesia that has a lot of unique tourism potential to be developed, including beach tourism (Sumarmi et al., 2020), nature (Indrayana et al., 2018), culture, local culinary (Wahyudi, 2019), and others. The Tulungagung government has intensively made improvements in promoting tourism. This improvement is to realize the Tulungagung Enchantment program as a reliable tourist destination not only in the regional scope but also nationally and even internationally. With the development and introduction of the wealth of tourism and cultural potential of Tulungagung properly, it can increase regional income (Monda and Fachruddin, 2019; Nurhajayati, 2016; Sekar, 2019). However, according to the study by (Purwanto et al., 2015), the strategy in toursim development in Tulungagung is not optimal and has not given a significant impact towards the well-being of the neighboring residents as well as the regional revenue. In addition, there has not been a maximum effort in utilizing information technology for promoting the tourism and e-tourism development. Several previous relevant studies only talk about the implementation of tourism policy and the strategy in developing the tourism aspect of Tulungagung, Indonesia (Monda and Fachruddin, 2019). Also, technology-based development in tourism has been done before (Purwanto et al., 2015; Firliana et al., 2016). However, it was only limited to Using GIS for Tourism Information System in Tulungagung, Indonesia. As per the limited number of previous researches as mentioned, the researcher then saw an opportunity to utilize information technology using promotion based on e-tourism to support the development of tourism in Tulungagung.

This development uses a breakthrough in the sense of effortless tourism destination mapping, the facilities, accessibility, and the amenity for tourists alike. This will deliver uncomplicated experience in choosing the right tourism destination as one's preferences, of which belongs to excellent service in tourism development (Anuar et al., 2015; Vengesayi et al., 2009, Dharta et al., 2021; Manhas et al., 2016).

MATERIALS AND METHODS

This research employes research and development approach (R and D) by adopting Borg and Gall model. The development model of Borg and Gall has 10 steps (Ramadani et al., 2020). As per the 10 steps, the research only used 8 development steps, because (1) there is no field trial, assuming that the developed product is deemed to be enough and is final, and (2) the final product is no longer revised because it is already feasible. Meanwhile, the research procedure and the modified Borg and Gall development is shown in the Figure 1.

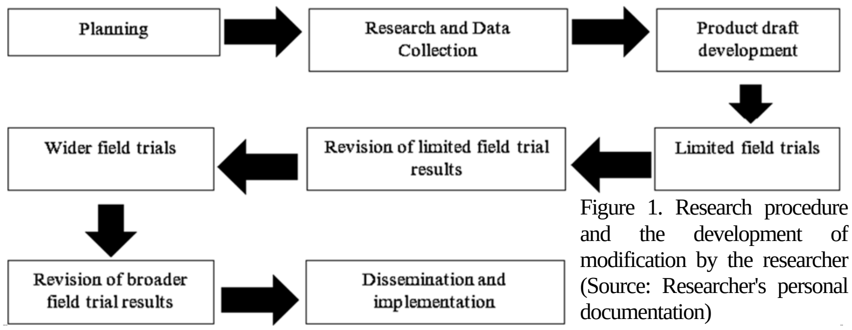

Figure 1. Research procedure and the development of modification by the researcher (Source: Researcher's personal documentation)

Table 1. Analysis Result Criteria of the Expedience of the Instrument Points (Source: Arikunto, 2012)

Percentage (%)	Description
80 – 100	Very Good (No Revision)
66 – 79	Good (Need a few Revision)
56 – 65	Pretty Good (Need Partial Revision)
40 – 55	Not Good (Partial Revision and Reassessment of the Content)
0 – 39	Bad (Overall Revision/Change)

The first phase is planning. The researcher discussed the initial design of the application and did an analysis on the needs through identifying and mapping the potential of tourism spots in Tulungagung, Indonesia. In addition, the researcher also analyzed the content to be developed in the e-tourism application. In the second phase, the researcher researched and collected the data. The primary data are obtained through observation, documentation, and interviews with the Department of Tourism and Culture, the tourist managers, travel agents, tourism communities, the visitors, the locals and others in order to develop the content which will be put into the application. The third phase is developing the product's draft. This is done to implement the previously arranged design in the form of "GoTRIP" e-tourism application. During the development process of the product, the researcher collaborated with the validators to assess the feasibility of the product in development. Meanwhile, the fourth phase is limited field trial. This phase covered limited samples of 10 audience. While the fifth phase is revising the product as per the suggestion and criticism from the audience acquired from the fourth phase. The sixt phase is expanded field trial, with more numbers of samples, where the researcher made the locals as the tourists of destination in Tulungagung, Indonesia to try usng the product. The seventh phase is to revise the previously tried product in an expanded scope. And then, the eighth phase is dissemination and implementation. Whereas the criteria for feasibility assessment for the validation process can be seen in Table 1.

RESULT AND DISCUSSION

E-tourism application "GoTRIP" is an application containing information of tourist's destination in Tulungagung Regency. The purpose of developing this application is to provide information for people in general about different variety in tourism spots in Tulungagung Regency. This application also shows 8 districts in Tulungagung Regency with its famous tourist's destinations: Besuki District, Sendang District, Kalidawir District, Pucanglaban District, Sumbergempol District, Tanggung Gunung District, Boyolangu District and Pagerwojo District. Every single district shown in the application holds information on the tourist destination, district gallery, travel routes, (from Blitar, Kediri, and Trenggalek), the public facility (health and security services), and tourism accommodation (Gas station, hostel, and restaurants).

Steps in Developing the e-tourism application

The first phase is the planning. This includes the planning of the product and the analysis for the needs e.h the mapping of the potential list of the tourist destinations as well as its contents. Then, the next step is developing the said product. In this planning step, the team chooses the application used to develop the application: Adobe Animate 2019. The decision to choose this application is because of its interface in graphic, raster, text, audio, video, etc. The next ste p is to design the early part and the development of the application. Further, the second phase is the research and data collection. The research and the data collection contain the continuation of the planning process. In this step, the research will collect the data of famous tourist destinations across 8 districts in Tulungagung: Besuki, Sendang, Kalidawir, Pucanglaban, Sumbergempol, Tanggung Gunung, Boyolangu, and Pagerwojo districts. In addition, the team also identified the public facilities surrounding the areas of the tourist destinati on, for example the health and security services, travel routes, tourism accommodation (Gas station, hostel, and restaurants). Still in the same phase, the tea, also interviewed related government agency, travel agents, tourism communities, the visitors an d the locals to complete the observation report. When all of the data are collected, then the next step is to analyze to develop the product.

The third phase is developing the product's draft. This includes building the storyboard based on the previous analysis. The entire data were put into the macromedia flash-based "GoTRIP" tourism application. Next, the researcher did some processes o further polish the application and collaborated with expert validators who are product expert (media) and content expert. The validators functions to assess the feasibility of the product for the audience to test. Meanwhile, the team of validator of the product (media) on the development of this product is Ulfatun Nafi'ah, M. Pd and Herlina Ike Oktavian, M.Pd, while the content validators are Nailul Insani, M.Si and Ulfi Andriyana, M.Pd. After going through and passing the validation phase, the application is read for a trial to the audience (the tourists).

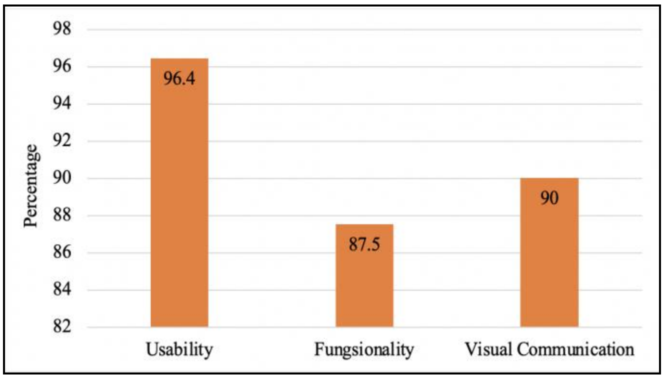

Figure 2. The Result of Media Expert Validation 1 (Source: Research results)

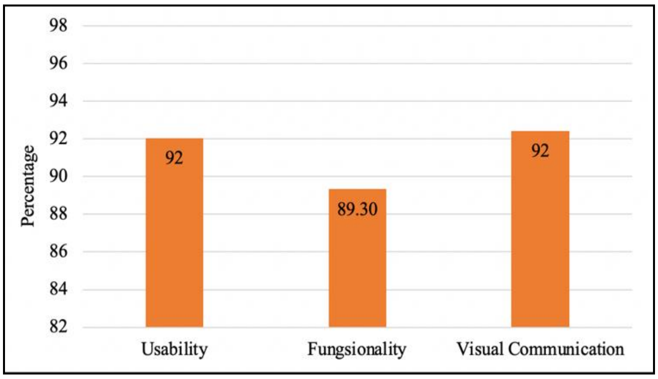

Figure 3. The Result of Media Expert Validation 2 (Source: Research results)

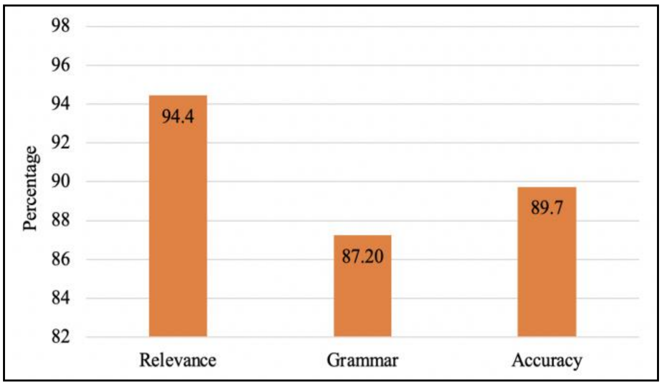

Figure 4. The Result of Material Expert Validation 1 (Source: Research results)

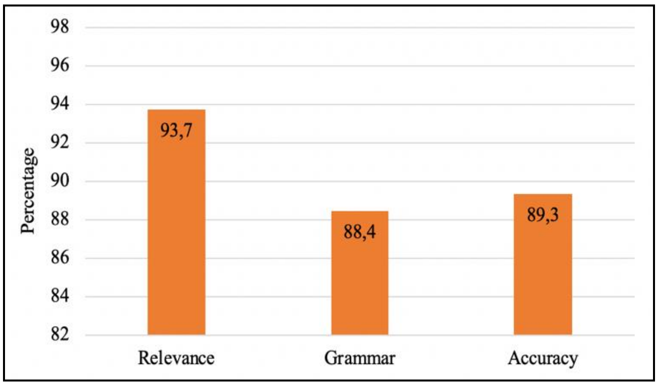

Figure 5. The Result of Material Expert Validation 2 (Source: Research results)

Based on both of the product expert validators, it is shown that the media being developed, in this case, e-tourism macromedia flash-based application named “GoTRIP” is deemed to be feasible. This includes the usability rate of 96.4% and 92%, the percentage of the functionality of 87.5% and 89.30%, as well as 90% and 92% for the visual communication aspects (Figure 2 and Figure 3). Those three indicators are important to be included in the media feasibility because they contain the tutorials for the users in using the product, and functions to view the user’s satisfaction in using the media being presented (Dumas and Redish, 1999). Usability, fungtionality, as well as visual communication are very important to achieve the previously set target through effectiveness, efficiency, and to achieve user satisfaction in using the product (Rahadi, 2014). The results for the content are also not far off from the product validation (media). The assessment from content validator also shows that “GoTRIP” e-tourism application is deemed to be very good and feasible. This covers the relevance percentage of 94.4% and 93.7%, the language aspect of 87.2% and 88.4%, as well as 89.7% and 89.3% for the accuracy of the application (Figure 4 and Figure 5).

The fourth phase is limited field trial. This trial is done by using the limited samples of 10 audience as the trial respondents. Besides being the trial subjects, they are also the product’s validators. By questionnaires shared to them, the researcher acqyured the result of their assessment for its feasibility, as well as any suggestion or criticism for the product. The aspects assessed in the field trials and result can be seen in Table 2.

Table 2. Result of Field Trial (Source: Research results)

Product Attraction Aspect	Product Efficiency Aspect	Product Effectiveness Aspect
P = (507/608) x 100% P = 0.833 x 100 P = 83.3%	P = (494/608) x 100% P = 0.8125 x 100 P = 81.25%	P = (352/456) x 100% P = 0.772 x 100 P = 77.2%

Meanwhile, if the overall asssessment is from the quantitative field trial data, then they can be described with the following: P = (1353/1672) x 100%; P = 0.81 x 100; P = 81%

According to the data above, it can be concluded that the trial result of *“GoTRIP”* e-tourism application, by considering the attractiveness, efficiency, and effectivity as the indicators, is deemed to be very good and therefore feasible.

The first phase is revising the product after the limited field trial. The aspects that need revision are acquired from the advice and suggestion of the audience during field trial. One example of such suggestion is to enlarge the font used in the application to make it easier to read. The researcher then did the revision according to the suggestion and ultimately validated the product once again. The validation result declares that the product is very good and feasible, and so the *“GoTRIP”* e-tourism application is ready for dissemination After the revision process and the product is deemed to be feasible, then the product will undergo a further trial. The sixth phase is expanded trial.

However, this trial cannot be performed due to Tulungagung areas being included in Covid-19 red zone, and resulted in a failure to do the dissemination and implementation processes. However, when the Covid-19 pandemic is over, the team plans to continue the last phase of this research.

Product Desciption

E-tourism “GoTRIP” application is developed to support the tourism industry of Tulungagung, Indonesia. The features of application can be seen in Table 3.

Table 3. Features in E-Tourism “Gotrip” Application (Source: Research results)

No	Feature	Description
1	Home	Home is the welcoming menu when the user accesses the e-tourism “GoTRIP” application for the first time. This is an introduction menu showing the application name tools of “Tulungagung E-Tourism”, whereas next, ehere will be “start” tools to enter the main menu of the application (Figure 6).
2	Main Menu	This menu contains the entire tools of the application, such as the map of Tulungagung, supporting pictures, the district menu, the map legend, zoom in & zoom out of the map, the compass direction (right, left, up, and down of the map), the backsound of the application, tutorials on how to show and hide the menu bar, etc (Figure 7).
3	District Menu	This menu contains the tourist destination in each district of Tulungagung Regency. The tools in this menu are the list of the destination, each with a brief description, a complete description, etc (Figure 8).
4	Tourist Destination Menu	Tourist destination menu contains the description of each tourist destination in Tulungagung Regency. Meanwhile, the tools used in this menu are the description of each district, the tourist attraction description, gallery showing the view of the attraction, travel routes, public facility, and the tourism accommodation (Figure 9).
5	Gallery Menu	The gallery menu holds the description of each tourist destination in every district with the tools of the district map, the description, the tourism accommodation, the public facility, travel routes, and the district’s gallery (Figure 10).
6	Travel Route Menu	This menu contains the tools of travel routes description from Trenggalek Regency, Blitar Regency, and Kediri Regency routes (Figure 11).
7	Public Facility Menu	This menu holds the tools on the list of public facility including the health and security services in the surrounding areas of the tourist spots. This will make it easy for the tourists to look for the public facility in the tourist destination areas (Figure 12).
8	Tourism Accommodation Menu	The accommodation menu contains information and explanations on the location of gas station, hostel, and restaurants in the tourist destination areas. This menu will help the tourists in finding the accommodation in the neighboring areas of the tourist spots (Figure 13)
9	Profile Menu	This menu contains details on the application developer (Figure 14).

Figure 6. Home (Source: Research results)

Figure 7. Main Menu (Source: Research results)

Figure 8. District Menu (Source: Research results)

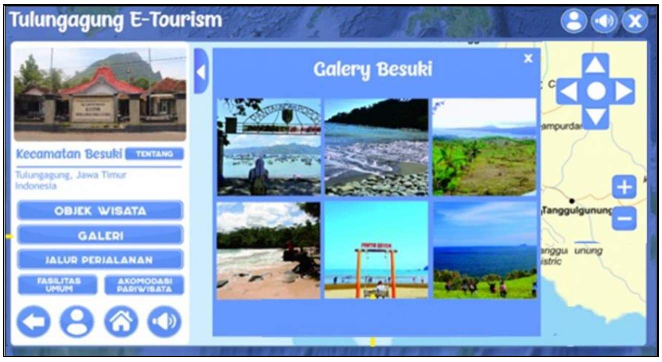

Figure 9. Tourist Destination Menu (Source: Research results)

Figure 10. Gallery Menu (Source: Research results)

Figure 11. Travel Route Menu (Source: Research results)

Figure 12. Public Facility Menu (Source: Research results)

Figure 13. Tourism Accommodation Menu (Source: Research results)

Figure 14. Profile Menu
(Source: Research results)

The development of "GoTRIP" application essentially supports the need for efficiency of the industry 4.0 era. The development of this application suits the needs of millenials who grow up closely with technology. There are six main principles in 4.0 industrial revolution: interopabelitiy, the ability to become realtime, virtualization, always available for service, modular features, and decentralizatin (Prasetyo and Sutopo, 2018). This era is mainly oriented on easy communication that can be done whenever and wherever by using the internet (Kurniawan, 2020).

Technology, communication, and information hold an important roles in influencing tourism. The example is smartphones that have changed the way tourists access information on tourist destination (Buhalis and Law, 208; Kiralova and Pavliceka, 2015). The advanced technology also increases the tourists' experiences in acquiring tourism related information (Wang et al., 2014). These roles including flight reservations, hotel reservations (Gretzel et al., 2015) as well as transactions (Idris et al., 2021). The impact of technology towards tourism industry has become a hot topic with the appearance of e-tourism. E-tourism enables the tourists to expand the limit of their cognitive capability of booking the travels, details, destinations, and increase the quality of their decision with visual data based recommendations (Jung et al., 2015). The tourists' consideration in choosing their destinations start from the necessary budget for their travel, the time spent during their travel, the types of their tourism spots, the facility, the public service, the transportations, etc. The easy features of these aspects will help the tourists in choosing their tourist destination.

The development of technology in 4.0 industrial revolution should be adopted in promoting toursm. This is because the majority of the tourists want to spend their time traveling efficiently. The marketing or promotion system can increase the number of the tourists, especially with a good system that suits the needs of those who want to go to their destination, ultimately making them go for a travel often (Soteriades, 2012; Purnomo, 2020, Soteriades, 2012).

One of accessible applications with various features are "GoTRIP" e-tourism. This application uses the advanced tehcnology in tourism industry to provide a range of different services (Soteriades, 2012; Idris et al., 2021; Sigala, 2018). This application is interestingly packed and simple, so the tourists will not be having any difficulties with the manual system. By e-tourism, the market will expand and can be accessible with virtual marketing.

Currently, android-based information system has become an integral need for people, not counting the internet that make it all easier for the tourists (Buhalis and Law, 2008; D'Silva, and D'Silva, 2008; Kiralova and Pavliceka, 2015; Himawan, 2015, Huang et al., 2017; Idris et al., 2021; Li et al., 2017). They no longer have to wait because the information has been saved in the android and can be accessed quickly (Rusdina et al., 2016).

In addition, the tourists can also use the internet, smartphones, and other products of technology during their travel while accessing the application because of its accessibility and easy-to-connect features. Therefore, technology, information, and communication have successfully changed the global tourism domain and also hold an important role in expanding the market of tourism industry (Jovanović and Njeguš, 2008).

CONCLUSION

The results demonstrate that the "GoTRIP" e-tourism application is very feasible to use in tourism promotion and to support the tourism in Indonesia. This is proven by the media testing results including the usability of 96.4 % and 92%, the functionality of 87.5% and 89.35%, as well as 90% and 92.4% for the visual communication aspect.

Meanwhile, the assessment for content validator (the content) showed that the "GoTRIP" macromedia flash-based application is deemed feasible. This comes from the relevance percentage of 94.4% and 93.7%, the language used with 87.2% and 88.4%, and the accuracy 89.7% and 89.3%. As for the overall assessment, including the attractiveness, efficiency and the effectivity from the field trial showed the percentage of 81%. This e-tourism application can provide tourism related information in Tulugagung regency. The "GoTRIP" application contains information on the Tourism Destination, District Gallery, Travel Routes (Blitar, Kediri, and Trenggalek), the Public Facility (Health and Security services), and Tourism Accommodation (Gas station, Hostel, and Restaurants).

This application is very attractive and efficient, so the tourists will no longer have a difficulty with using the old manual system. The tourists can also receive tourism related information in detail and uncomplicated as well as in a quick way. They can use the application during their travel because of the easy accessibility and connection. The development of this product would be the further development in tourism media.

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COVID-19 AND COASTAL DESTINATION IMPACTS: THE CASE OF SOUTH AFRICA

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Abstract: The COVID-19 pandemic underlines the importance of geography and geographical analysis to tourism scholarship. This paper utilises a spatial approach to examine the impacts of the pandemic on tourism flows and examine the comparative performance of coastal tourism destinations in COVID-times. The case research is on South Africa one of the worst-hit countries in sub-Saharan Africa for the pandemic. Existing international literature points to a geographical change in consumer preferences for coastal destinations with reduced flows to traditional mass coastal destinations. The South African findings demonstrate the highly negative effects of the pandemic upon coastal tourism as a whole with the largest coastal cities experiencing the worst impacts. COVID-19 has caused a reversal of trends recorded for the past two decades for the benefits of coastal tourism to be concentrated in South Africa's large coastal cities. Instead, it has resulted in the relative improvement of smaller coastal centres and in particular of centres which are relatively well-located for access to the domestic markets offered by large cities. These South African findings signal potential shifts in consumer psyche and travel behaviour as an outcome of COVID-19.

Key words: COVID-19, tourism spatial impact, coastal tourism, South Africa

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INTRODUCTION

According to Perillo et al. (2021: 1) "COVID-19 has become what may be the most troubling and complex pandemic that humanity has endured". Verma and Gustafsson (2020: 1) observe that the COVID-19 pandemic "has been labelled a black swan event that caused a ripple effect on every aspect of human life". For Adey et al. (2021: 1) the COVID-19 pandemic resulted in "many everyday human mobilities brought to an abrupt halt, while others were drastically reorganized". Undoubtedly the "pandemic has dramatically impacted prevailing social and economic systems and practices" as well as catalysing "profound human health, development and socio-psychological impacts on individuals, families, social groups, enterprises and nations around the world" (Perillo et al., 2021: 1). As is observed by Wen et al. (2022: 1): "Bidding farewell to 2020 and 2021 turns out to bring neither the end of the pandemic crisis nor the return to business-as-usual". Yet with the roll-out of vaccines it is suggested increasingly that, for certain parts of the world at least, the peak of the COVID-19 'storm' may have passed. Nevertheless, it remains that the "human and economic debris left when the COVID-19 pandemic is finally brought under control will be picked over by a vast array of investigators in the coming years" (Rivera et al., 2021: 10). The tourism and hospitality sector is one of the economic sectors that suffered considerably from the pandemic as a consequence of actions implemented by governments to mitigate the virus spread including imposition of travel bans and thwarting internal mobility (Hall et al., 2020; Sigala, 2020; Robina-Ramírez et al., 2022). COVID-19 has engendered anxiety about the virus's persistence and spread placing the tourism industry in a precarious situation. Much research and scholarly debate centres on the longer-term consequences of COVID-19 and travel and how these might be harnessed for the future re-orientation and resetting of tourism (Herman et al., 2019; Brouder, 2020; Cheer, 2021; Gössling et al., 2021; Rivera et al., 2021; Lew et al., 2022). For example, Sigala (2020) views COVID-19 as a transformational opportunity for the tourism sector with potentially profound and long-term structural changes to the sector. One aspect of the longer-term consequences is changing consumer preferences and destination choices. It is widely recognized that the destination preferences of tourists have been significantly reshaped by the COVID-19 pandemic (Li et al., 2021; Rogerson and Rogerson, 2021a). Zenker and Kock (2020) point to mind-shifts in tourist travel behaviour and stress that pathogen threats make people more alert of and avoid 'crowdedness'. Behavioural changes in tourist preferences in COVID-19 times are underlined by Marques-Santos et al. (2020) and Afroz et al. (2022). Assaf et al (2021) confirm that the implications for consumer behaviour of the pandemic are substantive and most especially the expanded importance of safety, risk reduction, cleanliness and threat anticipation. Kock et al. (2020: 1) maintain that the "pandemic will eventually fade and travel barriers will be lifted, yet some tourists' psyche will likely settle on a new equilibrium".

Nursey-Bray (2020: 1) points out that COVID-19 has demonstrated the significance of and evolving nature of place" and the importance of geography and geographical practices in articulating visions for a future COVID-19 world. It is argued that geography's focus on "the relationship between people, space, scale and place matters more than ever now" (Nursey-Bray, 2020: 1). In addition, as geography is a discipline that integrates the physical with the human in its

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investigations it facilitates a transition from theory to practice. COVID-19 has exerted uneven economic impacts within territories (Visagie and Turok, 2021). Work by the OECD (2020) has underlined the territorial impact of COVID-19 and especially that lockdowns and confinement measures affect localities differently and dependent on their areas of economic activity. Indeed, Higgins-Desbiolles (2022) pinpoints that the pandemic throws a spotlight on issues of tourism dependency. It is against this backdrop that this study applies perspectives from tourism geography which is a flourishing area of scholarship in South Africa (Rogerson and Visser, 2020). Our aim is to utilise a spatial approach to examine the impacts of the pandemic on tourism flows and examine the comparative performance of coastal tourism destinations in COVID-times. The case study for investigation is South Africa, one of the worst-hit countries in sub-Saharan Africa for the pandemic (Rogerson and Rogerson, 2021b). In a parallel with the rest of the world the tourism industry of South Africa was severely impacted by the outbreak and spread of COVID-19. Its impacts for tourism were immediate and followed upon the declaration of a National State of Disaster on 15 March 2020 by South African President Cyril Ramaphosa. The shutdown of South Africa's international borders, restrictions on internal inter-provincial travel, social distancing requirements and lockdowns were among the policy interventions which were enacted by national government to halt the virus spread (Rogerson and Rogerson, 2020a, 2020b). The legislation relating to the National State of Disaster in South Africa continued in force for more than two years and was lifted only on 5 April 2022. The severest curbs on international and local travel were experienced by the tourism sector during 2020 with a gradual easing of restrictions taking place in 2021. Of necessity, tourism businesses in South Africa undertook a wide range of adaptive responses to the pandemic's impact on diminishing tourist flows and in particular re-oriented their operations to the domestic travel market (Giddy and Rogerson, 2021; Lekgau and Tichaawa, 2021; Rogerson, 2021; Rogerson et al., 2021; Giddy et al., 2022; Booyens et al., 2022). Two sections of material are presented. The next section provides a setting for the study by presenting a literature review on coastal tourism within the context of COVID-19. This discussion is followed by a geographical analysis to unpack the pandemic's effects for coastal tourism destinations in South Africa.

COVID-19 AND COASTAL TOURISM

As is stated by Craig-Smith et al. (2006: 108) the "coastline is a particularly unique element of the landscape being the edge of the land where it meets the marine environment". Coastal regions are places where many global environmental changes and shocks intersect, including sea level rise, biodiversity loss and extreme weather events, creating many uncertainties and vulnerabilities (Lamers and Student, 2021). Environmental sustainability and unplanned urbanisation are critical issues that impact coastal development in several parts of the world (Dwyer, 2018; Rogerson, 2020; Uğuz et al., 2022). In particular, coastal regions are highly vulnerable to the threats from global climate change (Moreno and Becken, 2009; Pandy and Rogerson, 2021). The onset of COVID-19 introduced another layer of challenges and threats to livelihoods and economies of coastal regions. Perillo et al. (2021) stress that in the context of the pandemic there is an increased need for research on ocean and coastal issues, including for coastal tourism. Carvache-Franco et al. (2022) identify the value-addition of using social media communication to explore topics under discussion for coastal and marine destinations in the pandemic. Armenio et al. (2021: 1) observe that the COVID crisis "constrained world governments to impose measures of restraint and social distancing which also involves coastal areas". Indeed, COVID-19 affected coastal zones around the world by transforming social structures and livelihood opportunities (Pedroza-Gutiérrez et al., 2021). It has been observed that the "COVID-19 pandemic brings to the fore the complex interconnections between human and social-ecological system health and coastal governance in an age of climate and global change" (Perillo et al., 2021: 1). In terms of re-configuring of social and human-environmental interactions the pandemic has "significant impacts and implications for coastal cities and settlements, including how to manage coastal and marine activities" (Perillo et al., 2021: 1). Since the onset of the pandemic difficult policy decisions faced many coastal tourism destinations in terms of balancing between lockdowns and business closures for the sake of public health, and attempts to partly or temporarily open up again for the sake of the economy and local livelihoods (Lamers and Student, 2021). As Zielinski and Botero (2020: 1) point out key issues arise in terms of beach management such that the economic importance of beach tourism for many destinations caused many governments to reopen tourist beaches as soon as the number of infection cases began to decline.

Globally, coastal tourism has been highly impacted by restrictions such as the closure of international and internal borders, restrictions on access to restaurants, parks and beaches, and low consumer demand. The importance of tourism for many coastal destinations resulted in many uncertainties and vulnerabilities which are magnified especially in tourism-dependent localities (Rogerson and Rogerson, 2020b; Lamers and Student, 2021). As is shown in the case of Korea, new management and development strategies often are required for coastal tourism destinations in the environment of COVID-19 (Sohn et al., 2021). Among others Kane et al. (2021: 1) demonstrate that coastal tourism localities "are impacted by the pandemic" and "continue to grapple with how best to sustain coastal visitation during the COVID-19 pandemic". Gabe (2021) unpacks the pandemic's negative economic implications in the USA for one coastal destination, Bar Harbour in Maine. In one detailed Spanish study De Aldecoa Fuster (2021) analysed spatial patterns of usage of credit cards in terms of three sets of destinations, namely urban, rural and coastal destinations. The research revealed an erosion of tourism business in the 'less urban' regions of Spain which has been far lower than in traditional coastal mass tourism destinations. These findings are a signal that as a result of risk perceptions tourists have avoided large urban destinations as well as major coastal tourist hotspots or spaces where the highest concentrations of people could occur. On Peru Carvache-Franco et al. (2021: 1) highlight that in the pandemic environment, certain coastal centres offer great ecological, cultural and economic benefits which link to an untapped potential for tourism. In Brazil it was shown by Pereira et al. (2021) that public perceptions of COVID-19 risk on beaches varied with less risk perceived at traditionally 'less crowded' destinations.

The above suggests a geographical change in consumer preferences for coastal destinations. Such a shift is indicated by research in Spain which showed the areas least affected by the pandemic's impacts were coastal localities which normally attracted fewer tourists (Donaire et al., 2021). Indeed, what Donaire et al. (2021: 12) describe as "charming coastal cities" were perceived as alternatives to Spain's traditional coastal resorts. Another factor that can account for internal differences in the performance of coastal destinations is that as people avoid large coastal centres they often favour instead the use of the coast closer their residence (Armenio et al., 2021). As stated by Donaire et al. (2021:12) this emphasizes the significance of location and of "proximity to home". In Australian research the importance of self-drive tourism is highlighted for supporting tourism in traditionally less favoured areas (Butler and Szili, 2020). Butler et al. (2021) stress how private vehicles can be viewed as sanctuaries or 'safe havens' and thereby reduce tourist exposure to crowded environments and unpredictable situations in relation to changing COVID-19 regulations. In particular, automobilities and the private vehicle offer a sense of flexibility and especially the flexibility to avoid crowded destinations. For less favoured coastal destinations therefore self-drive tourism can play an essential role "in offering tourists a sense of safety during COVID-19 that other modes of transport simply could not offer" (Butler et al., 2021: 6).

Arguably, in the stressful COVID-19 environment certain coastal destinations can be viewed – alongside nature areas – as 'therapeutic landscapes'. Individuals can 'consume' the coast variously for physical activity, restoration, social activities, relaxation and reflection. Coastal tourism offers potential opportunities to satisfy the demands of pandemic tourists who seek stress-relief and rejuvenation within a therapeutic environment and engagement with physical and psychological well-being activities (Cooper and Buckley, 2021). Jellard and Bell (2021: 1) therefore can isolate an expanding body of research which "suggests positive links between coastal proximity, interaction, human health and well-being". These authors maintain that there is "growing awareness of positive links between coastal proximity, human health and well-being" (Jellard and Bell, 2021: 1). This implies that coastal areas can be viewed as 'healthy spaces' and function as 'therapeutic landscapes' or spaces of psychological healing. This recalls an earlier historical era for the development of coastal tourism resorts in many parts of the world. By the end of the nineteenth century physicians were according considerable attention to the curative attributes of the sea, sea voyages therapy and the healthful powers of English seaside resorts many of which were 'selling air' as their major attraction (Gilbert, 1939; Beckerson and Walton, 2005). The pattern of many coastal resorts emerging and growing on the basis of their 'invigorating sea air' and their generally 'health-restorative environments' has been documented also in the historical trajectories of certain coastal resorts in South Africa (Rogerson and Rogerson, 2020c).

COVID-19 AND COASTAL TOURISM IN SOUTH AFRICA

This section interrogates the ramifications of the pandemic for coastal tourism in South Africa. Initially a context is provided with a brief overview of the shifting policy environment that particularly impacted coastal areas and a discussion of methods, sources and study scope. This is followed by the analysis and discussion of the absolute and relative tourism performance of coastal destinations.

Policy Context, Methods and Scope

The radically changed policy environment triggered by the pandemic clearly impacted South Africa's coastal destinations. The resulting crisis underscores Saarinen's (2021) observation that tourism is a dynamic phenomenon which operates in an environment of permanent change and necessitates strategies for change management. The imposition on 27 March 2020 of a lockdown on the country in order to combat the spread of COVID-19 was a turning point (Rogerson and Rogerson, 2020a). To manage the pandemic risks five different levels of lockdown were applied beginning with level 5 which required a total shutdown of all sectors of the economy (excluding essential services and retail of essential goods), a ban on public gatherings, a ban on sales of alcohol as well as cigarettes, and severe restrictions on mobilities. These hard lockdown restrictions lasted one month until 1 May when government announced level 4 which allowed some sectors to reopen. Nevertheless, mobility restrictions remained with curfews (Visagie and Turok, 2021). On 1 June 2020 most sectors reopened under level 3 albeit inter-provincial travel remained banned. On 17 August lockdown restrictions were lowered further to level 2 and down to level 1 from 21 September. This change permitted a relaxation of restrictions on domestic travel. Two weeks later on 1 October South Africa's international borders were reopened partially for international business and travel but with controls still remaining in place for 22 'high risk' countries (Visagie and Turok, 2021). With the onset of another wave of the pandemic in December a further suite of stringent regulations were introduced. Looked at in a comparative international context Müller-Mahn and Kioko (2021: 219) point out that "the South African government imposed a particularly tough lockdown which was enforced by the army". From 16 December full beach closures were imposed on Eastern Cape and Garden Route resulting in a massive swathe of cancellations at the height of the summer season for domestic travel. A survey report produced by the Tourism Business Council of South Africa (2021) indicated up to 70 % cancellations and for the period October-December 2020 with 97 % businesses operating at a loss in Plettenburg Bay on the Garden Route. Following the President's announcement of new lockdowns and beach restrictions, cancellations of bookings were immediate. It was reported that at least 20 000 bookings meant to arrive in December and January were cancelled within two weeks of the President's announcement. Hardest hit were Garden Route destinations, such as Knysna, Mossel Bay and Plettenburg Bay (Bitou) (Tourism Business Council of South Africa, 2021). The reasons cited for cancellations were the 'hotspot declarations' making travellers feel unsafe to travel, fears of contracting COVID-19, beach closures, the cancellation of a youth tourism festival (Plett Rage), flight cancellations and new curfews which made flight times impossible particularly for travellers from Gauteng (SAPeople, 2020). The policy environment for coastal tourism deteriorated further on 28 December 2020 when all beaches, rivers, dams, lakes and parks in the Western Cape and KwaZulu-

Natal were closed at the height of the festive season. In addition, alcohol sales and restaurant and bar consumption was banned. Further bans on beach access were imposed across all coastal destinations with the only exceptions in Northern Cape. Regular police patrols were undertaken and even visits by the Minister of Police to check the observance of the beach ban.

The time period under scrutiny for this study is between 2019-2020 and is an analysis of the immediate impacts of COVID-19 for the coastal tourism destinations of South Africa. The data used in this study is sourced mainly from the local data base which is maintained by IHS Global Insight (which in 2022 merged to become part of S&P Global), a private sector consultancy. This data base contains information about all local municipal authorities in the country. In terms of tourism, the data is collected about, *inter alia*, tourism trips differentiated by primary purpose (leisure, business, visiting friends and relatives [VFR] and other), and origin of trip (domestic or international); bed-nights by origin of tourist (domestic or international); tourism spend; and, of contribution of tourism to local gross domestic product (GDP). Given the lack of any official tourism data at the local municipality level the IHS Global Insight data base is commonly used as a base for local economic development planning in South Africa. Rogerson and Rogerson (2021c) record that the data is collated by IHS Global Insight regularly from a cross-section of both official and non-government sources. Importantly, the primary data is re-worked to ensure consistency across variables through the application of national and sub-national verification tests ensuring that the model is consistent for measuring business activity, including tourism. Coastal tourism in South Africa includes four of the country's nine provinces - Northern Cape, Western Cape, Eastern Cape and KwaZulu-Natal. The study utilises data at the local municipality level for 43 coastal areas. Among these 43 municipalities are four metropolitan areas, namely the City of Cape Town in Western Cape, Nelson Mandela Bay and Buffalo City (with East London its core) in Eastern Cape, and eThekwini (centred on Durban) in KwaZulu-Natal province. The other 39 smaller local municipalities include three in Northern Cape, 12 in Western Cape, 13 in Eastern Cape and 11 in KwaZulu-Natal. It should be understood that the analysis undertaken here is at the most fine-grained scale using local municipality data as compared to an earlier geographical investigation of the development of coastal tourism in South Africa for the period 2001-2015 which utilised data at the scale of district municipalities (Rogerson and Rogerson 2020d). The location of the 43 coastal local municipalities is shown on Figure 1.

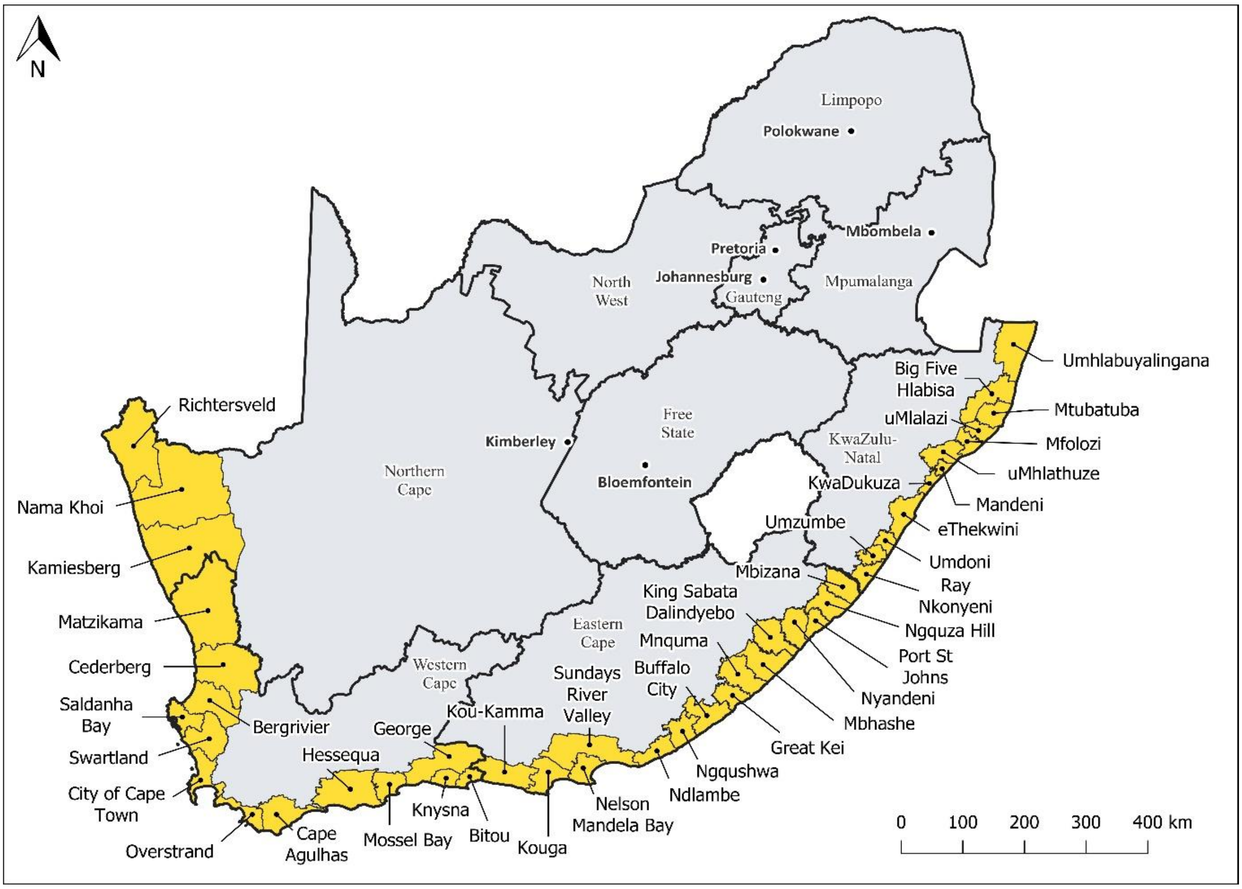

Figure 1. South Africa's Coastal Local Municipalities (Source: Authors)

Findings

Coastal tourism in South Africa historically has evolved largely around the domestic leisure market (Rogerson and Rogerson, 2020d). Until recently, it has largely remained off the radar screen of national tourism policy makers who have traditionally concentrated on promoting South Africa as a destination to international travellers for its nature tourism attractions. In the post-1994 period Cape Town and its surrounds as well as the Garden Route emerged as a popular focus for international tourists. Most other coastal destinations in South Africa remained strongly oriented to the domestic market. This is particularly the case with the three metropolitan centres of eThekwini (Durban), Nelson Mandela Bay and Buffalo City.

Table 1. COVID-19 impacts on coastal tourism in South Africa2019-2020 (Source: Authors based on IHS Global Insight)

Indicator	2019-2020 Net Change (-)	% Loss
Total Tourism Spend (R'000s)	67941.0	70.1
Total Trips ('000s)	6933.7	66.4
Total Bednights ('000s)	47827.8	67.5
Leisure Trips ('000s)	2113.6	65.2
Leisure Bednights ('000s)	16643.6	64.7
Business Trips ('000s)	530.9	70.7
Business Bednights ('000s)	4604.2	70.2
VFR Trips ('000s)	3766.7	67.0
VFR Bednights ('000s)	23429.9	69.3
Other Trips ('000s)	532.5	65.1
Other Bednights ('000s)	3150.0	66.3
Domestic Trips ('000s)	5593.7	66.5
Domestic Bednights ('000s)	28173.7	68.1
International Trips ('000s)	1350.0	66.7
International Bednights ('000s)	19654.3	66.7

Table 2. Individual local municipalities: select key decline indicators (Source: Authors based on IHS Global Insight)

Rank	Total Spend Absolute Decline (R'000s)	Leisure Trips Absolute Decline ('000s)	Domestic Trips Absolute Decline ('000s)	Total Trips Absolute Decline ('000s)
1	Cape Town 22 506	Cape Town 506	eThekwini 1466	eThekwini 1674
2	eThekwini20 828	eThekwini 492	Cape Town 1238	Cape Town 1668
3	Nelson Mandela Bay 4 660	Overstrand 100	Buffalo City 478	Buffalo City 524
4	Buffalo City 2 798	Ray Nkonyeni 92	Nelson Mandela Bay 285	Nelson Mandela Bay 366
5	Saldanha Bay 1 632	Saldanha Bay 80	Ray Nkonyeni 180	Ray Nkonyeni 237
6	Ray Nkonyeni 1 490	George 79	Mossel Bay 143	Mossel Bay 172
7	Mossel Bay 1 023	Nelson Mandela Bay 78	George 117	George 162
8	Bitou 808	Mossel Bay 76	Overstrand 116	Overstrand 160

At the close of the pre-COVID period in 2019 the coastal areas of South Africa accounted for approximately one-third of the tourism economy with particular strengths for leisure tourism (sea, sun and sand) and the domestic tourism market. The devastation wrought by the COVID-19 pandemic within one year is shown on Table 1. This reveals losses to coastal destinations as a whole of 70.1 % of total tourism spend, 65.2 % of leisure trips and 66.5% of domestic tourist trips. Across all 15 indicators relating to purpose and origin of travel downturns of between 65 and 71 % are recorded for the coastal areas of South Africa as a whole. Across all 15 indicators presented on Table 1 the hollowing out of the coastal tourism economies is evidenced for the period 2019-2020. In proportional terms the largest losses were recorded for the critical indicator of total tourism spend as well as for business trips.

The full brunt of the pandemic was experienced most severely by the coastal metropolitan areas as is demonstrated on Table 2. It is evident from Table 2 that the collapse of tourism impacted most particularly the tourism economies of the two largest coastal metropolitan areas – Cape Town and eThekwini. In addition, Table 2 confirms that outside the large coastal cities major losses in tourism were also experienced, and especially for the Garden Route destinations of Western Cape province following government announcements of beach closures. In terms of critical indicators of total spend, total trips, domestic trips and leisure trips Cape Town and eThekwini head the list for pandemic-induced losses which were experienced by coastal destinations. In August 2020 it was announced that Cape Town's iconic Mount Nelson Hotel would remain closed until December 2020 and that it would retrench 154 of its 251 staff as international travel bans caused a collapse in foreign bookings (Bottomley, 2020). For the most lucrative segment of leisure travel the major losses occurred in Cape Town followed by eThekwini and then the smaller municipalities of Overstrand in Western Cape and Ray Nkonyeni in coastal KwaZulu-Natal. Further supplementary official data on visits to Cape Town's leading leisure tourism attractions reveals the differential impact for those attractions heavily reliant on the international market (Robben Island, V & A Waterfront) as opposed to the local market (Kirstenbosch Botanical Gardens) (Table 3).

Table 3. Total visitors at leading Cape Town leisure attractions: comparison of December 2019 and December 2020 (Source: Western Cape Government, 2021)

Attraction	December 2019	December 2020	% Change
Kirstenbosch Botanical Gardens	103 892	79 907	-23.1
Robben Island	37 680	6 175	-83.6
V & A Waterfront Shopping Centre	3.39 million	1.71 million	-49.5
Table Mountain National Park	333 716	82 452	-75.3
Table Mountain National Park Boulders	86 552	22 489	-74.0
Table Mountain National Park: Cape of Good Hope	116 930	35 812	-69.4
Table Mountain Aerial Cableway	110 229	36 997	-66.4

Table 4. Coastal South Africa: Proportion of national total (Source: Authors based on IHS Global Insight)

Indicator	% 2019	% 2020
Total Tourism Spend	34.0	34.1
Total Trips	23.3	23.5
Total Bednights	28.6	29.3
Leisure Trips	30.5	29.7
Leisure Bednights	37.0	36.7
Business Trips	23.1	22.8
Business Bednights	29.9	30.3
VFR Trips	20.8	21.1
VFR Bednights	24.6	25.0
Other Trips	20.9	22.2
Other Bednights	25.9	26.9
Domestic Trips	23.9	24.3
Domestic Bednights	29.7	30.6
International Trips	20.8	20.9
International Bednights	27.3	27.6

Table 4 provides another perspective on coastal tourism as a whole by examining the performance of coastal tourism destinations in relation to their national share of tourism. A mixed picture emerges with only minimal change or even minor improvement in terms of key indicators of total spend, total bednights, total trips and share of domestic trips. It is observed that downturns were recorded for the share of both the markets of leisure trips and business travel. In Table 5 the local development impacts of the havoc caused by the pandemic are apparent in terms of massive reductions in the contribution of tourism to the local gross domestic product of coastal destinations. Significant reductions are recorded in the role and contribution of tourism to the economies of the four metropolitan areas. Once again worst affected was the city of Cape Town where in 2019 tourism represented 6.3 % of local GDP and yet in 2020 dropped to only 1.7%. Beyond the cities the local economic impact of the pandemic on tourism was even more devastating in the less diversified coastal economies which were highly reliant on tourism. In particular, for coastal resort areas in the Western Cape such as Overstrand and the Cape West Coast (Saldanha Bay) as well as Garden Route municipalities, such as Knysna or Bitou (Plettenburg Bay) the pandemic caused a massive reduction in the contribution of tourism to the local economies of these popular resort areas (Table 4). These results point to the unevenness of the pandemic's impact upon the tourism economies and of the role of tourism in various coastal centres.

Table 5. Coastal South Africa – ten leading municipalities: tourism contribution to GDP (Current Prices)
(Source: Authors based on IHS Global Insight)

Name/Province	2019	2020
City of Cape Town (WC)	6.3	1.7
eThekwini (KZN)	5.9	1.7
Nelson Mandela Bay (EC)	4.8	1.4
Buffalo City (EC)	5.1	1.4
Saldanha Bay (WC)	23.9	9.6
Overstrand (WC)	10.2	6.0
Mossel Bay (WC)	12.4	5.0
George (WC)	14.1	5.7
Bitou (WC)	22.6	9.4
Knysna (WC)	21.9	9.0
Ray Nkonyeni (Hibiscus Coast) (KZN)	10.9	4.5

Table 6. Coastal destinations: key change indicators 2019-2020
(Source: Authors compilation based on IHS Global Insight)

Regions	Leisure 2019%	Leisure 2020%	Domestic Trips 2019%	Domestic Trips 2020%	Total Spend 2019%	Total Spend 2020%
Four Coastal Metros	49.0	39.5	56.2	44.6	72.0	65.5
Rest of Western Cape	29.9	33.9	16.1	20.7	14.5	18.6
Northern Cape	1.3	1.6	0.8	1.2	0.4	0.5
Rest of Eastern Cape	5.9	6.1	10.2	8.7	5.1	6.0
Rest of KwaZulu-Natal	13.9	18.9	17.5	24.8	8.0	9.4

The uneven geographical effect of COVID-19 on South Africa's coastal tourism destinations is further confirmed by undertaking a comparative analysis of the performance of the four coastal metropolitan centres with the smaller centres in the different provinces. The results are presented in Table 6. The table shows the proportionate share of different regions in the total coastal tourism sector of South Africa. Note that the four Coastal Metros are City of Cape Town, eThekwini, Nelson Mandela Bay and Buffalo City; Rest of Western Cape the local municipalities of Matzikama, Cederberg, Bergrivier, Saldanha Bay, Swartland, Overstrand, Cape Agulhas, Hessequa, Mossel Bay, George, Bitou and Knysna; Northern Cape the local municipalities of Richtersveld, Nama Khoi and Kamiesberg; Rest of Eastern Cape the local municipalities of Ndlambe, Sundays River Valley, Kouga, Kou-Kamma, Mbhashe, Mbizana, Mnquma, Great Kei, Ngqushwa, Ingquza Hill, Port St Johns, Nyandeni and King Sabata Dalindyebo and Rest of KwaZulu-Natal the local municipalities of Umdoni, Umzumbe, Ray Nkonyeni (Hibiscus Coast), uMhlabuyalingana, Mtubatuba, Big Five Hlabisa, uMfolozi, City of uMhlathuze, uMlalazi, Mandeni and KwaDukuza.

Several points can be observed. First, it is striking that the four coastal metropolitan destinations have recorded a reduced role in the coastal tourism economy as a consequence of pandemic impacts. In pre-COVID times the four metropolitan areas captured 72% of total tourism spend in coastal destinations and accounted for nearly half of all leisure trips and 56 % domestic trips. The dominance of these metropolitan areas in coastal tourism is a reflection of the trend towards the urbanisation of coastal tourism that has been in evidence in South Africa since 2000 (Rogerson and Rogerson, 2020d). The immediate impacts of COVID-19 have halted and reversed that trend in 2020.

Second, what is disclosed on Table 6 is that, in relative terms, it is the smaller coastal centres which have increased their share of coastal tourism as indexed by total spend, proportion of leisure trips, and especially their share of domestic trips. Across all four provinces and all three critical indicators the smaller non-metropolitan centres have advanced their share of coastal tourism with the only exception being a downturn recorded for domestic trips to the smaller centres of Eastern Cape. Three, these findings point to the importance of location of these smaller centres to the markets of the large metropolitan areas in explaining their relative performance in COVID-19 times. The best performing non-metropolitan coastal local municipalities have been those which can be easily accessed from metropolitan markets. Examples are Ray Nkonyeni close to eThekwini, Overstrand close to Cape Town, and the local municipalities that are proximate to the Nelson Mandela metropolitan area. Overall, these observations for South Africa are parallel to those found in other geographical research on COVID-19 impacts for coastal areas, most notably in Spain where as a result of risk perceptions tourists avoided both large urban destinations and major coastal tourist hotspots. This points to what Donaire et al. (2021:12) describe as the significance of location factors and most especially of proximity to home for understanding the uneven geographical impacts of COVID-19 for coastal tourism destinations.

CONCLUSION

Recently, COVID-19 has been styled as a 'game-changer' event for global development (Sims et al. 2022). Few sectors were more adversely impacted by COVID-19 across the international record than tourism and hospitality. The public health crisis that ensued from the outbreak of the COVID-19 pandemic has inflicted unprecedented negative disruption on South Africa's tourism economy. Arguably, these negative impacts potentially may take many years for recovery as a result of risk perceptions and changes in consumer travel preferences.

This paper has documented the pandemic induced impacts of COVID-19 for coastal destinations in South Africa in 2020. The key findings confirm the hollowing out of the tourism economies of coastal destinations with the leading coastal cities those worst impacted. COVID-19 has caused a reversal of trends recorded for the past two decades for the benefits of coastal tourism to be concentrated in large cities. Instead, it has resulted in the relative improvement of smaller coastal centres and in particular of those localities which are relatively well-located for access to the domestic markets offered by large cities. These South African findings are another indication of changes in consumer psyche and travel behaviour as an outcome of COVID-19. Further research and analysis is essential to determine whether this observed trend is a short-term phenomenon or the beginnings of a new normal for coastal tourism destinations.

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LESSON LEARN FROM THE INDIGINEOUS COMMUNITY TO MANAGE ENVIRONMENT AND DEVELOPING THE TOURISM OBJECT IN THE TAJI VILLAGES MALANG REGENCY, INDONESIA

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Abstract: This research was conducted in Taji Village which is a village located in the Bromo Tengger Semeru (BTS) area. The purpose of this study is to explore the strategy of the local community of Taji Village in preserving the environment to support the development of the Tourism Village. The method was conducted through physical surveyand socio-economic surveys. This research started from environmental physical research in the form of landslides with a geomorphological approach. Data collection on conservation efforts and socio-economic conditions was carried out through deep interviews, purposive questionnaires and deep interviews and also observations at tourist attractions in Taji Village. Based on the results of the study, it shows that the people of Taji Village are very aware that their area is an area that is prone to landslides. The local community of Taji Village has local wisdom as a conservation effort in the form of planting multi-strata plants on each part of the slopes in Taji Village with woody plants and horticultural crops. Conservation efforts with vegetative techniques through multi-strata plants, which are part of local wisdom actually make Taji Village a village that has a tourist destination i.e Arabica coffee cultivation and supporting tourism development such some of waterfall in Taji Village. Local wisdom carried out by the local community of Taji Village is also a community survival strategy because most of the life of the Taji Village community depends on the results of agriculture with weekly, monthly and annual harvest times.

Key words: lesson learned, indigenous community, conservation, disaster, tourism

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INTRODUCTION

East Java as a province that has a tourism industry development (Artaya et al., 2020). One area that has the potential as a tourist area is Taji Village, Jabung District, Malang Regency, East Java Province. Taji Village is a village located in the Bromo Tengger Semeru (BTS) area which has an altitude of 1,200 meters above sea level which is located on the central slope of Mount Bromo. The land use of Taji Village mostly is agriculture with woody plants and horticulture. Taji Village has tourism potential in the form of waterfalls. Seribu Coban and Kaki Langit Village are branding used by Taji Village to develop Tourism Village. Another potential developed by the community is Arabica coffee cultivation. The intercropping of coffee with various kinds of horticultural crops carried out by the local community of Taji Village as part of the conservation of their area prone to landslides is precisely one of the strategies that supports the development of Taji Village as a Tourism Village. But on the other hand, the phenomenon faced by Taji Village has a hilly morphology that has a threat of landslides. The Bromo Tengger Semeru (BTS) area as a whole is a volcanic area, so the geological formations formed are the result of the activities of the young quarter volcanic activity and the old quarter volcano. The type of rock found in this area consists of volcanic ash/tuff. Areas whose geological processes are influenced by volcanic processes will mostly produce soil with a high clay content, so that when rain occurs it will be easily dispersed. Geological processes that occur in the BTS area cause the formation of many coban or waterfalls.

The phenomenon of potential landslides faced by the people of Taji Village requires find strategies to survive. People living in disaster-prone areas have challenges to be in harmony with nature. According to (Ali et al., 2021) the indigenous understanding of community is requires and has a influence to disasrer risk reduction. Based on the result the integrating of indigenous perspective and community based reduction has closest relation in the Northern Pakistan. In addition, (Douglas et al., 2018) based on the researh explained that the local knowledge of the community can be used to inform resilience planning more effectively. Thus, the community has the big role to manage their environment such how they conserve their environment. An understanding of conservation must be interpreted as an effort to protect the environment long term not short term, so that in the application of conservation it must be community-based whose application is easy in application, local based materials, local based culture, local based knowledge, provide economic income.

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Many studies have been carried out on conservation strategies for landslide-prone areas. According (Liu et al., 2009) the conservation strategies can be thorough modelling future landscape to decrease the disaster with case study in the Mianjing China. Vegetation has a big role on the distribution of soil water in gully edges, thus it can be conservation way to manage the soil which has effect for landslide in the semi arid region (Wang et al., 2020). The other research explain that the vegetation on earth bunds can be the one solution for mitigating soil erosion in Mollisols region of Northeast China (Yan et al., 2021). However, conservation of landslide-prone areas based on local communities by planting coffee in an intercropping way on several slopes has become a tourist attraction to enjoy Arabica coffee with natural views. In several studies, planting of multistrata crops with coffee intercropping affects landscape configuration and conservation of natural vegetation. (Koelemeijer et al., 2021) stated has ben research that applied of agroforestry between woody plants and coffee in management landcape can be used to conservation way in the southwestern ethiopoa. This funding is also in line with Latini et al., 2020 and Mancini et al., 2021 which explained based on their research that reconciling coffee productivity and natural vegetation conservation has effect for system landscape in Brazil. In this study showed that coffee is the most conservative plant for soil quality improvement. The local community of Taji Village has lived in harmony with nature despite the threat of landslides. The rough morphological conditions of Taji Village encourage the Taji Village community to develop Taji Village as a Seribu Coban Village and Kaki Langit Village. The adaptation strategy and the value of regional resilience developed and owned by the local community of Taji Village are interesting studies and are rarely carried out. Several studies have shown that the threat of disaster is not a barrier in the development of an area, in fact the presence of a disaster can be an opportunity for the community to optimize the potential of the region and initiate new tourism objects from the appearance of the region after the disaster occurs (Liu et al., 2020; Lorenz and Dittmer, 2021b; Wahyuningtyas et al., 2020; Wright et al., 2020). The community has applied the concept that the community can live in harmony side by side with the threat of disaster and the concept that the threat of disaster can turn into a blessing if the community can process nature properly with a deep ecology approach (Morelli et al., 2016). This paper will elaborate a scientific explanation about the efforts of the community to live in harmony with the threat of landslides and elaborate on the physical condition of Taji Village as a supporting strategy in the development of Taji Village as a tourist village. Figure 1 shows the morphological position of the research area. It is located in the southwest of Mount Bromo.

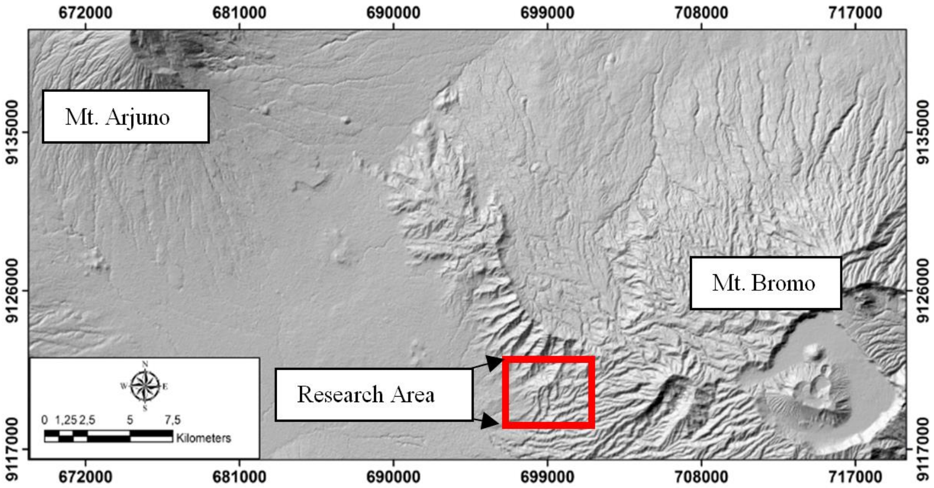

Figure 1. The morphological position of the research area using 3D model (Created by: Masruroh, 2021)

MATERIALS AND METHODS

This research was conducted through physical and socio-economic surveys. This research started from environmental physical research in the form of landslides with a geomorphological approach. Geomorphological aspects that affect the potential for landslides are slope morphology, elevation, slope direction and slope value. The morphology section based on research results mostly emphasizes slope analysis as part of the morphology that affects the potential for landslides (Keller et al., 2020). The data used to make landslide susceptibility map is TerraSAR-X. There are several stages in making a landslide map,i.e 1) DEM download processing; 2) DEM processing analysis; 3) Data processing using Topographic Position Index (TPI) analysis with algorithm. The research data was processed using Arc GIS 10.1 with the Topographix Position Index (TPI) analysis technique and for socio-economic data it was done through data reduction, data presentation and drawing conclusions. The elevations distribution variability increase with the spatial scale such relief generally increase from smaller to larger neighborhood size and algorithm of TPI (1) also consist radius (R) (Weiss, 2001; Wilson and Gallant, 2009).

$TPI = Z_0 - Z$....... (1) $\quad$ $DEV = \frac{Z0-Z}{SD}$ .... (2) $\quad$ $SD = \sqrt{\frac{1}{nR-1}\sum i = 1\left(Zi - \acute{Z}\right)^2}$....................(3)

Topographic Position Index (TPI) has to support with the DEV algorithm to landform identification. DEV measures the topographic position of the central point (Z_0) DEV measures (2) the topographic position of local relief normalized to local surface roughness (De Reu et al., 2013; Liu et al., 2009; Sermin and Jeff, 2008). TPI and DEV were automated calculated using Arc GIS 10.2 tools and using Arc GIS script. TPI and DEV is the most data algorithm for created landform identification.

For the analysis of lessons learned from the local community of Taji Village who can live in harmony in landslide prone areas and the development of Taji Village as a Tourism Village is carried out through observation in the landslide that has high potential landslide, field surveys, focus group discussion with village government leader, 10 person as representatives of each neighborhood, and also representative form disaster preparedness team in Taji Village. Field surveys and observations include local community survival strategies against threats as well as strategies for developing Taji Village as a tourist village. Observations also include observing the behavior of people in their environment, including planting and harvesting their agricultural products.The data analysis this research is tabulation and reduction based on the research problem. To find out this, data was collected with 20 respondents purposively. Figure 2 is a flowchart of methodology.

RESULTS AND DISCUSSION

Taji Village Landslide Susceptibility

Landslides are natural disasters that have the potential to occur in areas with extreme topography. The physical conditions of the area that affect landslides are surface material, morphology, land use, and rainfall. The potential for landslides will increase in unconsolidated soil conditions (Bièvre et al., 2016; Co et al., 2015). Certain types of unconsolidated materials such as clay layers can also become slip raptures and produce typical landslides such as rotational landslides (Levent and Alper, 2009). Land use that is not in accordance with the physical conditions of the area can trigger landslides. This is because the soil has a maximum threshold for survival. When the soil mass load is greater than the maximum soil mass load limit, there will be movement of soil material. The potential for movement of soil material will be greater if the trigger factor is rain. Taji Village is a village located in the Bromo Tengger Semeru (BTS) area with an extreme morphology. In Taji Village, there are many cutting slopes for roads and settlements, causing unstable slopes and increasing the potential for landslides. The types of landslides that occur in Taji Village are translational and rotational types. Based on the association where landslides occur, each type of landslide has own characteristics. For the translational type of landslide, it is associated with roads with plant species such as cassava and grasses, while for rotational landslides it occurs in several agricultural lands with horticultural crops (Figure 3). Most of the landslides that occurred in Taji Village were shallow landslides. Differences in landslide characteristics and landslide activity will affect the type of conservation carried out. There were three types of landslides that occur in the Taji Village, such translational landslide, rotational landslide and complex landslide which is a combination of translational and rotational (Fig. 3). Utilization for agricultural land is one of the conservation activities carried out by the community for the conservation of rotational and complex types of landslides, while for translational type landslides are not processed by the society because it can cause landslide reactivation. In this study, researchers focused on the study of the upper Taji Village which has a high potential for landslides. Based on analysis using the Topographic Position Index (TPI) algorithm technique, landslide susceptibility in the upper part of Taji Village is divided into 3 classes, such high vulnerability, medium vulnerability and low vulnerability (Figure 3). Each vulnerability class has an area that is represented in the form of pixels (Table 1)

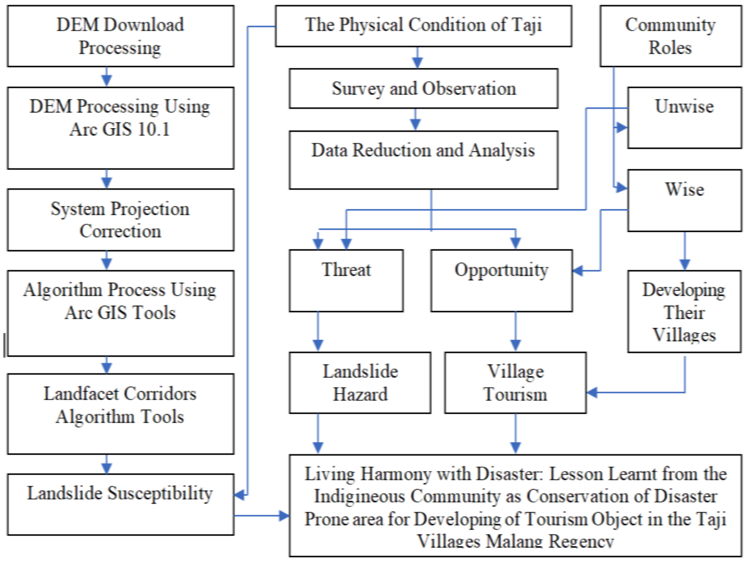

Figure 2. Flowchart of methodology

Table 1. Topographic Position Index (Source: Masruroh, 2021)

Landslide Susceptibility	Amount of Pixel	Percentage (%)
Low	9,959	20.44
Middle	18,923	52.13
High	7,420	27.43

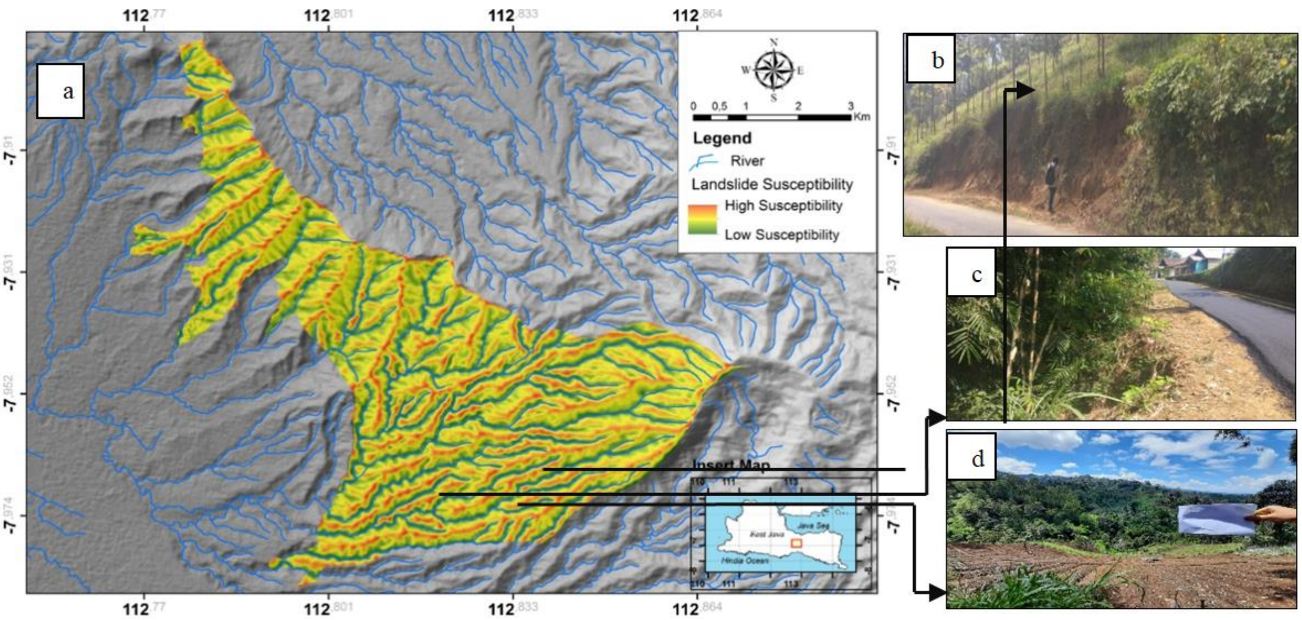

Figure 3. a) Landslide Hazard Map; b) Rotational Landslide (x: 112,838, y: -7,955); c) Translational Landslide (x: 112,82, -7,963); complex landslide (x: 112,837, y: -7,966) (Created by: Heni Masruroh, 2021)

The distribution of low landslide susceptibility class is located at the top of the hill. This is because at the top of the hill is a plain, so there is no energy to move the material. The distribution of middle susceptibility is in the morphology of the upper slope until middle slope. It is because the upper slope to the middle slope is a zone of soil material movement and is a part of very intensive processing. Incompatibility of land management can have an impact on increasing the potential for landslides. Most of the people of Taji Village utilize the upper slopes to the lower slopes by utilizing agricultural land with an intercropping system of horticultural crops. The distribution of high hazard class follows the pattern of river flow and is associated with roads. The cause of the high class of landslide susceptibility associated with roads is due to the influence of cutting slopes for roads and the effect of vehicle vibrations which can affect the potential for material movement. This phenomenon shows that humans can indeed initiate landslides. This is in accordance with research (Froude, 2018) that human activities can be initiate to landside occur such as in the Central America and South of Mexico.

Taji Village Conservation with Multi Strata Plants to Support Taji Tourism Village

Factors that affect landslides can be in the form of physical conditions and human activities. Human activities are very important in influencing landslides because they can trigger or reduce the risk of landslides. Human intervention has played a key role in stimulating natural antecedents of landslides. According (Liu et al., 2020), areas that have the potential for disasters still have the opportunity to be developed into tourist destinations. One of the ways to develop tourist destinations is to build community resilience to maintain people's income. This research was conducted in Aceh Indonesia. Human activities can also reduce the risk of landslides in an area. Human is also can manage their environment as the one of conservation by applied of agroforestry. Agroforestry is a soil conservation effort that combines tree crops, or annual crops with other commodity crops that are planted together or alternately. According (Meylan et al., 2013) in costa rica based farmers have a very big role in land management as one of the efforts to mitigate soil erosion.

The people of Taji Village practice mixed gardens for economic income and one way to conserve landslides, especially vegetative conservation. The people of Taji Village think that mixed gardens are a solution that provides economic and environmental benefits.The people of Taji Village already have awareness about the high potential for landslides in their area. The community is more selective in determining the type of vegetation in each morphological unit and considers land planting and land clearing. Both have an influence on the potential for landslides. The slope of the slope will change if a landslide occurs. This will have an impact on soil erodibility, runoff and infiltration. The people of Taji Village are limited in utilizing land that has a high slope. The Taji Village community treats the depositional portion of the landslide. However, the community cannot plant plants arbitrarily without considering the type and morphological unit.

The community can only plant certain types of plants in certain morphological units. This is important because the type of plant will affect the load on the soil mass. Land use in Taji Village shows spatial planning based on the physical characteristics of the area. Spatial planning includes types of vegetation, morphological units, and areas where landslides occur. Vegetation types such as bamboo, cloves, and other woody plants have been planted on its peak. Mixed gardens that combine coffee plantations with horticultural crops such as carrots, apples, potatoes are applied on the upper slopes to the lower slopes. For foot slopes applied to seasonal vegetation. Most of the local agroforestry plantations in the study area are mixed gardens with local plantations such as clove, coffee, apple, carrot, cassava and local horticultural plantations.

The plants planted by the community are used to increase the economic income of the Taji Village community. Community income based on the plants planted is categorized into weekly income, monthly income, and annual income. All of this is based on harvest time. Local plantations in their planting system have implemented in accordance with the agricultural system. This indicates that local plantations in the study area are based on natural and ecological resource management systems. Agricultural management that has been carried out in Taji Village aims to increase economic income and environmental sustainability. Agroforestry with local mixed gardens can be a solution in environmental management (Zuazo et al., 2006). This is because plants are one of the factors that have an influence on soil conditions that affect the process of infiltration, runoff, and soil mass loads. For the most part, unvegetated soils have greater runoff than infiltration. This affects the process of moving soil material during the rainy season. The existence of a multistrata crop planting system with intercropping of woody plants and horticulture in the form of coffee and vegetables not only has a positive impact on environmental sustainability. The application of the intercropping system as one of the supports for tourism in Taji Village, such as coffee tourism by enjoying the natural beauty of Taji Village. The existence of coffee tourism in Taji Village is an attraction to visit Taji Village in addition to the 1000 Coban in Taji Village.

Development of Taji Village as a Tourist Village

The Bromo Tengger Semeru (BTS) area as a whole is a volcanic area, so the geological formations formed are the result of the activities of the young quarter volcanic activity and the old quarter volcano. The type of rock found in this area consists of volcanic ash/tuff. Areas whose geological processes are influenced by volcanic processes will mostly produce soil with a high clay content, so that when rain occurs it will be easily dispersed. Geological processes that occur in the BTS area cause the formation of many cobans or waterfalls. Taji Village as one of the villages located in the BTS

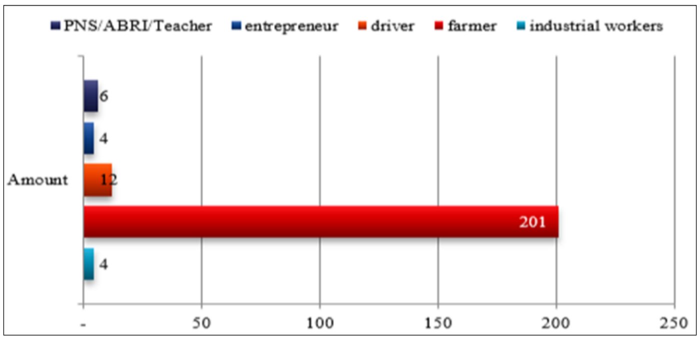

Figure 4. Types of Work for the Taji Village Community
(Source: Taji Village Potential Data, 2021)

area has a high potential for landslides, but on the other hand the occurrence of past geological processes has caused Taji Village to have many trials. The condition of the landscape of Taji Village has an impact on the socio-economic conditions of the community. Most of the people of Taji Village have jobs as farmers. The occupations of the people of Taji Village are divided into farmers, private sector, enterpreneur, drivers and civil servants/ABRI and teachers (Figure 4).

For the local community of Taji Village, the threat of landslides is not a barrier to developing the village. There have been many studies that discuss areas that are prone to disasters but can also be developed into tourism destinantion.There is a very close relationship between disaster and tourism. Post-disaster events can result in the formation of the earth's surface that can be used for tourism. In this case, the community does have a very important role. People who are able to manage their environment even though they are prone to disasters will be created into a society that has good resilience. The eruption of Kelud Volcano is the one example of a disaster that has a positive impact so that tourism is formed and provides income. Based on (Bachri et al., 2015) eruption of the Kelud volcano gave rise to the concept of a human volcano, namely that an eruption does not only have a negative impact on life. In addition, there are other studies (Table 2).

Table 2. Some of previous research regarding developing tourism in the disaster prone area

Type of Disaster	Study Area	Method	Finding	References
Landslide and Flash Flood	Indian Himalaya	Historical Reconstruction	There are closest relation between tourism and disaster. In the disaster-prone areas, tourism still has an important role	Lorenz and Dittmer, 2021a
Natural Disaster	A Global Analysis	Gravity model for tourism demand	Tourism is shaped by various factors and forces, including exogenous factors. Natural disasters events are prime examples of such determinants. As a result it has the potential to significantly affect tourism flows	Rosselló et al., 2020
Natural Disaster	Kaikoura, New Zealand	Questionnaire	Visitors or tourists after a disaster has a very important role to be very important for the social and economic recovery of a disaster-prone area destination.	(Fountain and Cradock-Henry, 2020)
Flood	Kerala, Southwestern India	Literature Review and government documentations	Although the area is prone to disasters. But have good management in environmental management. Then it can be used for tourism	Azzali et al., 2021

Based on several previous studies in table 1.2 according to the phenomenon in Taji Village. The Taji Village community is able to manage their environment and survive. Even the community is able to optimize environmental management and develop it into a tourist object. The phenomenon that occurred in Taji Village shows that the potential for disasters in an area does not only have a negative impact, but if the community can optimize environmental management, it can be used for tourism. There is a relationship between tourism and disaster (Lorenz and Dittmer, 2021a). In recent years, the people of Taji Village have developed their Coban potential to become a tourist destination with the 1000 Coban branding. In addition to the 1000 coban branding, Taji Village also has the branding of village called "Kaki Langit". Currently, Taji Village is developing 4 Coban as tourist destinations under the guidance of Perhutani. Through the development of tourist attractions 1000 Coban can provide income for the community and become part of community empowerment. Some of the cobans located in Taji Village are Coban Siuk, Coban Jahe, Coban Tarzan, and Coban Sari. Visitors can not only enjoy the beauty of the coban, but also can enjoy the white water rafting that can be enjoyed by visitors at the Coban Jahe (Figure 5).

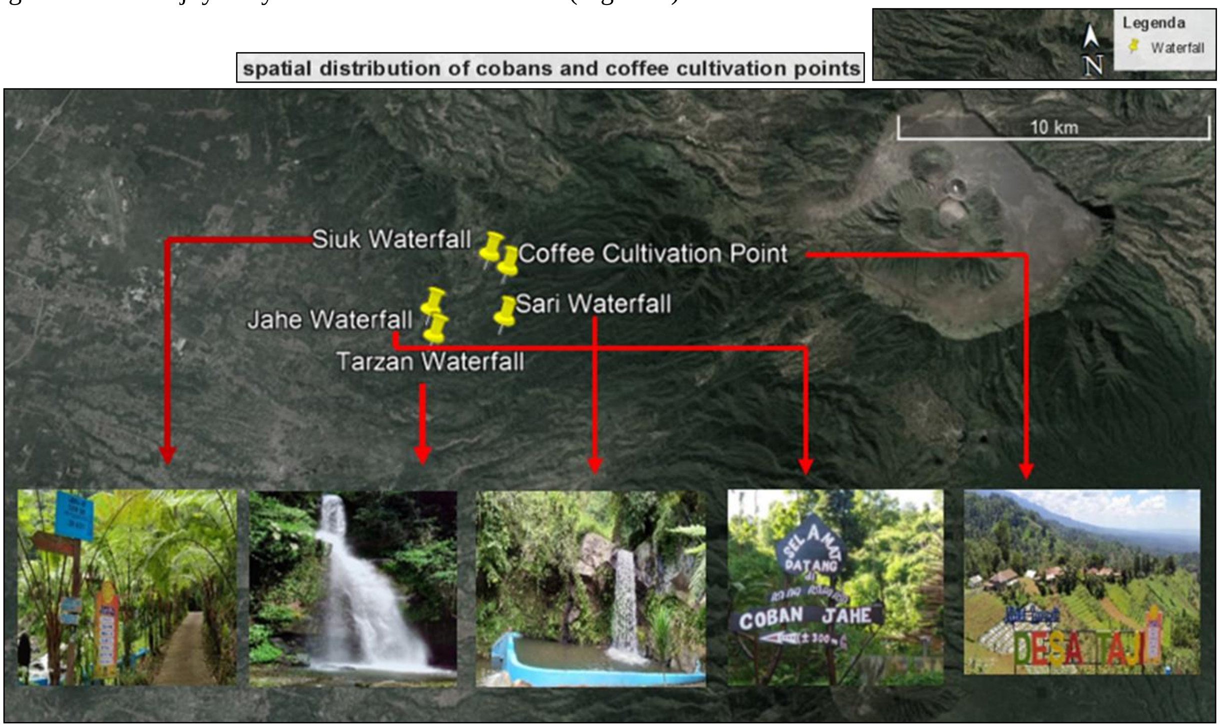

Figure 5. Coban in Taji Village and Coffee Tourism Center (Researcher, 2021)

The landscape that is owned by Taji Village does not only consist of several coban, but Taji Village is also called as "Kaki Langit"thus visitors can see a very interesting landscape in Malang Regency. The topographical position of Taji Village not only poses a threat, but also provides an opportunity to be developed into a tourist village by offering landscape. The development of Taji Village as a tourist village is also supported by the typical coffee of Taji Village. In the discussion sub-chapter on how the local community in Taji Village for land conservation, it is stated that the local community in Taji Village uses an agforestry system with multi-strata plants from woody plants to horticultural crops. One of the plants that is conservative to the movement of soil material is coffee. The local community of Taji Village grows coffee not only as part of conservation efforts, but the coffee grown by the local community of Taji Village has become an icon of Taji coffee. Based on information from the community, Kopi Taji has premium quality with the Arabica type. Coffee cultivation carried out by the local community of Taji Village supports Taji Village as a Tourism Village.

The agricultural potential of Taji Village is also used by the community to develop Small and Medium Enterprises (MSMEs) which are initiated by Family Welfare Empowerment (PKK) women by producing ganyong cookies (Cogan) and coffee cookies typical of Taji Village. The uniqueness of cookies from Taji Village is that they are made from tubers and coffee. The results of the MSME production of the local community of Taji Village are unique cookies produced by the local community of Taji Village. Based on the findings in the field and the development of the Taji Tourism Village, it provides learning and knowledge that the threat of disaster is not an obstacle in developing the village. The physiographic condition of Taji Village has two impacts on the community, such the threat of disaster and opportunity. Based on the findings in the field, it shows that the people of Taji Village can live in harmony with the threats and the local people of Taji Village are able to seize opportunities from physiographic conditions to be developed into a 1000 Coban Tourism Village and offer unique Arabica coffee as well as ganyong cookies and coffee cookies. The values developed by the local people of Taji Village in conserving the threat of landslides and changing the concept of disaster threats into tourism opportunities are interesting things that can be learned from the local people of Taji Village, so that the local people of Taji Village can live in harmony with disasters. Currently, Taji Village is developing the branding of the Kaki Langit Village.

The development of Taji Village into a tourist village and able to provide economic income to the community according to research conducted by (Azzali et al., 2021) in Kerala. The research conducted shows that after the flood disaster in Kerola has changed the physical appearance of the area but with the disaster it provides experience for the community to always be prepared for disasters and prepare for all possibilities that will occur for future disasters. Based on this research, the community plays an important role in reducing disaster risk. The development of Taji Village as a Tourism Village which also has a landslide threat provides evidence that the community has an important role in environmental management. Knowledge of disaster adaptation can be obtained based on experience and also the values of local wisdom.

CONCLUSION

The environment physical condition in Taji Village is not an obstacle to developing Taji Village as a Tourism Village. The community has a very important role in environmental management and optimizing tourism potential. Various efforts have been made by the community for disaster risk reduction. The community has managed the landscape well for agricultural purposes. Management carried out by the community not only has a positive impact on environmental sustainability but also supports the development of Taji Village as a Tourism Village.

Communities in environmental management also consider economic income to be able to survive. The community has managed nature in the best way that is able to combine preserving the environment through multi-strata conservation and maintaining economic income with the development of Tourism Villages.

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PREFERENCES AND CHANGING NEEDS OF WELLNESS TOURISTS: A STUDY FROM INDIAN PERSPECTIVE POST COVID-19

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Abstract : On a global scale, people are resorting more to travel in order to invigorate, relieve stress and lead a healthy life. Therefore, there is a great desire to add wellness component to their travel itinerary post COVID-19. The study aims to find the preferences and changing needs of wellness tourists post COVID-19. The study was conducted on 400 foreign tourists visiting India and find their preferences and changing needs pertaining to various variables of wellness tourism post COVID-19. Factor Analysis was applied to reduce the 12 variables identified through scholarly literature into 3 factors i.e., Core Wellness services, Allied Wellness Services, Ancillary Wellness services. Multiple regression was used to determine the factors impacting the preferences and needs of wellness tourists. The study indicates that core wellness services i.e., yoga, Ayurveda, spirituality, meditation has stronger impact contributing to the satisfaction level of wellness tourists

Key words: COVID-19, Wellness, Tourism, Tourists, Preferences, changing needs

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INTRODUCTION

Since there are no set measurement tools to measure Wellness Tourism, therefore to understand it from a broader perspective more pertinent data, sources and information needs to be accumulated from global perspective. This further leads us to understand the global wellness market. Though there is no worldwide definition of Wellness Tourism, Global Wellness Institute has defined wellness as “the dynamic quest of activities, selections, and routines that lead to a state of all-inclusive health.” (Global Wellness Institute, 2018a, 9). People around the world resort to travel to come out of stress, lead a healthy life style and rejuvenate themselves. People travel in lookout for wellness while another mode is to add a wellness activity to their travel component. These offerings are often connected to the natural ambience and products, cuisine, culture of the local community. Wellness Tourism is all about travelling to rejuvenate and detoxifying oneself and in numerical terms it’s a very large industry. According to Global Wellness Institute it was a 639-billion-dollar market in 2017 which is double the growth in comparison to the travel in general form. The wellness travellers are further subcategorized into primary wellness travellers who are primarily motivated by wellness activity such as visiting a Ayurveda or yoga centre. The second category includes the secondary wellness travellers who engage in wellness while undertaking any other type of travel such as getting spa treatment while visiting a gymnasium. The secondary wellness travellers constitute 89% of wellness travel and contribute to 86% of expenditures in 2017 (Global Wellness Institute, 2018). In 2017, wellness tourists on international scale on average spent $1,528 per trip which is 53% more than the representative international tourist (Global Wellness Institute, 2018). Global Wellness Institute forecasts that wellness tourism is expected to grow at an average annual rate of 7.5% through 2022 which is even faster than 6.4% annual growth predicted for international tourism (UNWTO, 2020). India is one such as destination which is considered to be a land of all seasons and for all reasons. The states of Uttarakhand and Kerala have marketed themselves as prime wellness tourism destinations. COVID-19 has jolted the entire tourism industry. All the regional tourism markets have felt the heat of this dreadful pandemic. In 2020 the international tourist arrivals dipped by 78% globally in comparison to 2019 (UNWTO, 2020). The most affected of all the regional tourism markets was the Asia and Pacific region which dipped by 82% in terms of international tourist arrivals. Before the pandemic struck the wellness tourism industry was growing by leaps and bounds on the global arena but it stood standstill during the period of the pandemic. Wellness Tourism is on the rise as a specialized niche form of tourism and is expected to scale many more heights post COVID-19 (Mohan and Lamba, 2021). In numerical terms in 2020 wellness tourism earned 736 billion USD and is expected to reach 1.2 trillion USD by 2027 (Gough, 2021). The pandemic has forced each and every nation to re-strategize and augment their competitiveness in Wellness Tourism. (Mohan and Lamba, 2021). Therefore, preferences and changing needs of wellness tourists and their consumption level needs to be gauged from a broader perspective post COVID-19

THEORETICAL FRAMEWORK

In the contemporary world people are yearning for healthy mind and body and this pushes the human being to add wellness component to their travel itinerary (Khare et al., 2021). The pandemic COVID-19 has devasted the tourism &hospitality sector in the last two years due to worldwide lockdowns and travel related restrictions. In spite of these challenges, it is expected that

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the travel and tourism industry will bounce back to normalcy with new normal post COVID-19 (Sibi et al., 2020). COVID-19 has impacted people's mindset to a great extent especially visible among those who lead a sustainable and healthy lifestyle. It is also believed that people will now resort to more active life patterns such as walking as well as enhancing physical and mental health post COVID-19 (Alexa et al., 2021). Due to its proven beneficial effects Wellness Tourism is gaining popularity post COVID-19. Each and every country looking into the beneficial effects of Wellness tourism is trying to develop and promote products pertaining to Wellness Tourism (Wayne and Rusell, 2020). Many tourists are seeking for wellness packages to rejuvenate and invigorate themselves after the havoc caused by COVID-19 (Digital Marketing, 2021). Prime focus is on yoga or meditation sessions and other wellness activities as well as therapeutic measures having nexus with physical health, healing recovery and longevity (Majeed and Ramkissoon, 2020)

The independent variables utilized for the study were derived based on scholarly reviewing of the secondary sources. These were yoga, Ayurveda, spirituality, meditation, pilgrimage, happiness, solitude, indigenous medicine, spas, hot spring baths, faith healing, cuisine. Yoga finds its mention in the Indian culture and has been in practice for more than 5000 years. Yoga has grown as an activity in recent times and it has now got a global stature since 21st June is now celebrated as the international yoga day since 2015 since its initiation in the United Nations General Assembly in 2014.Yoga as a form of tourism can be considered as a subset of wellness tourism. New niche forms of tourism are growing by leaps and bounds and expanding their market shares (Weiler and Hall, 1992).Various scholarly researches point towards new niche forms of tourism and defined special interest tourism from various perspectives (Brotherton and Himmetoglu, 1997; Douglas et al., 2001; Read, 1980; Redekop, 1999; Weiler and Hall, 1992).Yoga is characterized as a subset of wellness tourism as both help in rejuvenation and improving the quality of life and involve active participation and in outdoor ambience (Weiler and Hall,1992). Ayurveda is considered to be the strongest pillar of Wellness tourism which was reiterated by the prime minister of India Mr. Narendra Modi at the global Ayurveda festival organized by the Ayush ministry, government of India. The prime minister also said that the key pillar on which Wellness Tourism rests is Ayurveda and traditional medicines. Ayurveda finds its mention in the teachings of Atharva Veda with prime focus on holistic healing. Its usage as an alternate therapy using natural herbs is the prime benefit which accrues from Ayurveda. There is no universal definition of spirituality and there is lack of consensus amongst the scholarly community as it is portrayed in cross-cultural and cross religious variety of contemporary society (McCarroll et al., 2005). Meditation is also considered as a subset of wellness tourism meditation has beneficial impacts on corporates (Teper and Inzlicht, 2013), creativity (Ren et al., 2011), physical and psychological well-being. Faith related packages are gaining popularity as well as religious and pilgrimage sites and adding to the growth of wellness tourism (Reader, 2007). Wellness tourists are active seekers of individual well-being, health and happiness. Among the elderly population there is a growing concern of health and well-being especially those living in solitude. Indigenous medicines such as rejuvenation therapies, panchakarma are some of the oldest systems of medical treatment and the Indian state of Kerala is primarily positioning itself as a prime destination of wellness tourism.

The therapeutic properties of water were well known since the Roman civilization and the spas are deep-rooted in early European history. Spas play a major role in the wellness sector, worldwide (Mueller and Kaufmann, 2001). Factually, hot spring baths (Migliaccio, 2018; Costa et al., 2015; Rocha and Brandao, 2014; Smith and Puczkó, 2008; Gustavo, 2008) intended to improve tourists' experience of a "health preservation bath" (Pan et al., 2019) through their satisfaction of thermal baths with specific healing features. Norman (2012) emphasises that wellness tourism includes seeking faith healing and further growth in tourism. To remain attractive for wellness tourism destinations, need good cuisine (Voigt and Pforr, 2013).

DATA AND METHODS

The below mentioned Figure 1 displays the Methodology design which involved identifying the research problem, developing a theoretical framework, choosing the study design, collecting the primary data, processing and analyzing the data and presenting the results. The Data Analysis was carried out through the below mentioned steps:

a. Primary Data was collected from wellness tourists pertaining to yoga, Ayurveda, spirituality, meditation, pilgrimage, happiness, solitude, indigenous medicine, spas, hot spring baths, faith healing, cuisine.

b. Descriptive statistics

c. Statistical analysis

400 tourists were surveyed in order to understand their preferences and changing needs on the various facets pertaining to wellness tourism in India post COVID-19. The variables used for the study were derived based on scholarly reviewing of the secondary sources. These were yoga, Ayurveda, spirituality, meditation, pilgrimage, happiness, solitude, indigenous medicine, spas, hot spring baths, faith healing, cuisine.

Table.1 Attributes pertaining to Satisfaction of Wellness Tourists Source: Primary Survey

Attributes	Mean	Standard Deviation
Yoga	4.64	0.58
Ayurveda	4.42	0.69
Spirituality	4.23	0.59
Meditation	4.17	0.72
Pilgrimage	4.15	0.84
Happiness	4.13	0.72
Solitude	4.03	0.78
Indigenous Medicine	4.02	0.83
Spas	3.91	0.95
Hot Spring Baths	3.86	0.83
Faith Healing	3.51	1.05
Cuisine	3.22	1.04

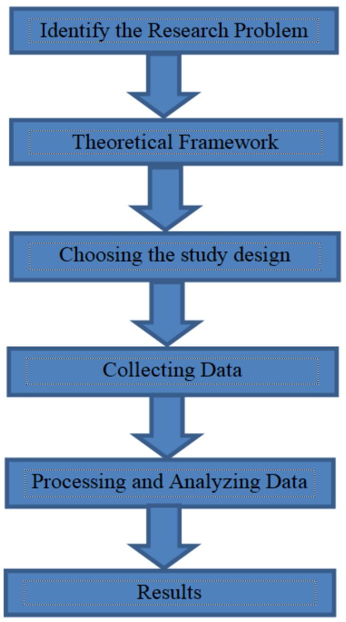

Figure 1. Methodology Design

The 12 variables were condensed to 3 factors through factor analysis. Further multiple regression was utilized on these 3 factors. The variables with a mean value higher than 4 included yoga, Ayurveda, spirituality, meditation, pilgrimage, happiness, solitude, indigenous medicine, spas, hot spring baths, faith healing and cuisine, have lowest mean values.

Table 2. Kaiser-Meyer-Olkin and Bartlett's Test (Responses of Wellness Tourists) Source: Primary Survey

Kaiser-Meyer-Olkin and Bartlett's Test (Responses of Respondents)		
Kaiser-Meyer-Olkin Measure of Adequacy of Sample		0.822
Bartlett's Test of Sphericity	Chi-Square value	309.33
	Df	11
	Sig.	0.000

Table. 3 Factor Analysis (Source: Primary Survey)

Com ponent	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.400	45.003	45.003	5.400	45.003	45.003	5.090	42.491	42.491
2	2.859	23.826	68.829	2.859	23.826	68.829	3.015	25.192	67.548
3	1.347	11.226	80.056	1.347	11.226	80.056	1.501	12.580	80.056
4	.876	7.300	87.356						
5	.575	4.793	92.148						
6	.513	4.279	96.427						
7	.237	1.974	98.401						
8	.141	1.179	99.579						
9	.034	.280	99.859						
10	.015	.122	99.980						
11	.002	.020	100.000						
12	-7.818E-16	-6.515E-15	100.000						

Table. 4 Rotated Component Matrix (Source: Primary Survey)

Rotated Component Matrix			
Variables/Factors	Component		
	1	2	3
Yoga	**.933**	.041	.115
Ayurveda	**.972**	.085	.048
Spirituality	**.780**	.419	-.142
Meditation	**.901**	.289	.139
Pilgrimage	.186	**.900**	.189
Happiness	.155	**.769**	-.330
Solitude	.101	**.637**	-.620
Indigenous Medicine	.031	**.727**	.168
Spas	.037	.041	**.676**
Hot Spring Baths	.119	.085	**.577**
Faith Healing	.172	**.787**	.154
Cuisine	.142	.446	**.708**

Table. 5 Identification of New Parameters by Factor Analysis (Source: Author)

Factors	Variables					New Parameters
F 1	Variable 1	Variable 2	Variable 3	Variable 4		Core Wellness services
F 2	Variable 5	Variable 6	Variable 7	Variable 8	Variable 11	Allied Wellness Services
F 3	Variable 9	Variable 10	Variable 12			Ancillary Wellness services

Variables 1,2,3,4 denote factor 1 which is termed as Core Wellness Services. 5,6,7,8,11 variables denote factor 2 which is termed as Allied Wellness Services. Variables 9,10 and 12 variables denote factor 3 and is termed as Ancillary Wellness Services shown by Table 5.

Regression Analysis:

Multiple Regression equation (Cohen et.al, 2013,736):

$$Y = C + ßx1 + ßx2 + ßx3 + ßx4 + ßx5+…. + ßxn$$

Y = prediction relationship; C= Constant value; ß = Unstandardized Coefficient x1, x2 ……. xn= Dimension of independent variable (Source: Olejnik andAlgina, 2003). The R square value of the multiple regression model derived was 0.978, which displays that the dependent variable is influenced by all these three variables (Table 6).

Table 6. Multiple Regression Summary Output (Responses of Wellness Tourists) Source: Primary Survey

Multiple Regression Summary Output (Responses of Wellness Tourists)	
Regression Statistics	
Multiple R	0.989
R Square	0.978
Adjusted R Square	0.984
Standard Error	0.020
Observations	400

Table.7 Multiple Regression (ANOVA) (Source: Developed from the research) *Significant at 1 per cent level

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	83.641	3	27.250	4594..336	.000*
Residual	2.462	397	.006		
Total	**86.103**	**400**			

Table 8. Multiple Regression Coefficients (Responses of Wellness Tourists) Source: Primary Survey

Factors	Coefficients	Standard Error	t Stat	P-value
Intercept	-0.002	0.001	-0.989	0.321
F1	0.214	0.132	100.574	0.000*
F2	0.199	0.012	100.809	0.000*
F3	0.194	0.002	100.327	0.000*

Table. 9 Factors and New Parameters*Significant at 1 per cent level Source: Primary Survey

Factors	New Parameters
*F1	Core Wellness services
*F2	Allied Wellness Services
*F3	Ancillary Wellness services

Table 8 depicts that the significant value (p-value) of F-test calculated was 0.000, which displays that all three explanatory variables are highly significant. The application of multiple regression on the respondents and its constituent variables can be displayed with the help of the below mentioned equation (Olejnik and Algina, 2003).

Responses of Wellness Tourists (Y) = -.002 + 0.214 (F1) + 0.199 (F2) + 0.194 (F3)

From the table 9 shown above, the independent factor 1 of 0.214 is highest amongst all the three factors. This portrays that the independent Factor 1 i.e., Core Wellness services has had a stronger effect leading to the highest satisfaction level of wellness tourists.

RESULTS AND DISCUSSION

The variables derived for the study was derived from secondary data and citations have been provided for the constructs of the survey instrument i.e., yoga, Ayurveda, spirituality, meditation, pilgrimage, happiness, solitude, indigenous medicine, spas, hot spring baths, faith healing, cuisine. Wellness Tourism is all about travel to augment the wellbeing of an individual. The growth of wellness tourism is attributed to the growing and ever-expanding middle class. As far as the regional tourism markets are concerned the European region has the largest number of wellness trips whereas North America heads in wellness tourism expenditures. The Asian region is the fastest growing region both in terms of wellness trips as well as wellness tourism expenditures. Wellness Tourism is one of the emerging niche forms of tourism. International Tourism has grown by leaps and bounds in the last 69 years from 25 million in 1950 to 1.5 billion international tourist arrivals in 2019. 2019 was considered to be a golden year for International Tourism. The European region was the most visited region in terms of international tourism arrivals as well as international tourism receipts followed by the Asia and Pacific Region, Americas, Africa and Middle East. The wellness tourism market comprises of two major class of travellers i.e., primary wellness travellers, who are driven primarily by wellness to take a trip and secondary wellness travellers, who seek to sustain wellness or participate in wellness activities during any kind of travel. COVID-19 pandemic jolted the entire tourism industry. In 2020 international tourist arrivals dipped by 78% across the five regional tourism markets (UNWTO, 2020). The tourism industry needs to revamp itself post COVID-19. Though the regions are now opening up in phases, their respective tourism industry are following the restrictive COVID-19 protocols and the new normal for revamping the tourism industry. Though the journey seems long but it is believed that the tourism industry will rebound again back and soon things will be back to normal.

The research demonstrates that yoga, Ayurveda, spirituality, meditation has stronger impact contributing to the satisfaction level of wellness tourists. Popular wellness activities are getting lot of focus post COVID-19, such as spa, meditation and yoga. The pandemic has jolted the mindset of people and people are now seeking for sustainable and healthy lifestyle. As far as wellness tourists are concerned, there are many activities such as yoga, meditation, cuisine is already a part of their daily routine while others profess these activities at wellness destinations and then practice these activities at home (Stausberg, 2010). Many destinations are positioning themselves through their wellness products pertaining to natural and cultural assets such as Ayurveda retreats in India, spa retreats in Costa Rica which gives a feel of rejuvenation and mental peace, hot spring baths in Vietnam which gives numerous benefits for strengthening physical and emotional wellbeing and a highly recommended tourist attraction.Spread of wellness centres, Ayurvedic retreats, spa retreats, spiritual pilgrimage centres, therapeutic centres bring lot of benefits in the form of wellness tourism destination (Philip et al., 2010). Tourists who feel solitude, strive for an environment to strengthen their self-esteem and self-image are also engaging in wellness tourism. Seeking happiness is also a pull factor for the wellness tourist post COVID-19 because of the stress and anxiety caused by the pandemic. Therapeutic centres are also closely linked to rejuvenation of health, faith healing and increasing the life span of people (Majeed and Ramkissoon, 2020).

CONCLUSION

Due to the complex and intricate nature of wellness tourism, it should be understood from a broader perspective. It is understood as an amalgamation of numerous elements, travel and observed products pertaining to wellness tourism. The whole world witnessed the catastrophic effects of COVID-19 and it wreaked havoc immensely on the tourism industry which was growing by leaps and bounds till 2019.The pandemic led to complete travel restrictions and lock downs all over the world. The present research provides a ray of hope post COVID-19. Many foreign tourists are choosing wellness tourism not only for rejuvenating and relaxing but also to enhance their self -esteem after the unprecedented and challenging times posed by COVID-19. Popular wellness tourism products can be further enhanced and developed in India owing to the high demand post COVID-19 such as building more centres pertaining to yoga, Ayurveda, spirituality, meditation. By providing adequate and world class facilities pertaining to yoga, Ayurveda, spirituality, meditation, India can emerge as a global leader in terms of wellness tourism.

Post COVID-19 tourists are now more concerned about health-related issues and they keep an eye on all the health-related protocols followed by a destination. As far as wellness tourism is concerned India offers a bouquet of wellness tourism products and they should focus on building more centres especially in respect to yoga, Ayurveda, spirituality, meditation. The research also indicates that core wellness services i.e., yoga, Ayurveda, spirituality, meditation has stronger impact contributing to the satisfaction level of wellness tourists

LIMITATIONS OF THE STUDY

1.The study is being conducted in India whereas there are other principal wellness tourism centres such as Sri Lanka, Nepal, Bhutan in South Asia., therefore the findings of this study may not be comprehensive to these areas.

2.Wellness service providers are also unwilling and diffident to disclose information pertaining to wellness tourists.

3.The study was highly time consuming and incurred monetary restraints.

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ASSESSING SURVIVAL FACTORS OF RICE FARMERS IN THE FLOOD-PRONE AREA: A CASE STUDY IN BOJONEGORO DISTRICT, INDONESIA

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Abstract: Bojonegoro is one of the largest producing districts in East Java Province, Indonesia. However, from year to year, floods become a problem that impacts the resilience of farmers in producing agricultural products. This study found out how the farmer could survive in these uncertain times. This research method is survey research. Samples were collected from 217 rice farmers in six sub-districts. The sub-districts were selected based on their vulnerability to flooding at a medium to a high level. Structural Equation Modeling (SEM) is used in this study to confirm the measurement model. This study revealed that nature, man, society, and networks significantly impact the resilience of farming communities in flood-prone areas in Bojonegoro. Meanwhile, the Shell factor is the only element that does not affect rice farmers' survival in Bojonegoro flood-prone areas. These results prove that the survival of farmers is highly dependent on factors that affect their daily lives. Meanwhile, flooding is not a problem because it only occurs on average 1-2 times per year.

Key words: survival, farmer, flood, settlement principles, SEM

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INTRODUCTION

Climate change is a worldwide issue that is extensively studied in geography due to its significant influence on natural conditions and human existence. Climate change's consequences are becoming more visible in a variety of ways around the globe. A critical challenge is addressing climate change and its harmful consequences both now and in the future. Various political initiatives have been formed on a global scale, including the G8 summit, which is considerably more serious and intensive than in the past (Sumi et al., 2010). Many studies have been conducted on the influence of climate change on the geosphere system on Earth. The circulating gases in the atmosphere; solar radiation; weather conditions; volcanic activity; sea wave; coastal destruction; and rise in sea level are all physical characteristics that may change (Letcher, 2009). Meanwhile, human life-related vulnerability include those connected to food, water, energy, shelter, and health. These are critical societal sectors, and each is vulnerable to the impacts of climate change. Because of the vulnerability to environmental changes, the influence of climate change has the potential to affect human interactions (NRC, 2010). Humans and Earth's physical systems are intimately connected. Humans, the primary cause of climate change, are the most endangered. Ocean currents, hydrology, agricultural systems, and the intensity of natural catastrophes such as floods, landslides, and volcanic eruptions that may have an influence on human survival are all factors to consider. Even though it is a concern for humans, just a few are aware of it. Flooding risk is growing globally, which must be evaluated as the influence of hazard, high risk, and susceptibility; each of these components must be addressed and studied if searching for explanations for this growth. The primary causes are the fast increase in the value placed by individuals in flood-prone areas, as well as their increasing vulnerability to their belongings. Climate change is also having an impact on the

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hydrological hazard situatiion in many places that extremely rises (Kron, 2005). The Indonesian people are suffering the effects of natural disasters such as floods caused by climate change. According to National Disaster Management Agency of Indonesia (*BNPB-Badan Nasional Penanggulangan Bencana*) statistic data, there were 1,138 flood natural disasters in Indonesia in 2020, with 188 people killed, 22 people missing, 204 people wounded, 20,011 residences destroyed, and 2886 public buildings damaged. East Java was one of the provinces that had a significant amount of flooding in 2020. East Java was hit by 117 natural disasters, which covered 31 cities and districts. This statistic represents 10.28 % of all flood disasters in Indonesia. Floods have a significant impact on the people of East Java's daily lives, particularly in the agricultural sector.

East Java is one of Indonesia's food producing provinces. This statement is based on statistics (BPS-Statistics Indonesia, 2016) showing that East Java has the greatest rice production in Indonesia. In 2020, the overall national rice output is 55,160,548 tons, whereas East Java produces 10,022,387 tons, meaning that East Java produces 18.16 % of Indonesia's total national rice demands. East Java's significance as a productive area that produces rice for domestic use is one of Indonesia's aspirations for food sustainability. The vulnerability of agricultural land areas towards climate change is another phenomenon that occurs in East Java. Floods occur on a regular basis in a some of productive locations, such as rice fields (BPS-Statistics Agency East Java, 2021), one of which is the Bojonegoro District, which is prone to flooding every year. In fact, by 2020, Bojonegoro will be East Java's third-producing district (BPS-Statistics Agency East Java, 2021). In 2020, floods struck the Bojonegoro District six times, affecting 47 villages. In previous years, the number of villages affected by floods in Bojonegoro Regency was even higher: 127 villages were affected in 2018, and 75 villages were affected in 2019. In the beginning of 2021, around 486 hectares of rice fields were flooded and threatened to crop failure. The next month, floods destroyed 2,733 hectares of rice fields in 11 sub-districts, and 546 hectares of crops were destroyed.

Numerous studies from several disciplines have been conducted on floods in Bojonegoro Regency. Anggraeni et al. (2014) explain how climate change preferences and housing locations in flood-prone areas of the Bojonegoro District are affected by floods. The result of investigated show the sustainability of farmers' food security in the flood-prone areas of Bojonegoro District (Riptanti et al., 2016). The Other researcher used GIS to do flood study in Bojonegoro District (Rosytha and Taufik, 2015). Apart from physical studies, there are several social studies related to flooding in Bojonegoro Regency. Studies on the resilience and adaptation of residents in flood-prone areas of Bojonegoro (Hartini, 2017; Wijasono et al., 2019). Analysis of the influence of public perception on emergency response plans and flood disaster preparedness in Bojonegoro Regency (Rosida and Adi, 2017; Sa'ida and Ma'ady, 2019; Syafrudin, 2018). Unfortunately, as a food-producing area in Indonesia, Bojonegoro District often suffers crop failures. Apart from the possibility of interrupting the national rice supplies, this will also have a detrimental effect on the economic condition of rice farmers. Despite this fact, rice farmers who have suffered several crop failures continue and maintain rice cultivation for decades. In contrast to prior research findings. The purpose of this study is to examine the variables that influence rice farmers' decision to relocate to flood-prone areas in Bojonegoro Regency. Because rice farmers' house and agricultural land are located in flood-prone areas in Bojonegoro District, East Java. These variables were found through the development of a measuring model based on Doxiadis' ekistics theory (Doxiadis, 1970). Human settlements are defined as locations inhabited by people that have both content and container elements. Ecology is organized into five components: nature (human), humanity (anthrophos), society (society), reflection (shell), and networks (networks). Ecism is a hypothesis used to explain human habitation (Farizkha et al., 2019).

METHOD

This study aims to determine which geographical factors contribute to survival in flood-prone areas in Bojonegoro District. This study used a quantitative method. The population are farmers community located in flood-prone areas In Bojonegoro District. Sampling was conducted using Statistic data from Bojonegoro (2021), which showed that there were 3,332 people working in the agricultural sector. Then, using the Slovin formula, the number of samples was determined to be 217 respondents. Purposive proportional sampling was used by considering to sample characteristics comprising such as: 1) farmers in flood-prone areas and 2) owners of rice fields. Samples will be taken in six sub-districts of the Bojonegoro district that have been identified as flood-prone areas based on the level of flood risk in Bengawan Solo as estimated by the government (Rahadianto et al., 2016). *Balen, Bojonegoro*, and *Trucuk* subdistricts are classified as high level, while *Kapas, Kanor*, and *Baureno* subdistricts are classified as medium level. It is then shown proportionally to the number of affected communities. There were 207 from 217 respondents whose data was obtained, who meet the data processing standards. The Structural Equation Model (SEM) and PLS (Partial Least Squares) analysis technique are used in the study measurement model. This technique was chosen because the purpose of this study is to develop a measurement model of geographic factors that cause survival. PLS is a statistical test technique used to produce measurement models that can be used to develop or build hypotheses (Ghozali, 2014). An instrument or measurement model must meet a set of requirements before it can be tested using confirmatory factor analysis (CFA). As a result, it is necessary to estimate: 1) Loading Factor value must be more than 0.6 for each item; 2) AVE (Avarage Variance Extracted) must be more than 0,5; 3) Composite Reliability value must be more than 0.7; 4). The significance test by looking at the T-statistic value must be > 1.96 (Ghozali and Latan, 2015). Measurement models that meet all of these requirements are considered valid and reliable.

RESULTS

Descriptive Analysis: This study collected data from 217 participants for one month. Five independent and one dependent variables were included in the questionnaire. The following is a descriptive analysis to find out the general opinion of respondents about the variables studied in this study. Every construct and item in this study will be analyzed. he average score indicates the value of the perception, as follows:

Table 1. Descriptive Analysis

	Mean	Std. Deviation
Nature (X1)	4.005	0.512
Man (X2)	4.033	0.633
Society (X3)	3.883	0.668
Shell (X4)	3.815	0.705
Network (X5)	3.848	0.675
Settlement Principles (X6)	4.061	0.622

Table 1. The level exiztic of farmer

Criteria	Frequency	Percent
Moderate	19	9.2
High	188	90.8
Total	207	100.0

Table 2. Level of Settlement Principles

Criteria	Frequency	Percent
Moderate	44	21.3
High	163	78.7
Total	207	100

Table 1 shows the sample answer for each item in this study instrument. Arikunto (2006) categorizes the descriptive analysis results into five types. Here are the categories such as very low or very bad (1.00 to 1.80), low or bad (1.81 to 2.60), enough or moderate (2.61 to 3.40), high or good (3.41 to 4.20), and very high or very good (4.21 to 5.00).

Of the total 213 respondents, Nature has a Mean of 4,005 and Std. Deviation 0.512. Furthermore, Man has a Mean of 4.033 and a Std. Deviation 0.633. Society has a Mean of 3.815 and Std. Deviation 0.668. Shell has Mean 3.815 and Std. Deviation 0.675. Network has a Mean 3.848 and Std. Deviation 0.675. Finally, the Settlement Principles have a Mean of 4.061 and Std. Deviation 0.622. Rice farmers' ecistics levels are classified in order to determine their level of resistance to the variables they face, which include nature, man, society, shell, and network. It is divided into three groups based on the calculation of the mean, range, and standard deviation: low (< 46.7), Medium (46.7 - 73.3) and High (> 73.3). Based on the findings of the study, Table 2 demonstrates that there are no farmers with low ecistics levels. Furthermore, some farmers have a moderate degree of enthusiasm, with a frequency of 19 or 9.2 %, while others have a high level of excitement, with a frequency of 188 or 90.8 %. The Y variable calculation shows that the categorization is divided into three groups: low (< 11.7), Medium (11.7-18.3) and High (> 18.3). Furthermore, based from the results, table 2 shows that there is no low category. According to table 3, farmers in the moderate category have a frequency of 44 or 21.3 %, while farmers with high ecistic levels have a frequency of 163 or 78.7 %. This shows farmers' ability and commitment to survive on their agricultural lands and homes, although they live in high-flooded areas. Farmers are able to survive because to their strong adaptability to their surroundings. Farmers also make significant efforts to enhance their quality of life, as indicated by the fact that the majority of farmers in Bojonegoro have strong environmental ideals.

Validity

To test the validity and reliability of each item or variable, the Measurement Model architecture uses Consistency Reliability, Indicator Reliability, Convergent validity, and Discriminant validity. In terms of reliability, it is recommended that the Cronbach Alpha (CA) and Composite Reliability (CR) values be determined with a cut-off values higher than 0.7.

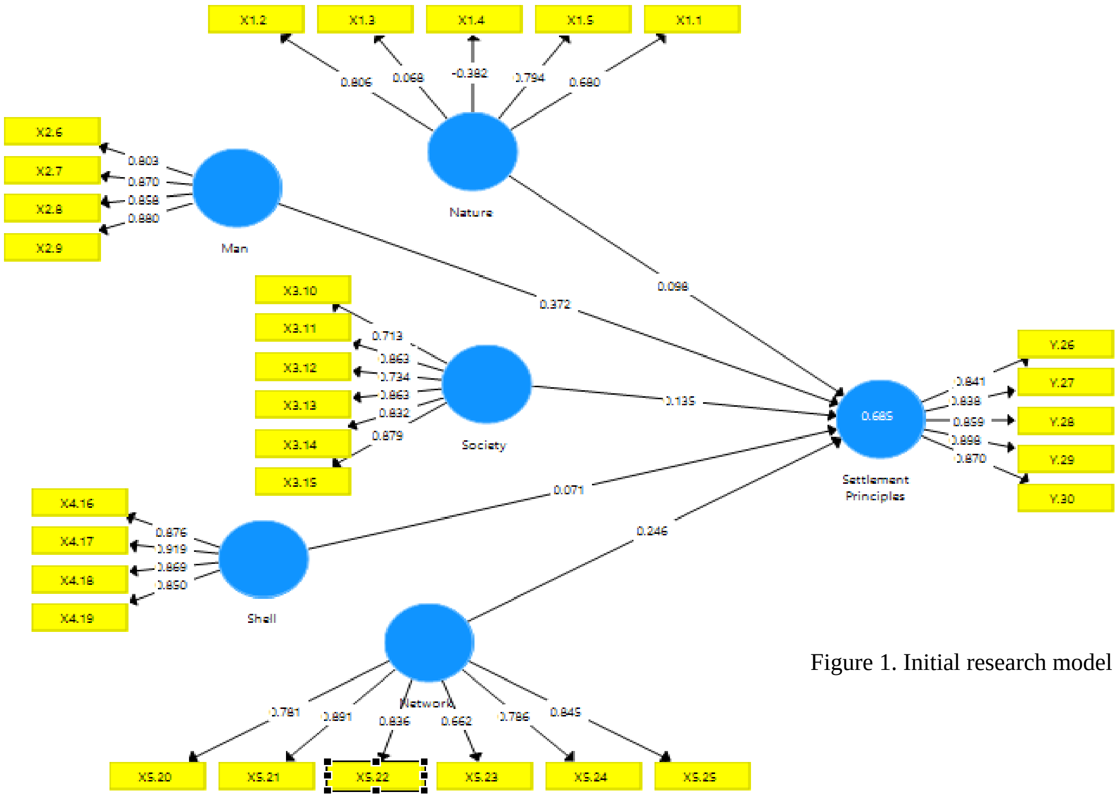

Figure 1. Initial research model

However, according to another opinion, Cronbach Alpha (CA) with a cut off value greater than 0.6 is still considered valid and reliable. Meanwhile, in this research, the Loading indicator has a value of 0.6. Although less than 0.7 loading indicator is acceptable, more than 0.4 is preferred. Furthermore, if the convergent validity conditions are fulfilled, the value of the Average Variance Extracted (AVE) must be larger than 0.5 (Hair et al., 2012). Then, to evaluate the discriminant validity of the

Fornell-Larcker criteria (Ringle et al., 2020) state that the top variable must have a higher value than the variable below it. The Fornell-Larcker Criterion has a value in this investigation that is consistent with the literature on the concept. After estimating the settlement principles measurement model, there are several results that need to be tested. The factor of loading value will be used as a parameter of validity with the Fornell-Larcker discriminant validity approach on each item of the instrument in the six research variables. The following is the value from Fornell-Larcker which will be a reference in confirming item items.

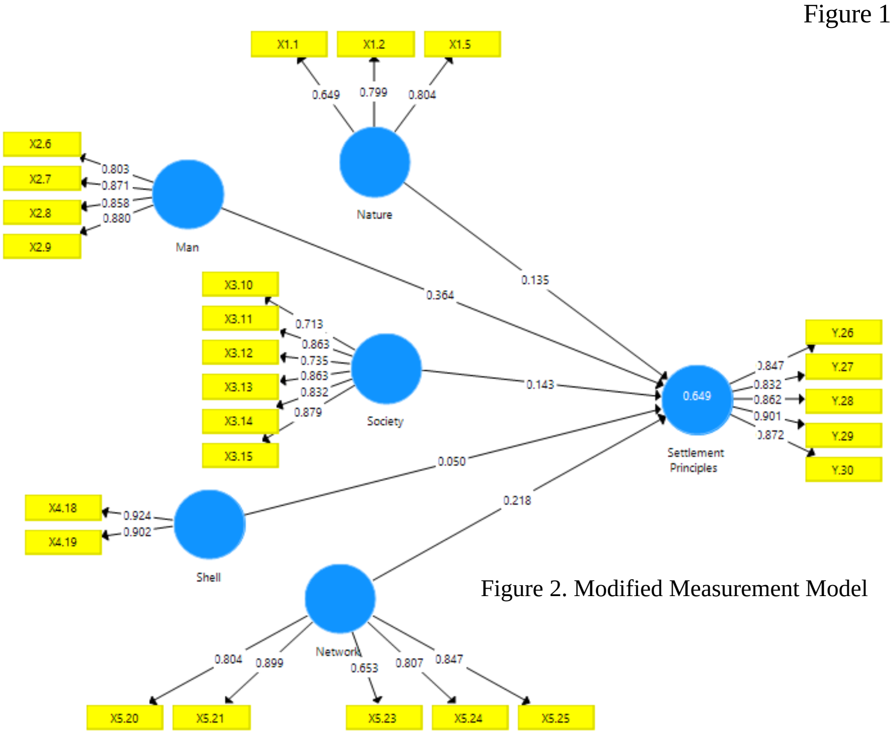

Figure 2. Modified Measurement Model

Figure 1 shows that the items X1.3 (0.068) and X1.4 (-0.382) do not fulfill the criteria for the previously determined factor loading, which is less than 0.4, and must be dropped from the model. Furthermore, items X4.16 (0.876), X4.17 (0.919), and X5.22 (0.836) must be dropped from the model because they do not meet the Fornell-Larcker criteria for discriminant validity. The value of these items does not measure the variable, therefore the value is greater than the value above it or may be considered not in accordance with the theory based on the Fornell-Larcker criteria. As a consequence, these components must be dropped from the model. The research measurement model has been modified as a result of the removed measurement model. The improved model is then retested on each construct or object, with the results given in Figure 2 below.

Table 4. First Fornell-Larcker criterion

	Man	Nature	Network	Settlement Principles	Shell	Society
Man	0.853					
Nature	0.662	0.615				
Network	0.752	0.727	0.803			
Settlement Principles	0.773	0.667	0.765	0.862		
Shell	0.746	0.710	0.804	0.733	0.879	
Society	0.728	0.690	0.824	0.738	0.865	0.817

Figure 2 shows that all of the items in the modified measurement model fulfill the criteria for factor loading > 0.4, meaning that all of the items are valid as a measuring instrument for the predetermined variables. Thus, according to the previously provided literature, the measurement model of this research fulfilled all of the criteria for evaluating the measurement model. This measurement model may also be utilized for additional investigation.

Reliability

The reliability of each variable on the measuring instrument will be tested by comparing the estimated results of the measurement model in the form of Cronbach Alpha (CA), Composite Reliability, and AVE values. The table also provides the value of the Fornell-Larcker criteria. Table 5 shows that the instrument used in this study is sufficiently reliable. By looking at the estimations, the measurement criteria in order to be valid and dependable are: 1) Loading factor value must be more than 0.6 for each item; 2) AVE (Avarage Variance Extracted) value must be greater than 0.5; and 3) Composite Reliability value must be greater than 0.7. If the loading factor value for all variables in the measurement model is more than 0.6, the AVE value in the measurement model is greater than 0.5, and the composite reliability value exceeds 0.7. This indicates that the measuring model and instrument employed meet the criteria for acceptable validity and reliability. According to the measurement model results, each tested latent variable fulfilled all of the requirements for each criteris. Furthermore, the latent variables tested in this study fulfilled validity and reliabil ity standards. As a result, these variables may be examined at the following step, namely the structural model.

Structural Model

After the measurement model has been examined, Tenenhause, Vinzi, Chatelin, and Lauro (2017) recommend evaluating the Goodness of Fit to validate the entire PLS model (Gof). He further said that GoF is divided into three categories: 0.1 (small), 0.25 (medium), and 0.36 (large). The GoF value in this study is shown in Table 4. The value of this study is (0.673) included in the large category so that the proposed model is of good quality. Furtheremore, the quality of the model used to calculate the endogenous construct is determined using R2, Q2, path coefficients, and f2. believes in scientific study that is problem-oriented worries that R2 values of 0.75, 0.50, and 0.25 on the latent variable, respectively, show a considerable, moderate, and low predictive level. Additionally, data study show that Nature, Man, Society, Shell, and Network correctly assess 64.9 % (R2=0.649) of Settlement Principles. These variables in the Settlement Principles are somewhat accurate.

Table 3. Loading, Cronbach Alpha (CA), Composite Reliability (CR), dan AVE

Construct	Loading	CA	CR	AVE
Nature		0.632	0.796	0.568
The surface of the land that makes it easier to cultivate paddy fields.	0.649			
Fertility of managed rice fields.	0.799			
Weather and Climate that supports agricultural systems.	0.804			
Man		0.876	0.915	0.728
Ease of getting food ingredients.	0.803			
Have an inner bond with the environment in which you live.	0.871			
Feel more calm and comfortable with the environment where you live so far	0.858			
Moral values are still maintained among members of society.	0.880			
Society		0.899	0.923	0.667
Balanced population composition in the neighborhood	0.713			
Good social organization.	0.863			
Traditions and culture of the community in the neighborhood	0.735			
Equitable economic development	0.863			
Good educational facilities	0.832			
Ease of access to legal and administrative matters	0.879			
Shell		0.802	0.909	0.834
Shopping facilities or markets that can meet needs.	0.924			
Good disaster management when a flood occurs	0.902			
Network		0.862	0.902	0.650
Sufficient clean water network	0.804			
Stable and affordable power supply	0.899			
Easy access to communication systems (telephone/sinyap/mobile/internet).	0.653			
Good drainage and liquid waste disposal	0.807			
Well managed waste disposal facilities.	0.847			
Settlement Principles		0.914	0.936	0.745
Maximizing the potential of the family's resources.	0.847			
Minimize the effort made to process natural resources.	0.832			
Make optimal efforts in maintaining the land owned.	0.862			
Make optimal efforts in maintaining relationships with the environment.	0.901			
Make optimal efforts to utilize human resources, natural resources, land owned, and their relationship with the environment.	0.872			

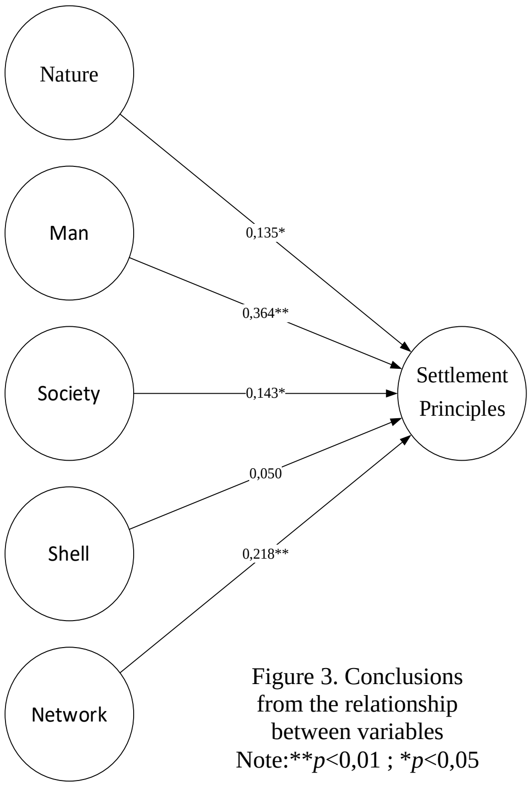

Figure 3. Conclusions from the relationship between variables Note:**p<0,01 ; *p<0,05

Table 4. Fornell-Larcker Criterion

	Man	Nature	Network	Settlement Principles	Shell	Society
Man	0.853					
Nature	0.669	0.754				
Network	0.729	0.698	0.806			
Settlement Principles	0.751	0.665	0.727	0.863		
Shell	0.671	0.678	0.719	0.658	0.913	
Society	0.728	0.701	0.789	0.715	0.799	0.817

Table 5. Goodness of fit (Gof).

Variable	AVE	R^2	Q^2
Nature	0.568		
Man	0.728		
Society	0.667		
Shell	0.834		
Network	0.650		
Settlement Principles	0.745	0.649	0.454
Average Score	0.699	0.649	
AVE x R^2		0.453	
GoF = √ (AVE x R^2)		0.673	

Table 6. Effect size (f2)

	Settlement Principles
Settlement Principles	
Man	0.147
Nature	0.022
Network	0.042
Shell	0.002
Society	0.015

Table 9. Hypothesis Testing. Notes:**p<0,01 ; *p<0,05

	Hipotesis	β	t-value	p-value	Description
H1	Nature -> Settlement Principles	0.135	2.253	0.025*	Accepted
H2	Man -> Settlement Principles	0.364	5.060	0.000**	Accepted
H3	Society -> Settlement Principles	0.143	2.024	0.044*	Accepted
H4	Shell -> Settlement Principles	0.050	0.743	0.458	**Rejected**
H5	Network -> Settlement Principles	0.218	2.897	0.004**	Accepted

Additionally, the predictive significance of Q2 indicates that its value is greater than zero, implying that the exogenous construct is predictive of the endogenous construct. It has a Q2 rating of 0.454 on the Settlement Principles in this research. As a result, the model utilized in this work is very relevant.Additionally, the value of f2 is utilized to determine the exogenous variable's contribution to the endogenous variable. It is classified into three categories based on f2, namely low (0.02), medium (0.15), and high (0.35). While values less than 0.02 are regarded to be insignificant. According to Table 5, all factors have a considerable effect on the Settlement Principles due to their f2 values being more than 0.02. Except for the fact that Shell has no influence on the Settlement Principles, since f2 is smaller than 0.02. To determine the importance of the construct indicators and their routes, the structural model was evaluated using Bootstrapping 5000. For the two-tailed test, the T-Values are 1.65 (significance level = 0.1), 1.96 (significance level = 0.05), and 2.58 (significance level = 0.01). Exogenous factors have a direct, indirect, and total influence on endogenous variables, as seen in Table 6. The results of this study reveal that the hypothesis H1, which Nature accepted, has a positive relationship with the Settlement Principles (= 0.135, p 0.05). Additionally, Man has a positive and significant impact on the Settlement Principles (= 0.364, p 0.01), as does Society (= 0.269, p 0.05). As a result, H2 and H3 are likewise acceptable. Shell has no positive or material impact on the Settlement Principles, and hence H4 is rejected. Finally, the Network has a considerable beneficial effect on the Settlement Principles (= 0.218, p0.01). As a result, H5 is acceptable. Additionally, Figure 3 illustrates the conclusion of the relationship between variables.

DISCUSSION

The ekistic theory of Doxiadis (Doxiadis, 1970) is widely used in studies of the planning process and in the study of settlement patterns (Lussetyowai and Adiyanto, 2020; Phokaides, 2018). However, there are multiple research using both quantitative (Anggraeni et al., 2014; Farizkha et al., 2019) qualitative methods (Lesmana et al., 2021). Using this theory, we may analyze the conditions of certain settlements and the population's survival. The results revealed that the "human" element was the most important factor affecting survival in floodplain communities around the Bengawan Solo river basin in Bojonegoro District. The R2 value found is 0.36 or 36%, which has an effect on the necessity for farmers to stay in Bojonegoro District. The following questions were asked of respondents in this human dimension: 1) Ease of obtaining food ingredients; 2) Having an inner bond with the neighborhood; 3) Feeling more at ease and secure in the environment where you live so far; and 4) Moral values that are still maintained among community members. This widely accepted hypothesis proves that farmers in flood-prone areas are not affected by objective factors, but rather by non-objective factors. Calmness and an inner relationship to the environment have the greatest impact on the farmers' responses. According to research (Wang et al., 2017), human settlement is a full integration of social, economic, natural, and ecological factors, and the appropriateness of settlements is determined not only by the objective environment, but also by the community's subjective attitude. Considering what occurred to farmers in the flooded area of Bojonegoro, farmers' subjectivity to the environment is important for their survival. According to Anggraeni et al., 2014, this human component has a detrimental effect on settlement. However, when one considers the culture of the Indonesian farming community, which is extremely emotionally attached to a place, to the tranquility of a place to live, one realizes that the human perception of the environment is indeed the most influential factor in determining the survival of the place where they live. The second significant factor is the network factor, which includes the following: 1) a good supply of drinkable water; 2) a stable and affordable electricity supply; 3) easy access to communication systems (telephone/sinyap/mobile/internet); 4) a good drainage and liquid waste disposal; and 5) well-managed waste disposal facilities. The test results indicate that this network component has a 28.1 % effect on farmers' sustainability in the Bojonegoro flood prone area. These results show that, although emotional values predominate, farmers exhibit a high level of reasoning and are realistic about the challenges they confront. Water has the greatest impact on the structure's construction, followed by power, wastewater, and waste management. While the communication network is the weakest link, since the area inhabited by these farmers now lacks a stable internet connection. As a result, a model of harmonious water management between people and water should be the primary emphasis of water management for both everyday living and agricultural demands (Cheng et al., 2018). Human-water alignment is also necessary for the development of an ecologically acceptable flood control engineering system with good standards, rational arrangements, and prudent application.

Society, or society in general, is the third most influential force. The coefficient of determination is 14.3%. This factor assesses the following: 1) the population's composition in the living environment; 2) the condition of social organization; 3) the neighborhood's traditions and culture; 4) equitable economic development; 5) good educational facilities; and 6) ease of access to legal and administrative services. The aspect that has the greatest impact on this component is the ease with which legal and administrative concerns may be accessed. Services provided by the village government, especially in access to land administration where Good village head services will also determine the preferences, adjustments and survival of farmers (Oktapriana et al., 2021). Natural factors are believed to be the fourth factor affecting farmers' ability to survive in flood-prone areas. Natural factors affecting farmer survival had a coefficient of determination of 13.5 %, the lowest of all factors. Although the study's results indicate that farmers will suffer floods in a year, either in their settlements or on their agricultural land, farmers remain due to reasons such as the ease with which agricultural land can be managed, the fertility of agricultural land, and weather and climate. Farmers suffer floods on average 1.5 times every year. This factor may be seen as a process in agricultural operations, requiring the adjustment of the planting season. Farmers must adapt by gaining a better understanding of the dynamic pattern of the growing season. Natural factors (nature) have a significant impact on the agricultural community's ability to survive in the area in which they live. An agrarian society's existence is highly dependent on the availability of agricultural land. Agricultural land held by farmers is a natural resource that must be maintained to ensure the sustainability of life, which is also a part of the farming family's ancestral history. Meanwhile, the Shell factor was the only element that did not contribute to farmers' survival in this study. These factors do not have a substantial impact on disaster management, as well as infrastructural facilities that are not a solution to the flood problem. Once a flood disaster has been mitigated, it should not be repeated. Due to variations in rainfall intensity and the length of the dry season, climate change has an effect on rice cropping patterns (Ojo and Baiyegunhi, 2021). As a result, a method for anticipating the flood disaster in Bojonegoro must include determining the cause by examining pre-existing data and patterns and then studying its link to climatic indices such as El Niño Southern Oscillation (ENSO), North Atlantic Oscillation (NAO), Indian Ocean Dipole (IOD), Pacific Decadal Oscillation (PDO), and Atlantic Multidecadal Oscillation (AMO) to ascertain the relationship between these factors (Zhang et al., 2016). Additionally, agricultural output must be increased by the use of diverse agricultural technologies (Ojo and Baiyegunhi, 2021), improved seeds, and environmentally friendly insect eradication (Govindharaj et al., 2021).

CONCLUSION

Nature, man, society, and the network all have significant impacts on the resilience of farming communities in flood-prone areas in Bojonegoro (($\beta = 0.135$, $p < 0.05$); man has an even greater impact ($\beta = 0.364$, $p < 0.01$); society ($\beta= 0.269$, $p < 0.05$); and finally, the network has an even greater impact than the others ($\beta= 0.218$, $p<0.01$). Meanwhile, the shell has a value ($\beta= 0.05$, $p > 0.05$) so the result is rejected. As a result, the shell has no role in determining whether or not the agricultural community will continue to exist. The results indicated that the three sub-districts, Bojonegoro, Balen, and Trucuk, had significant differences in the degree of resilience, with $p < 0.001$. For the highest level of resilience is Bojonegoro where the frequency of flooding is > 3 more than the other two sub-districts. The experience of receiving a flood disaster can affect the resilience level of the farming community in Bojonegoro.

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THE SUSTAINABILITY ENTREPRENEURSHIP IN ADAPTIVE RESILIENCE AMONG INDIGENOUS COMMUNITY IN MALAYSIA

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Abstract: Understanding the socio-cultural background and how entrepreneurs perceive and respond to unfavourable environmental conditions is required when investigating the relationship between resilience, sustainability, and entrepreneurship from the perspective of an indigenous community. Taking into the account of theory of planned behaviour, the aim of this study is to investigate the relationship between characteristics of sustainable attitude, sustainability norms, sustainability behaviours, and opportunity recognition with indigenous entrepreneurs' adaptive resilienceThe research design employed in this study was cross-sectional and correlational. The most effective approach to use is a quantitative approach to evaluate the impact of sustainable attitudes, sustainability norms, sustainability behaviours, and opportunity recognition on indigenous entrepreneurs' adaptive resilience. A questionnaire survey of 500 respondents from Malaysia's indigenous community was used to gather data. A questionnaire survey of 500 respondents from Malaysia's indigenous community was used to gather data. The findings of this study show that most indigenous groups believe that sustainability in terms of attitudes, behaviour, and opportunity recognition has increased the aim of moving forward in entrepreneurs' adaptive resilience as compared to sustainability norms. Given that resilience is a malleable competency and that there is a positive relationship between sustainable behaviour and resilience, institutional actions are required to reinforce the social esteem of the entrepreneur among indigenous community to cope with environment challenges.

Key words: sustainability attitude, sustainability norms, sustainability behaviour, opportunity recognition, indigenous community, adaptive resilience

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Introduction

Due to the COVID-19 pandemic and its wide-ranging effects on society and the economy, the route to reach the Sustainable Development Goals (SDGs) has changed considerably for everyone, which includes the global indigenous population of 476 million. SDG Goal 1 that included no poverty element focused on eradicating poverty among the poorest people in the country. The United Nations (2020) stated that the COVID-19 outbreak has led to a reduction in economic growth, more unemployment, and higher levels of poverty and hunger worldwide. In 2020, a worldwide drop in output of 5.2% was anticipated, while this figure could have risen to 8%, should lockdown conditions have continued past the middle of that year. A drop in global gross output might result in an additional 25 million people losing their jobs. Countries all throughout the world have implemented recovery plans totalling about 10% of GDP, but the results have been varied. If such resources are used effectively, this would assist both recovery and rebuilding, thus enabling the economic expansion and employment creation after COVID-19 to be better aligned with longer-term growth. The individual or group capacity for new economic activities is demonstrated through entrepreneurship (Neumann, 2021), which can be regarded as a means of alleviating poverty in society and developing poorly developed regions (United Nations Conference on Trade and Development (UNCTAD), 2008). This approach may lead to innovative manufactured items, modes of production, organisational projects, as well as combinations of products and the market. Any individual entrepreneur, meanwhile, will try to introduce their new schemes and products into a current market. The activities related to such products will enhance economic and national development. Many Indigenous peoples have long been encouraged to participate in tourism in order to improve their quality of life and socioeconomic status. Indigenous tourism, also known as ethnic or tribal tourism, has been a rapidly rising trend in recent years (Carr et al., 2016). The competent authorities provide great support to the Indigenous communities as part of balanced development. The government is essential for fostering economic growth and avoiding increasing self-reliance through local community participation in tourism activities. Thus, entrepreneurship, particularly Indigenous tourism, is one of the ways that helps the Indigenous people achieve economic growth and development while also reducing poverty. Indigenous tourism is commonly viewed as a way to provide socioeconomic

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benefits for Indigenous peoples, communities, and host areas all over the world. Indigenous tourism, like all types of tourism, should surely be guided by notions of sustainable development and natural resource management in its conception, implementation, and administration (Carr et al., 2016). In such cultural situations, the role of tourism is problematic. While numerous advantages to the economy and society can be created due to tourism, the industry might contribute to various forms of injustice. These include Indigenous heritage being misrepresented, as well as Indigenous people being marginalised or perhaps even prevented from accessing sites that are protected or important ancestral territories. Other issues include damage to the environment, as well as the inequitable allocation of the expenses and incomes arising from the growth of tourism (Bright et al., 2021). Tourism, on the other hand, has the potential to address social and cultural such as attitude, norms, behaviour as well as opportunity recognition inequalities by combating stereotypes and marginalisation, as well as enabling respect and recognition of minority communities (Abrams, 2010).

Indigenous entrepreneurs are often short-term and less maintained, despite several government incentives and programmes. It has been claimed by scholars with both Indigenous and non-Indigenous backgrounds that a key aspect of entrepreneurship and research is the sociocultural context, especially when Indigenous groups are concerned (Tapsell and Woods, 2008; Overall et al., 2010). Considerable discussion has occurred in relation to context. This involves the conception of the term and the ways it has been investigated empirically, as well as how these themes are connected to distinct organisations, collectives, and individuals (Ruwhiu and Cone, 2010; Jack et al., 2013). Canada consented to this, stating that indigenous businesses can help the country thrive economically. This is because indigenous-owned and run businesses contribute to and strengthen Canada's economy by providing valued services and goods (Gladu and Power, 2017). In India, Doran et al. (2018) argue that entrepreneurship is critical for economic progress. Since the need to create employment is a major issue in India, innovation through entrepreneurship has been established and assisted by the government throughout the country to expand the creation of jobs (Gladu and Power, 2017). Therefore, it is vital to ensure that Malaysian indigenous entrepreneurs are adaptively resilient so that a viable economy on-reserve can be established, jobs created, and the standard of living raised. Entrepreneurs from aboriginal communities are essential to the development of a viable economy on-reserve, the provision of work, as well as reductions in money outflows and younger locals moving away to seek employment elsewhere (Derani et al., 2020).

The historical and socioeconomic circumstances in Malaysia have shaped the emergence and development of small companies and entrepreneurship (Chye, 2012). Within the government's remit of benefiting and contributing to Malaysia's economy, it has continually endeavoured - via several channels - to promote the participation of local small companies and entrepreneurs in numerous fields of industry, one of which is tourism. Given this background, particular attention has been devoted by the authorities to indigenous development. There are various reasons for this: they represent a significant type of Indigenous community and several groups of minorities, while their social and economic requirements must be met. The projects that have been undertaken include building fixed settlements, as well as providing educational facilities, rural road networks, electrical power, water, and social facilities (Khor, 2001). While indigenous entrepreneurs have been researched to some extent, the main focus of the existing literature has been general overviews, examining, for instance, the involvement of indigenous players in eco-tourism (Molina-Ramírez and Barba-Sánchez, 2021); tourism-related capacity building by indigenous players and the ways this connects to opinions and normal practices concerning sustainability, the movement of people, and broad-mindedness (Mansor et al., 2020); indigenous businesses; and dependence on the government (Ghosh, 2011). With these, it's still unclear how social culture including sustainability attitude, sustainability norms, sustainability behaviour and opportunity recognition, will enhance indigenous entrepreneurs' adaptive resilience. In fact, there has been a few existing studies have addressed the connection that recognition may have with indigenous entrepreneurs' well-established businesses (Molina-Ramírez and Barba-Sánchez, 2021; Jalis et al., 2009). As a result, understanding the impact of such characteristics on indigenous entrepreneurs' adaptive resilience is critical not just for recognising strengths and shortcomings, but also for developing development strategies. Therefore, an empirical examination into this highlighted issue and the study's gaps is required. The current study aims to examine how various attributes affect the adaptive resilience of indigenous entrepreneurs. The characteristics involve attitudes to sustainability, normal sustainability practices, behaviour related to sustainability, and the recognition of opportunity.

LITERATURE REVIEW

This section outlines the existing literature and applies this review to the current research context, with the aim of developing a theoretical framework that underlies the study.

1. The role of resilience in Indigenous entrepreneurship

A new body of entrepreneurship research has emerged, emphasising the need to integrate concepts of business into the cultural features of communities on the margins; this is known as "indigenous entrepreneurship" (Frederick, 2008). Despite the absence of a universal connotation, Frederick (2008) defined "indigenous people" as cultural groups with distinct historical continuity in geographical regions pre-colonisation. The lives of those in communities like this are independent of, or separated from, the most influence of the nation's cultural groups. As stated by Hindle and Moroz (2010:361), a specific area of research is implied by the concept of indigenous entrepreneurship, one which is separate from studies of conventional entrepreneurship. This follows the participation of a *"wider array of stakeholders and a wider variety of issues, particularly social impacts, than just the achievement of economic success by individual or firm protagonists"*.

Indigenous entrepreneurship varies from other entrepreneurial forms regarding entrepreneurial contexts, goal and outcome types, and organisation (Cahn, 2008). A research framework for indigenous entrepreneurship that was culturally sensitive was introduced by Hindle and Moroz (2010). Various essential study themes were the focus of the framework, including the normal practices of cultures and societies, territory, and resources. One of the primary contributions that acknowledge and explore indigenous entrepreneurship involves, Peredo et al.'s (2004) presentation of specific indigenous entrepreneurship attributes: inextricable links to heritage, ethnic culture, earth, and land and active engagement in entrepreneurial activities. Regarding indigenous entrepreneurship, Vázquez-Maguirre (2020) implied *"the fact that they are only managed by indigenous peoples who share a common worldview. Indigenous entrepreneurship emphasises the creativity, innovation, and risk-taking of entrepreneurship while prioritising the social over economic benefits"*. The 'indigenous entrepreneur' concept also places emphasis on the creation of benefits that are both self- and community oriented. The aims are the preservation of specific cultures and obtaining an autonomous future (Curry et al., 2016).

The extensive utilisation of the resilience notion in various contexts has garnered much interest from entrepreneurship scholars. The multiple approaches to resilience could enrich individuals' comprehension of entrepreneurship in mitigating societal complexities. Within such circumstances, an entrepreneur who has encountered ongoing risk and failure is recommended to recognise resilience as a vital component of successful practice (Curry et al., 2016). Resilient entrepreneurs who willingly work hard towards goal attainment, demonstrate a high tolerance for ambiguities, and rapidly adapt to changes (Cooper and Faseruk, 2014) could be more successful. The work of Norris et al. (2008) indicates that resilience, at the level of the community, can catalyse various forms of economic growth; optimise systems for communication and news; assist social networking; and build rapport and social capital links. Hence, individuals will find that essential resources can be accessed when difficulties occur. Likewise, the prevalence and quality of entrepreneurship can be influenced by community factors. Meanwhile, several elements influence resilience, such as the vulnerability, preparedness, flexibility, and optimism of these communities, in addition to the success of the networks of their society. Thus, it is possible to comprehend resilience as the general capacity to (i) sustain well-being by managing resources that may be found in psychology, society, culture, or physical features and (ii) "individually and collectively negotiate for these resources to be provided and experienced in culturally meaningful ways" (Hedner et al., 2011: 1). This viewpoint closely parallels the resilience notion within indigenous settings. Studies of entrepreneurship resilience have generally focused on the mental strength or stamina of any entrepreneur, manager, and/or employee who has encountered an internal or exogenous shock (Bullough et al., 2014). Yang and Danes (2015) consider resilience to be an emergent process rather than a quality. Meanwhile, research by Jaskiewicz et al. (2015), for instance, has examined how resilience may have an impact on the economic viability or sustainability of entrepreneurial schemes. However, little study has been done on the relationship between entrepreneurial resilience and sustainability behaviours.

2. Adaptive Resilience

Jewett et al. (2021), several community resilience strategies, as a part of a broader understanding of responsible tourism management are required not just in response to COVID-19, but also due to tourism's vulnerability to various social and environmental threats. The impact of adverse conditions on indigenous communities, giving particular attention to their health and well-being, and measured the resilience of communities in the tourism environment. Consequently, Choudhury et al. (2021) explored the value of community engagement in the conservation of the Nanling Mountains in China and its tourism industry. Similarly, Carmen et al. (2022) explored the impact of social capital on strengthening community resilience through managing current resources in South Africa. They discovered that ecotourism can create significant amounts of social capital, which fosters cultural regeneration and community resilience (Simpong et al., 2019; Carmen et al., 2022). This is important as the capacity to proactively adapt to external and internal shocks is important for community visits, income and overall well-being. They discovered that the community's perception of tourism impacts, especially its economic impact, is positively linked to the local capacity to react to climate change. Furthermore, Hanafiah et al. (2021) explore issues that contribute to the resiliency of Malaysia's rural tourism population. Their findings emphasise the need for sustainable tourism development in rural regions for better community resilience, including, though not specifically, resilience to climate change. As a result, the current study integrates the viewpoints of community resilience to comprehensively investigate the adaptive resilience of the rural community of indigenous people of Malaysia.

3. The resilience and sustainability of entrepreneurial behaviours

Research suggests that resilience can be associated with the theme of sustainability and impact entrepreneurial behaviours considerably. For instance, Hayek (2012) and Morris et al. (2013) noted that resilience could be regarded as an entrepreneurial competency or characteristic, whereas Gomes et al. (2014) indicated that resilience was a competency linked to attitude, that is, the ability to strive continuously, regardless of the problems encountered. Likewise, Hedner et al. (2011) indicated that innovative behaviours and how entrepreneurs perceive and manage intricacies and failures must be investigated for a sound comprehension of entrepreneurship. Much research explored entrepreneurs' resilience to various intricacies, such as venture development and subsequent drawbacks (Fisher et al., 2016), competitive pressures from modern creations and novel business models (Dewald and Bowen, 2010), and the constraints of family-owned enterprises (Chrisman et al., 2011). It is inadequate to merely comprehend the resilience of financial and social systems in socially resolving sustainability-related intricacies regarding resilience in entrepreneurship literature (Folke et al., 2016; Fatoki, 2020). As a dynamic and adaptative process, indigenous entrepreneurs' resilience originates from immediate environmental interactions that highlight entrepreneurs' capacity towards foresightedness, managing personal and market conditions, and tackling high-risk circumstances (Bernard and Barbosa, 2016; Fatoki, 2020). Some studies primarily emphasised entrepreneurial resilience (Bullough and Renko, 2014; Linnenluecke, 2017) based on entrepreneurs' psychological robustness or persistence amidst endogenous and external shocks. Furthermore, the degree of entrepreneurial resilience may be influenced not just by personal attributes but also by social factors. According to Chadwick et al. (2020), entrepreneurship is defined as "a dynamic interaction of attitudes, activity, and desire" in various civilizations.

Past research also examined resilience as the key determinant of entrepreneurial operations based on financial viability or sustainability (Jaskiewicz et al., 2015). Resilience, for Linnenluecke (2017), can catalyse various forms of economic growth; optimise systems for communication and news; assist social networking; and build rapport and social capital links. Hence, individuals will find that essential resources can be accessed when difficulties occur. Adaptable processes are also represented by resilience, whereby entrepreneurs can (i) obtain the information, capabilities, and skills they need and (ii) confront issues while remaining positive, innovative, optimistic, and self-sufficient. In other words, resilience indicates the capacity to socially resist, adapt, and thrive amidst complexities. Scholars in multiple disciplines examined resilience and sustainability-oriented concerns. Notably, sustainability and resilience are not interchangeable concepts. Sustainability encompasses organisational methods that aim to alleviate adverse externalities while resilience implies change-based responses (Williams and Vorley, 2014). Although sustainability indicates behavioural shifts that stabilise imbalanced systems, ecologists are concerned with resilience in emphasising the adaptation to exogenous shocks (Whiteman et al., 2013). Biggs et al., (2012) research demonstrated that cognitive and behavioural entrepreneurial characteristics potentially optimise business abilities to adapt to dynamic conditions and facilitate sustainability with innovation. The current author defines behavioural sustainability as the adoption and implementation of knowledge and skills so that survival is possible in characteristically uncertain environments. The extended theory of planned behaviour (TPB) was correlated to determine indigenous entrepreneurs' attributes in adaptive resilience and demonstrate the method possibilities (Simpong et al., 2019). The TPB has been optimally employed to forecast and justify various behaviours. Adaptive resilience is related to entrepreneur behaviours, the preparedness to change, and demonstrate versatility amidst negative situations. In this study, adaptive resilience is incorporated and frequently addressed for drastic changes to adapt and sustain novel conditions. Three study variables were assessed under TBP to examine the impact on indigenous entrepreneurs' adaptive resilience.

Sustainability attitudes (SA) denote individual values and beliefs that affect people's entrepreneurial intentions towards adaptive resilience (Sargani et al., 2020). As SA is required to depict entrepreneurs' adaptive resilience, this research adopted the attitudinal and typical elements from TPB in line with current literature. In Belz and Binder (2017), SA implies people's values and beliefs that impact entrepreneurial behaviours. Likewise, SA encompasses the capacity to impact adaptive resilience as the vital factor influencing environmental considerations (Belz and Binder, 2017) and sustainability implementations (Spagnoli et al., 2015). Positive views toward entrepreneurship and the ability to bear failure have been linked to resilience in previous studies (Belz and Binder, 2017). According to Karimi et al. (2016) being willing to admit probable failure might help entrepreneurs be more willing to take risks, manage ambiguity, and inspire resilience, all of which improves experimentation. In terms of attitudes, Karimi et al. (2016) found that complex (personal or entrepreneurial) events in the past help people develop high individual resilience, influence their perspectives on starting enterprises, and influence their attitudes toward failure. The work of Chen and Zhang (2021) stated that the level of individual engagement with practices of sustainability, as well as their optimisation, is determined by whether the entrepreneur has a positive or negative attitude. As such, the role of attitude in sustainable entrepreneurship towards indigenous entrepreneurs' adaptive resilience should be thoroughly examined. The first hypothesis is presented as follows:

(H1): Attitude in sustainable entrepreneurship positively impacts indigenous entrepreneurs' adaptive resilience.

Sustainability norms (SN) imply individuals' inner psychological mechanism that monitors subjective norms or *"the social pressure of performing or not performing the task"* (Tiwari et al., 2017), thus strengthening or weakening individual intentions. Normal social practice refers to the perception that society pressurises a person to act or avoid acting in a particular manner (Ajzen, 1991). Such norms could impact entrepreneurs' perspectives of opportunities and barriers to action. The SN moderates the way a particular action might be approved or disapproved of by a friend, family member, colleague, teacher, or family elder. In an indigenous group, the *whanaungatanga* concept acknowledge the relationship and network is the important to shape and wider the society of Maori people (Mrabure et al., 2018). As entrepreneurship encompasses the presence of knowledge through action and communication (McMullen and Dimov, 2013), familial and social support essentially influences resilience (Powdthavee, 2014). Parallel to past studies, parental and peer-based impacts are vital in socially supporting entrepreneurs' resilience (Pérez-López et al., 2016; Karimi et al., 2014).

(H2): The SN positively impacts indigenous entrepreneurs' adaptive resilience.

Sustainability behaviours (SB) involve social forces or impacts that catalyse entrepreneurs' sustainable behaviours (Sargani et al., 2020). Regarding attitude, the presence of people's behavioural control and self-efficacy establish entrepreneurs' resilience (Sullivan and Meek, 2012). Perceived behavioural control denotes a structure to *"attempt to deal with situations where people cannot have full discretionary control over the behaviour of interest"* (Sargani et al., 2020). The perception of self-efficacy (for instance, the perception of viability in the entrepreneurial event framework developed) has a profound impact on an entrepreneur's resilience and actions.

External and internal elements, in addition to pro-social motivational factors, might affect one's behavioural resilience (Evans and Tourish, 2017) due to actions taken deliberately and practically to conserve environmental and societal resources. These involve behaviours linked to pro-ecology, frugality, altruism, and equitability, which aim to achieve beneficial psychological results such as feeling satisfied, self-efficacious, psychologically healthy, restored, happy, and pleased. Each sustainable behaviour of an entrepreneur is catalysed by forces of the community or the effects of collective values. Therefore, it is important to investigate these behaviours and forms of determination so that developing company models focused on sustainability can be promoted. Thus, the third hypothesis is presented as follows:

(H3): Sustainable entrepreneurs' behaviours positively impact indigenous entrepreneurs' adaptive resilience.

Opportunity recognition (OR) denotes how entrepreneurs seek or establish entities that offer potential market values and advantages (Sonnino and Griggs-Trevarthen, 2013). In line with past research (Steiner et al., 2014; Koe and Majid, 2014), OR dimensions (opportunity discovery and business creation viewpoints) imply people's abilities to determine market opportunities concerning perceived risks. The discovery of opportunities means the ability to recognise and ascertain business schemes that are both sustainable and innovative, so that the current markets' possibilities can be realised. Opportunity creation encompasses the development of novel corporate opportunities with authentic concepts and market structure redevelopment. For example, Koe and Majid (2014) survey items gauged the extent to which respondents could determine entrepreneurial possibilities in the current market or establish novel opportunities through social accountability and sustainability. As pointed out by Miller et al. (2009), entrepreneurial performance is influenced by recognition, particularly in growing markets. Following multiple examples, the incorporation of indigenous knowledge into adaptive resilience could ascertain cultural sustainability and indigenous people's rights and lifestyles (Johnston and Marwood, 2017; Niskala and Ridanpaa, 2015). Hence, the fourth hypothesis is presented as follows:

(H4): Entrepreneurs' OR positively impacts indigenous entrepreneurs' adaptive resilience.

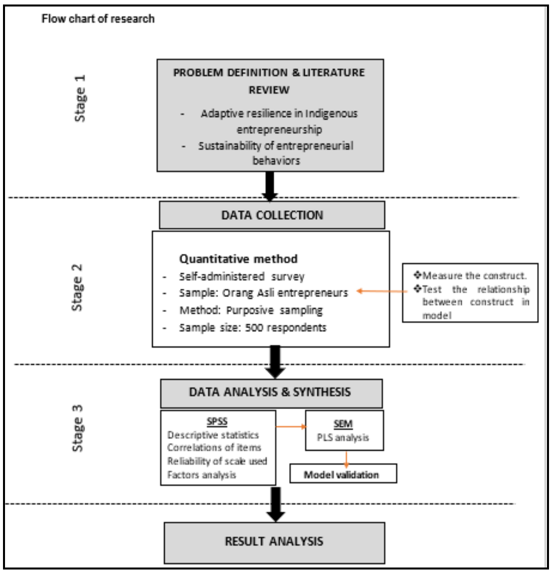

Figure 1. Flow chart of research

MATERIALS AND METHODS

The research design employed in this study was cross-sectional and correlational. The most effective approach to use is a quantitative approach to evaluate the impact of sustainable attitudes, sustainability norms, sustainability behaviours, and opportunity recognition on indigenous entrepreneurs' adaptive resilience. This aligns with a stated objective of the study: to undertake research that demonstrated robust internal and external validity and reliability. Additional aims were to take a multi-perspective approach and reduce any possible internal bias (Boyd, 2000). Figure 1 shows the methodology process of this study.

Table 1. The Estimated Proportion Orang Asli Entrepreneurs Based on States in Malaysia 2020 (Source: Jabatan Kemajuan Orang Asli (JAKOA) (2020)

No	State	Number of tourism related business Orang Asli entrepreneurs
1	Selangor/Wilayah Persekutuan	101
2	Perak	105
3	Pahang	119
4	Negeri Sembilan	40
5	Kedah	15
6	Melaka	50
7	Johor	75
8	Kelantan	25
9	Terengganu	10
	Total	500

Hence, the number of groups into which a sample is split before the evaluation is important for maintaining the comparability of the study, as is achieving appropriate reliability levels (Aaker et al., 2005). Sample sizes for studies of human populations were suggested by Sudman (1976), who stated that research involving consumers or families on a national scale must use samples numbering 1000 to at least 2500, while research on a regional scale must use samples of 200 to 500 or above. National studies, according to Aaker et al., (2005), frequently deal with topics that have a higher financial impact and hence require a little more precision. This discussion led to the finalised sample size needed for the current research, which was completely justify, according to the desirable sample sizes proposed by Sudman (1976) for studies of human populations. These guidelines form a generally recognised rule of thumb. Thus, as the current research plans to investigate only one region, 500 respondents in total should suffice to meet every research objective and address every hypothesis posited. For this research, it was considered that the most reliable information sources would be Orang Asli community members who were then engaged in tourism and associated operations. According to data from the Jabatan Kemajuan Orang Asli (JAKOA), there are more than 900 such entrepreneurs across the country. From these 900 people, it was discovered by JAKOA that 500 Orang Asli entrepreneurs worked in the tourist industry or in associated fields such as retail, transport, or handicrafts. The activities might occur on an individual, partnership, or association basis (JAKOA, 2018). Despite this and exclude Sabah and Sarawak, Pahang and Perak represent the highest number of Orang Asli entrepreneurs compared to other states while there is no Orang Asli settlement the state of Pulau Pinang and Perlis. Based on Malaysia's states, Table 1 illustrates the percentage of Orang Asli entrepreneurs who participated in the touristt industry or its associated fields; these individuals were the target demographic of the study.

RESULTS AND DISCUSSION

In total, the researcher distributed 500 questionnaires to the participants. From the 500 surveys, 311 were returned.

However, from 311, only 250 surveys were usable in this research. Others were incomplete questionnaires. In methodological terms, to estimate the structural model, the researcher selected PLS path modelling (Tenenhaus et al., 2005) rather than the conventional technique based on covariance. The approach using PLS is ideal for this study, which was based on exploration, and it suited the model's complexity (Fornell and Bookstein 1982; Gefen et al., 2011). The estimation of the model occurred through a two-step process: first, the measurement model was estimated, followed by the structural model; these steps were according to Tenenhaus et al., (2005).

The measurement model evaluation

Reliability scale

As shown in Table 2, the Cronbach's alpha coefficients for all the constructs exceeded the recommended threshold of 0.70 (Nunnally, 1978). The lowest composite reliability value for entrepreneurs' adaptive resilience was 0.844, making it substantially higher. This can be regarded as a reliability measure with better accuracy since equal item weighting is not necessary. Moreover, all the extracted average variance square roots exceeded the recommended threshold of 0.70 (these values are shown in bold in the Table 2 diagonal) (Chin, 1998; Fornell and Larcker, 1981). Therefore, the reflective scales proposed have been demonstrated as valid. Moreover, the perceived value and commitment measures have been demonstrated as having content validity, since each scale contains many factors.

Table 2. Result of Reliability Test

Construct	Cronbach's Alpha	Composite Reliability (CR)	Average Variance Extracted (AVE)	EAR	OR	SA	SB	SN
Entrepreneurs' adaptive resilience (EAR)	0.879	0.904	0.578	**0.760**				
Opportunity recognition (OR)	0.951	0.953	0.720	0.549	**0.848**			
Sustainability attitude (SA)	0.776	0.844	0.526	0.529	0.195	**0.725**		
Sustainability behaviour (SB)	0.898	0.924	0.709	0.208	0.113	0.049	**0.842**	
Sustainability norms (SN)	0.859	0.898	0.640	0.165	0.042	0.124	0.696	**0.800**

Discriminant validity

The strengths of the connections between the reflective constructs and their connected items are shown in Table 2 as the square roots of the average variance extracted (AVE). Discriminant validity can be confirmed for the five constructs, based on Fornell and Larcker (1981), since the square root of the AVE of each construct is higher than the inter-construct correlations. When the correlations between construct pairs are substantially below one, this also ensures discriminant validity (Henseler et al., 2015), as Table 2 illustrates.

Convergent validity

To ensure convergent validity, we ensured that the correlation of each indicator with its intended concept (the loading) was greater than the correlation with the other constructs (the cross loadings) (see Table 3). Despite some cross loading, each item outperforms on its own construct, indicating that the scales are convergent.

Multicollinearity

Due to large levels of multicollinearity, the information included in an indicator can become redundant. The variance inflation factor (VIF) has been recognised as a good measure of multicollinearity in the literature (Hair et al., 2011; Kock, 2015; Gomez et al., 2020). Potential issues of multicollinearity occur when VIF scores of at least 5 are obtained through PLS-SEM. This would imply that 80% of an indicator's variation can be explained by different indicators connected to a given construct (Dennis et al., 2017; Hair et al., 2011; Kock, 2015). The results of VIF values significantly lower than 5 (see Table 4) were used in this analysis, allowing us to rule out multicollinearity in our model.

Table 3. Loadings and cross loadings

Items	SA	SN	SB	OR	EAR
SA1	**0.541**	0.065	0.035	-0.015	0.230
SA2	**0.807**	0.149	-0.052	0.272	0.572
SA3	**0.812**	0.012	-0.01	-0.038	0.262
SA4	**0.785**	0.091	-0.06	-0.014	0.369
SA5	**0.64**	0.072	0.001	0.370	0.311
SN1	0.134	**0.730**	-0.028	-0.001	0.078
SN2	0.116	**0.860**	-0.048	0.048	0.167
SN3	0.064	**0.856**	0.004	0.024	0.127
SN4	0.078	**0.687**	-0.020	0.026	0.127
SN5	0.115	**0.848**	0.0290	0.054	0.134
SB1	0.015	-0.030	**0.666**	0.080	-0.005
SB2	-0.042	0.047	**0.716**	0.137	-0.016
SB3	-0.006	0.030	**0.455**	0.103	0.013
SB4	-0.037	-0.022	**0.992**	-0.087	-0.128
SB5	-0.049	0.018	**0.736**	-0.075	-0.015
SB6	0.005	-0.021	**0.953**	-0.059	-0.017
OR1	0.054	0.01	-0.031	**0.939**	0.352
OR2	0.222	-0.042	-0.038	**0.682**	0.247
OR3	0.058	-0.062	-0.012	**0.643**	-0.105
OR4	0.010	0.046	-0.061	**0.935**	0.536
OR5	-0.013	-0.019	-0.083	**0.816**	0.117
OR6	0.465	0.047	-0.058	**0.913**	0.631
OR7	0.221	0.091	-0.112	**0.858**	0.532
OR8	-0.010	0.018	-0.055	**0.942**	0.411
EAR1	0.333	0.236	-0.086	0.180	**0.676**
EAR2	0.506	0.128	-0.111	0.390	**0.913**
EAR3	0.135	0.047	-0.055	0.356	**0.643**
EAR4	0.451	0.120	-0.075	0.773	**0.798**
EAR5	0.301	0.122	-0.101	0.337	**0.848**
EAR6	0.193	0.193	-0.048	0.343	**0.676**
EAR7	0.655	0.070	-0.085	0.287	**0.723**

Table 4. Variance inflation factors

VIF	
Entrepreneurs' adaptive resilience (EAR)	1.023
Opportunity recognition (OR)	1.058
Sustainability attitude (SA)	1.061
Sustainability behaviour (SB)	1.977
Sustainability norms (SN)	1.981

The structural model evaluation

Once the reliability and validity of the measurement model had been ascertained, as outlined in the previous section, the research progressed to the assessment of the structural model. In this case, it is important to present each route coefficient, their significance in statistical terms, and the explained variance for each endogenous construct (the R2 coefficients). The proposed structural model is shown in Figure 1 and Table 5. Since data distribution is not assumed by PLS, the significance of each analysed coefficient and its connected 95% confidence range were assessed using 500 bootstrap resamples (Efron and Tibshirani, 1993). Except for H2, all the assumptions stated in the model are supported by the results shown in Figure 1. They demonstrate that sustainability attitude has a direct and positive influence on Indigenous entrepreneurs' adaptive resilience. Furthermore, sustainability behaviour has a positive influence on Indigenous entrepreneurs' adaptiveresilience. Next, opportunity recognition has positive affect on Indigenous entrepreneurs' adaptive resilience. However, they demonstrate that sustainability norms have a negative effect on Indigenous entrepreneurs' adaptive resilience.

Table 6 shows the level of explained variance (R^2) for endogenous construct with the associated bootstrap 95% confidence interval. It was confirmed that the robustness of the entrepreneurs' adaptive resilience: the model explains the 49.6% variance in entrepreneurs' adaptive resilience.

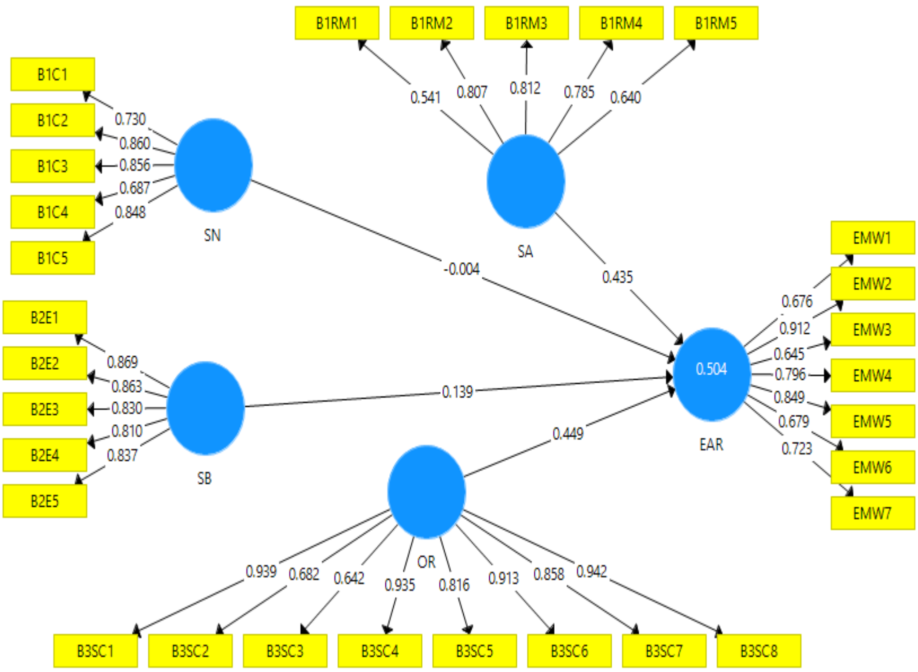

Figure 2. Results of the structural model

Table 5. Estimated coefficients

	From	To	Coeff	95% CI		p-value
H1	Sustainability attitude	Entrepreneurs' adaptive resilience	0.435	0.356	0.514	<0.001
H2	Sustainability norms	Entrepreneurs' adaptive resilience	-0.004	-0.139	0.141	0.951
H3	Sustainability behavior	Entrepreneurs' adaptive resilience	0.139	-0.001	0.263	0.043
H4	Opportunity recognition	Entrepreneurs' adaptive resilience	0.449	0.386	0.571	<0.001

Table 6. Variance explained (R^2) for each endogenous construct and its confidence interval

Variable	R^2	95% CI	
Entrepreneurs' a-daptive resilience	49.6%	21.2%	35.6%

DISCUSSIONS

This study examined the correlation between sustainability attitude, sustainability norms, sustainability behavior, opportunity recognition with Indigenous entrepreneurs' adaptive resilience. To achieve the research objectives, an empirical path coefficient model between the exogenous constructs and the endogenous construct was tested using a 250-strong sample of Orang Asli entrepreneurs. The findings indicated a relationship of significance between attitudes to sustainability and the adaptive resilience of Indigenous entrepreneurs (H1). This hypothesis is supported and showing that the sustainability attitude has a positive influence on sustainability as the coefficient is .0435 at p <0.001. This result in general demonstrated that attitude have given a significant impact on Indigenous entrepreneurs' adaptive resilience, and it directly support by Mrabure et al., (2018) which stated the social economic and to venture in any businesses and to move forward undoubtedly is dependent on the attitudes of the entrepreneurs itself.

This followed by a significant relationship between sustainability behavior and Indigenous entrepreneurs' adaptive resilience (H3). This hypothesis is supported and showing that the sustainability behavior has a positive influence on sustainability as the coefficient is .0139 at p = 0.043. In the indigenous perspective, by their very nature, behavior and characteristics of the community and the indigenous like social, culture and economic somewhat determine their favourable to be involved and go further in the business and adaptive resilience of entrepreneurs (Anderson et al., 2006).

Subsequently, the findings indicated a relationship of significance between the recognition of opportunity and the adaptive resilience of Indigenous entrepreneurs (H4). The hypothesis is supported and showing that the opportunity recognition has a positive influence on sustainability as the coefficient is .0449 at p <0.001. The finding aligns with the work of Liu (2020) and Sharifuddin, et al. (2015), who determined that the recognition of opportunity has an influence on individual business growth. It was noted by Miller et al. (2009) that entrepreneurial performance is influenced by recognition, particularly in growing markets. Hypotheses H1 and H4 were found to differ from H2, which was unsupported. This hypothesis posited that a significant relationship existed between norms of sustainability and the adaptive resilience of Indigenous entrepreneurs. The coefficient is -0.004 at p = 0.951 thus denoted that sustainability norms has a little negative influence on Indigenous entrepreneurs' adaptive resilience. It is interesting to note that statistically insignificant and it is giving very weak influence toward Indigenous entrepreneurs' adaptive resilience. The Orang Asli may cooperate to retain the norms of their traditions and their dignity to ensure these features are not lost. However, it seems reasonable to state that their culture continues not to provide the catalyst that would translate their communities into the established business environment (Wee et al., 2012).

CONCLUSION

Since it is rooted in sustainable development principles, Indigenous tourism can be said to provide the chance to realise developments or management strategies that are unique and innovative. These might benefit Indigenous people considerably. It is useful to revisit this empirical study's key objective: to explore how various attributes affect the adaptive resilience of indigenous entrepreneurs. These characteristics involve attitudes to sustainability, normal sustainability practices, behaviour related to sustainability, and the recognition of opportunity. While investigating indigenous entrepreneurs who are participating in minor business operations, this study identified how the majority held the strong belief that attitudes to sustainability, behaviour related to sustainability, and the recognition of opportunity, in comparison to their norms of sustainability, were the principal attributes that influenced and increased their intentions to progress in terms of entrepreneurial adaptive resilience. All in all, these are closely related to business advancement. The individuals participating in minor business activities should not neglect these insights. They should recognise their attitudes to sustainability, behaviour related to sustainability, and recognition of opportunity as collective features. The individuals should employ these characteristics as they can be a useful set of resources that lead to progress, as well as financial capital.

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ESPOUSAL OF ONLINE SOCIAL NETWORKS (OSNS) IN TOURISM SUPPLY CHAIN NETWORK (TSCN) DURING COVID-19

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Abstract: The COVID-19 epidemic has broken the original business network structure and globally affected the tourism supply chains. Online social networks (OSNs) have become a necessary component of ICT-enabled services, affecting every area of human existence. The espousal of OSNs into tourism supply chain networks during a pandemic is crucial. However, scarce studies have been conducted on the espousal of OSNs in tourism supply chain networks. The study developed a research model based on the IS success model, uses and gratifications (U&G) theory, institutional theory, and transaction cost theory to analyze the espousal of OSNs in the tourism supply chain network (TSCN) during COVID-19. The study employed structural equation modeling (SEM) to examine 99 data acquired via online surveys from supply chain specialists in the travel and hospitality sectors. The research model outperforms better and fulfills all model fitness requirements. The research found that tourism supply chain experts adopt online social networks to address supply and demand disruptions caused by COVID-19. Utilitarian features (e.g., supply chain perceptibility), technological features (e.g., system quality), and cost-benefit aspects substantially influence the espousal of OSNs in the tourism supply chain network. Espousals of OSNs improve tourism supply chain performance during Covid-19. As a result of this research, tourism supply chain management, MIS, and social media literature will be enriched by introducing OSNs in the tourism supply chain environment. The research will also provide adequate implications to supply chain managers and OSNs service provider to adopt OSNs in the tourism supply chain during COVID-19.

Key words: COVID-19, Espousal, Online Social Network, Tourism, Supply Chain Network, Performance

* * * * * *

INTRODUCTION

The tourism supply chain (TSC) is a linked chain of tourist firms that perform and/or support channel functions (Song, 2011). COVID-19 instills fear among the public, which adds to a drop in tourism demand (Bakar and Rosbi, 2020). Tourism, as high yield financial sector, can contribute to economic growth and development through technological advancement, industrial and infrastructural development (Bhuiyan et al., 2021). Tourism sector is the most sufferer due to the COVID-19, though the pandemic affected the almost every sector of the world economy (Afroz et al., 2022). This pandemic impacted the food, transportation, logistics, and tourist industries (Tellioglu, 2020). COVID-19 caused worldwide distortions in the tourist sector and significant drops in hotel occupancy rates (Nicola et al., 2020). It demonstrates that the disaster has the possible to have extensive and long-term consequences for tourism as an economic enterprise (Razak, 2020). It has caused problems in the travel and tourism-related service industries (Abbas et al.,2021) and created different global restrictions that influence the traveler's behavior and habits (Refaat and Arafa, 2022).

COVID-19 influences global goods demand and supply. COVID-19, a novel strain of extremely infectious coronavirus (Boccaletti et al., 2020), has recently caused havoc on supply chain worldwide (Choi, 2020; Ivanov, 2020). The COVID-19 outbreak is an example of how pandemics and epidemics may disrupt global supply chains (SC) (Queiroz et al., 2020). During the March global outbreak, supply chain management (SCM) struggled to accommodate unanticipated demand for specific commodities while restricting travel and manufacturing (Mazareanu, 2020). Unprecedented sickness epidemics (Lin et al., 2020) have impacted society as a whole and business model in operations and supply chain management (OSCM). These interruptions harm sales, earnings, stock returns, brand image, job security, buyer safety, and supply chain performance (Paul and Chowdhury, 2021). Domestic consumer demand in most nations is likely to fall considerably (Bakar and Rosbi, 2020). Demand would plummet as a result of overseas buyers delaying or canceling purchases, local and international tourists canceling holidays, and the stock market collapsing (Khan and Yasmine, 2020). On the supply side, there is also a chance of interruptions in emerging nations due to a lack of imported raw materials and spare components

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(Khan and Yasmine, 2020). COVID-19's uncertainty has disturbed the original stable hierarchical network structure as well as the whole supply and demand system of the tourism supply chain (TSC), resulting in huge losses for the tourist sector (Bai and Ran, 2022). The virus has infiltrated every aspect of the hospitality value chain (Hamid, 2021). The virus impacted practically every aspect of the hospitality value chain within nations, including management, hotels, and tourists. The immediate impact of the closure of these enterprises was felt in other sectors of the supply chain, such as food services, catering, restaurants, laundry services, transportation, and so on (Business Insider, 2020). Lodging, transportation, excursions, bars and restaurants, handicrafts, food manufacturing, waste disposal, and infrastructure that supports tourism in locales are all part of tourism supply chains (Intojunyomg et al., 2016). Information sharing and ICT are frequently identified as key facilitators for improving supply chain performance and preventing major supply chain concerns such as the bullwhip effect (Hofmann, 2017). The importance of ICTs in improving TSC performance and case studies of ICT development and its impact on TSC development in China are examined (Song, 2011). The implementation of information technology, like that of other businesses in this tourist supply chain, has made a significant contribution to the long-term success of the chain (Yuan et al., 2019). Tourism information technology provides the required information to supply chain management in order to personalize and integrate diverse procedures and resources for the most recent visitors' needs. Thus, information technology advantages may be realized if the supply chain's partner tourism enterprises adapt to novel information technology and use IT to build their facilities and packages (Raman and Bharadwaj, 2017).

The ability to adopt information technology in the tourism industry improves the performance of the tourism supply chain and facilitates the use of information technology for business uncertainty and planning in order to give consistent services to visitors (Xiang, 2018). Tourist IT adoption is positively related to long-term supply chain performance (Xiang et al., 2015). In recent years, social media has evolved as an innovative internet-enabled technology that has become a piece of crucial information for clients about their products (Kaplan and Haenlein, 2010). It provides a whole new approach to interact with existing and future consumers and suppliers (even on a global scale) and a development that is becoming increasingly important to various enterprises. Social networking platforms are well-known among travel and hospitality supply chain partners. Social media technology has the potential to improve supply chain management. It also enhances visibility, improves communication, improves management, and lowers operational and staff costs. Aside from that, social media may improve supply chain management and have a good ripple impact throughout the organization. Companies may freely communicate with customers on social media, improving demand, customer service, and publicity. Online social networks (OSNs) enable company to communicate in real time with entire supply chain, saving time, keeping everyone informed, and increasing productivity. It improves partner collaboration and facilitates open group discussions. This program is capable of tracking logistics, exchanging data and information, strengthening connections, and measuring success throughout the whole supplier network. Access to a large amount of information in the supply chain may be problematic in practice. Social networking will give organizations with a plethora of timely information about developing risks and events, allowing them to take corrective action sooner and prevent (or lessen the impact of) a supply chain disruption (Gonzalez, 2015).

Several large corporations utilize social media in their supply chain management procedures. It increases visibility, improves communication, increases management, and reduces operational and personnel costs (Sinha, 2019).

The preceding discussion emphasizes the need to incorporate OSNs into the tourism supply chain network during COVID-19. Some recent researchers have previously investigated how social media usage improves customer relationship management (Trainor et al., 2013) and organizational performance (Alarcon-del-Amo et al., 2013; Carmichael et al., 2011). While some attempts have been made to include social media in the supply chain for new product development (Cheng and Krumwiede, 2018); retail network operations (Ramanathan et al., 2017); improvement of the food industries network (Singh et al., 2018); and customer involvement for sustainable supply chain (Sigala, 2014). To the best of our knowledge, no studies have addressed the espousal of OSNs in the tourism supply chain network (TSCN) during COVID-19. Hence, this study explores the espousal of OSNs in the TSCN during COVID-19. In order to meet the objective, the following research question is developed: Does the espousal of OSNs into the tourism supply chain network boost supply chain performance during COVID-19? To empirically assess the tourism supply chain performance due to the espousal of OSNs, we developed an integrated model based on the IS success model, institutional theory, U&G theory, and transaction cost theory. This research will enrich the future researcher by introducing OSNs to the tourism supply chain network. It will give persuasive practical implications to the tourism industry regarding the espousal of OSNs in TSCN and OSNs service providers. The remainder of the study is organized: The research plan and hypothesis are followed by research methodologies. The analysis and findings section invites the discussion section. It then discusses the implications for knowledge and policy. Finally, the paper ends with a discussion of future research and limitations.

RESEARCH PLANS AND HYPOTHESES

To achieve the research purpose, this study constructed a research model that included the IS success model, institutional theory, U&G theory, and transaction cost theory. In order to describe the technical aspects of successful IS, a body of scholars in IS studies has attempted to explain the numerous quality features such as data quality (Kaplan et al., 1998), information quality (King and Epstein, 1983), system quality (Rai and Al-Hindi, 2000), and web quality (Aladwani and Palvia, 2002). In the context of a tourism supply chain, the technical quality of OSNs between transaction partners is just as crucial as agreement on the value of OSNs and the purpose for effective adoption (Sinha, 2019). Essentially, the institutional theory is used to describe how diverse entities in an institutional context produce pressures and how organizations are obligated to adhere to those standard norms and behaviors to make decisions over time (Scott, 2008). This study looked at the influence of several forms of institutional pressures (e.g., mimetic, normative, and coercive) on the adoption of OSNs in TSCN (DiMaggio and Powell, 1983). The transaction cost theory identifies the cost-benefit aspect of information and its influence on organizations (Williamson, 1975). Each sort of social network necessitates some investment, and the decision-maker must account for this cost while reaping the benefits of the network. According to TCE, organizations tend to embrace OSNs platforms as information dissemination platforms in TSCN when the advantage obtained from OSNs outweighs the expense incurred. The U&G theory is a theoretical framework that explains why people deliberately pick certain media to meet their gratification requirements, emphasizing why people choose one medium over others to meet a range of demands (Katz et al., 1974). A growing body of research has recently sought to adapt the U&G theory to social media settings, with the goal of explaining motivations for utilizing various social media platforms such as instant messaging (IM), Twitter, and Facebook (Alhabash et al., 2014; Han et al., 2015). This study includes the IS success model, the institutional theory, the U&G theory, and the transaction cost theory to achieve the research goal. Figure 1 depicts the research framework. The following part presents the hypothesis development details of research framework.

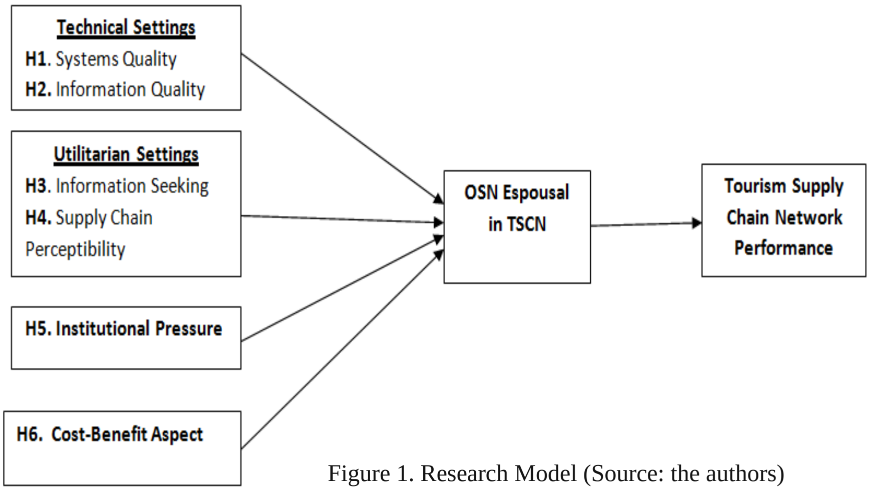

Figure 1. Research Model (Source: the authors)

1. Technical Setting

1.1. System Quality OSN Espousal

DeLone & McLean (1992; 2004) described the system quality in terms of usability, availability, reliability, adaptability, and response time, which motivates users to use online systems. If OSNs platforms are unreliable, difficult to use, and have slow responses, users need to wait a long to get information. OSNs permit transaction partners of the tourism supply chain to observe supply chain activities and dealings by providing up-to-date information about current situations. A poor system quality cannot make the OSNs visible and agile to their partners. Moreover, reliable and user-friendly systems lead the user to adopt the systems. A body of research suggests that system quality influences usage acceptance of technology in a different context (Yang et al.,2017 in MOOCs adoption; Lin and Lu,2000 in internet learning; Oliveira et al., 2014 in mobile banking adoption; and Zhou, 2013 in e-government espousal. Hwang and Rho (2016) explored system quality as a noteworthy feature of supply chain visibility and agility in RFID adoption in supply chain networks. Based on these theoretical arguments, we also believe that the system quality of OSNs will increase the chance of OSN espousal in the TSCN during COVID-19. Consequently, we propose:

H1: The quality of OSNs systems will positively contribute to OSN espousal in the tourism supply chain network during COVID-19

1.2. Information Quality OSN Espousal

The trustworthiness of shared information across supply chain transaction parties is considered a predictor of supply chain visibility and agility (Li and Lin, 2006). The lower level of information confuses users, increasing information-processing costs (Zheng et al., 2013). Supply chain visibility (Barratt and Oke, 2007) is interrupted and degraded when the shared information is not accurate and timely. Gao and Bai (2014) identified information quality as essential for mobile social networking adoption. Moreover, good quality of information advances the user to adopt the systems. Urbach and Müller (2012) found the "information quality is often seen as a key antecedent of user satisfaction." Hwang and Rho (2016) identified the information quality of RFID as a persuasive factor in supply chain visibility and agility. Based on such a theoretical argument, the study also believes that the quality of shared information on OSNs platform will lead to the espousal of OSNs in supply chain networks during COVID-19. Accordingly, we developed the following hypotheses.

H2: The quality of OSNs information will positively contribute to OSN espousal in the tourism supply chain network during COVID-19.

2. Utilitarian Settings

Goal-setting and rationality are connected to utilitarianism (Stoel et al., 2004). This research defines utility as information seeking and supply chain perceptibility.

2.1. Information Seeking OSN Espousal

The online social network is an increasingly popular medium for consumers to receive information and play an essential part in information seeking and sharing (Ku et al., 2014). Social media users can meet their information needs, and it influences user behavior (Ronda and Derek, 2014). Bunker et al. (2013) noted that Facebook users might get beneficial information and spread the message. WeChat Users may learn anything fresh or beneficial from others' postings (Ku et al., 2013). Gan (2017) investigated that users prefer Wechat based information sharing. This trait will inspire tourism supply chain networks to adopt this technology into their supply chain networks. In this line, we forecast

H3: Information seeking will significantly impact OSN espousal in tourism supply chain networks during COVID-19

2.2. Supply chain Perceptibility to OSN Espousal

This term describes the perceptibility of a supply chain network among transaction parties. The advent of online social networks has increased exposure for the supply chain management. Supply chain perceptibility is a vital supply chain network attribute, and an online social network facilitates this job. Individuals looking for a sense of social identity and a favorable image are more inclined to share and exchange information online (Lee-Won et al., 2014). Chen and Marcus (2012) discovered that to maintain a favorable image, Facebook users post more positive material and engage with others. Similarly, organizations may develop a favorable, sociable, and stylish image among tourism supply chain partners by using online social networks. Hwang and Rho (2016) uncovered that the visibility and agility of RFID positively contribute to supply chain performance. As a result, supply chain perceptibility should lead to the tourism supply chain professionals integrating OSNs into the supply chain network, forming a hypothesis

H4: Supply chain perceptibility impacts OSN espousal in tourism supply chain networks during COVID-19.

2.3. Intuitional Pressure to OSN Espousal

A company's mimetic forces urge it to alter and become more like others. These factors may also impact actors' desire to join OVSN (Zhu and Chang, 2014). To accomplish goals or objectives, normative forces need a convergence of ideas, beliefs, and aims (Hsu et al., 2014). These forces may restrain or facilitate social conduct, establishing roles and functions. Regulations or coercion impose punishments, expand authority, or reward actors (Scott, 2014). These forces emphasize technology, adoption, politics, and methods (Hsu et al., 2014). Mimetic, normative, and coercive factors influence ERP adoption (Liang et al., 2007) and social media adoption (Bharati et al., 2013).We also believe institutional pressures such as mimetic, normative, and coercive pressures favorably incentivize tourism supply chain professionals to integrate OSNs into their supply chain networks. So we have

H5: Institutional pressures (mimetic, normative, and coercive) drive tourism supply chain professionals to use OSN in tourist supply chain networks.

2.4. Cost-Benefit Aspect (CBA) to OSN espousal

Perceived fee parsimoniously reflects extrinsic sacrifice to the individual, whereas a higher cost hurts perceived value (Kim et al., 2007). Both marketing and information systems studies show that perceived value directly impacts purchase intention (Turel et al., 2010). Aside from the context of web-enabled cellular devices, research has found a substantial positive relationship between perceived fee and cost (Kim et al., 2007; Turel et al., 2007). The variable 'perceived value' assesses the utility of technology by balancing perceived values and costs (Setterstrom et al., 2013). It has been demonstrated to predict intent to use (Cocosil and Igonor, 2015; Hong et al., 2017). We expect the cost-benefit aspect to be a powerful predictor of OSN adoption in the tourism supply chain network. As a result, we suggest:

H6: The Cost-Benefit aspect (benefit after cost deduction) will positively boost OSN espousal in tourism supply chain networks.

2.5. Online Social Network Impact on Tourism Supply Chain Network Performance

Ferrer et al. (2013) discovered that using social media technology improves an organization's social capital and performance. Ahmad et al. (2018) explored that when SMEs adopt social media in operation that enhances SME performance. Ahmad et al. (2018) also discovered that the espousal of social media in business has impact on business performance. Parveen et al. (2016) identified that the adoption of social media in organizations increases the firm performance by reducing cost, increasing information accessibility, and improving customer relations. Schlagwein and Hu (2017) have investigated how social media usage types (for example, discussion) improve organizations' adoption ability and contribute to organizational performance. Social media may help organizations in many ways, though research in this area is limited. Considering these theoretical results, we predict that integrating OSNs will benefit tourism supply chain networks by lowering communication costs, increasing access to competitor and market information, and speeding up information distribution. So, we propose the following theory.

H7: Espousal of Online social networks improves tourism supply chain network performance.

METHODOLOGY

1. Research Settings

An exploratory study was advised due to a lack of research on online social networks in tourism supply chain networks during the COVID-19 pandemic (Zikmund et al.,2010). We chose tourism supply chain professionals from the Indian sub-continent (e.g., Bangladesh, India, and Pakistan) to test our study model and hypothesis. OSNs are a newer technology in those nations, and their usage has exploded. Moreover, in the Indian sub-continent, tourism supply chain specialists are increasing their online engagement.

2. Measurement Scale Development

To operationalize the study model, most of the latent construct measures were changed to reflect the assessment of these components for OSN users, notably tourism supply chain professionals from the Indian sub-continent. IQ (information quality) and SQ (system quality) are measured using a scale of Hwang and Rho (2016) and Veeramootoo et al. (2018) with four and three items, respectively. Measurement items for information seeking are adopted from Gan (2017); Ku et al. (2013). Measures for supply chain perceptibility are taken from Gan (2017); Liu et al. (2010). The components for institutional pressure are tailored from Bharati et al. (2013). Four factors from Setterstrom et al. (2013) and Kim et al.

(2007) are used to quantify the cost-benefit of OSNs. Measures for the Espousal of OSN in TSCN are taken from Bharati et al. (2013) and Davis et al. (1989). The tourism supply chain network performance (TSCN) is measured by four items adapted from Parveen et al. (2016) and Molla and Heeks (2007).

Table 1. Summary of Measurement Items

Constructs	Corresponding Items	Sources
Information Quality (IQ)	IQ1: OSNs delivers clear and understandable information in commonly usable format with transaction partners in tourism supply chain network during Covid-19 IQ2: OSNs supports to access information among transaction partners at the desired time in tourism supply chain network during Covid-19. IQ3: Information contained on the OSNs is up-to-date for transaction partners in tourism supply chain network during Covid-19. IQ4: OSNs supports sharing of exact, valid and unquestionable information in tourism supply chain network during Covid-19.	Hwang and Rho (2016); Veeramooto o et al. (2018)
System Quality (SQ)	SQ1: OSNs are easy to use among transaction partners in tourism supply chain during Covid-19 SQ2 : OSNs flexibly supports information service with upgrade reflecting requirements of transaction partners in tourism supply chain during Covid-19 SQ3 : OSNs help responds instantly to requests from transaction partners in tourism supply chain network during Covid-19	Hwang and Rho (2016); Veeramooto o et al. (2018)
Information Seeking(IS)	IS1: Supply chain partners obtains useful information from online social network for tourism supply chain networks during Covid-19 IS2 :Supply chain partners obtains helpful information from online social network for tourism supply chain networks during Covid-19 IS3: Online social network presents interested information for tourism supply chain networks during Covid-19	Gan (2017); Ku et al. (2013)
Supply Chain Percepti-bility (SCP)	SCP1: Online social network tell others about the organization's tourism supply chain network during Covid-19. SCP2: Online social network makes the organization's tourism supply chain networks visible to others during Covid-19. SCP3: Online social network helps the organization to keep pace with recent trends in tourism supply chain network during Covid-19.	Gan (2017); Liu et al., (2010)
Institutional Pressure (IP)	IP1: Competitors who are important to us think that online social networks are useful for tourism supply chain networks during Covid-19. IP2: Competitors whose opinions we value think online social network are beneficial for tourism supply chain networks during Covid-19. IP3: The Government's promotion of Information Technology influences our firm to use online social network for tourism supply chain networks during Covid-19. IP4: The industry association requires our firm to use online social network technologies for tourism supply chain networks during Covid-19. IP5: The competitive conditions in industry require our firm to use online social network for tourism supply chain networks during Covid-19.	Bharati et al (2014), Liang et al. (2007)
Cost-Benefit Aspect (CBA)	CBA: The fee that organization has to pay for the use of online social network is reasonable. CBA2: Compared to the fee organization need to pay, the use of online social network offers value for the money. CBA3: Compared to the effort organization need to put in, the use of online social network is beneficial. CBA4: Overall, the use of online social network delivers good value to organization during Covid-19.	Setterstrom et al (2013), Kim et al.,(2007)
OSN Espousal in TSCN (OSNE)	OSNI1. Supply chain professionals have high intention to use online social network services for tourism supply chain activities during Covid-19. OSNI2. Supply chain professionals will always try to use online social network services for tourism supply chain activities during Covid-19. OSNI3. Supply chain professional is implementing the application of online social network tools for tourism supply chain activities during Covid-19.	Bharati et al. (2013), Davis et al. (1989)
Tourism Supply Chain Network Perfor-mance (TSCNP)	TSCNP 1: Online social network reduce the cost of communication with transaction partners in tourism supply chain network even during Covid-19. TSCNP 2: Online social network enable easier access to competitor information of tourism supply chain network during Covid-19. TSCNP 3: Online social network enable easier access to market information of tourism supply chain network during Covid-19. TSCNP 4: Online social network enable faster delivery of information to customers of tourism supply chain network even during pandemic period during Covid-19.	Parveen et al., (2016); Molla & Heeks, (2007)

3. Data Collection

A web-based cross-sectional survey was conducted among 99 tourism supply chain professionals in the Indian Sub-Continent (e.g., Bangladesh, India, and Pakistan). The research questionnaire included two parts (A and B). Part A asks about OSNs and organization profiles. Part B included all questions relating to the proposed research model's constructs. The 29 concept indicator responses range from (1) "strongly disagree" to (7) "strongly agree." Researchers adopted the convenience sampling method as the survey instrument because of its cost-effectiveness and are widely used in information systems research (Eze et al., 2011; Jha, 2017). A google form was used to create a simple questionnaire. An email invitation included a URL link to the web-based survey questionnaire sent to tourism supply chain professionals. The research goal is also informed to the respondents properly. An email was issued to 670 tourism supply chain professionals from the Indian Sub-Continent. The first round was distributed in early July 2021 and received roughly 70 responses. Then six more rounds from 25 July to 31 August 2021. Finally, we received 120 replies, 21 of which were rejected owing to missing data. Table 2 shows the participant's demographics.

4. Analytic Method

We used Structural Equation Modeling (SEM) to test and corroborate the suggested integrated model and its relationships across theoretical components. SEM is commonly used to validate empirical data models (Götz et al., 2010). SmartPLS is a well-known software for PLS-SEM measurement model assessment (Hair et al., 2013). First, the internet data were exported to Excel. It was then transferred into SmartPLS 3.0 for statistical analysis.

ANALYSIS AND FINDINGS

1. Characteristics of the Sample's Demographics

The demographic analysis depicts the respondent's situation. The hospitality business has the most replies (52%), followed by travel (48%). One of the study's notable findings is that most respondents (66%) are small businesses utilizing online social networks to communicate in tourism supply chain networks. Respondents are from medium (25%) and large (9%). Respondents from Bangladesh (45%) and India (35%) were followed by Pakistan (19%). This ensures the respondents' distribution among the three nations. The majority of organizations (49%) have 1 to 10 full-time IT personnel in their information system department, 20% of organizations have 11-15 personnel, 12% have 16-20, 13% have 21-25, and 5% of companies have more than 25 IS employees. Most organizations (64%) have been in business for 1-10 years. 22 % of companies have been in business for 11-15 years, while 13% have been in business for over 15 years. Newly established organizations embrace online social networks to communicate in the tourism supply chain network. Notably, 35% of tourism supply chain professionals use Facebook to communicate with their transaction partners. The remaining participants (25%) use WhatsApp, (10%) use Twitter, and (21%) use all types of platforms for tourism supply chain communication. Most respondents (48%) use smartphones to communicate with tourism supply chain partners. Conversely, 12% use a laptop, 6% a desktop, 8% a tablet, and 25% utilize all devices for online social network engagement in the Indian sub-continent's tourism supply chain partners (see Table 2). Data analysis included all demographic variables as control variables. We ran two models, one with the control variables and one without. The existence of control variables has little influence on R square values (Teo et al., 2003). Therefore, we did not consider the effects of demographic variables in the final model.

Table 2. Demographic Analysis

Indicators	Description	Frequency	Percentage	Indicators	Description	Frequency	Percentage
Industry	Hospitality	51	52%	OSM Platform	Facebbok	35	35%
	Travel	48	48%		WhatsApp	25	25%
					Twitter	10	10%
Age of the Firm	Less than 1 year	5	5%		YouTube	5	5%
	1 to 5 year	27	27%		Google+	1	1%
	6 to 10	32	32%		Wechat	2	2%
	11 to 15	22	22%		LinkedIn	0	0%
	More than 15	13	13%		Others	0	0%
Is Employee	Less than 5	23	23%		All	21	21%
	5 to 10	26	26%	Hardware Used	Smartphone	48	48%
	11 to 15	20	20%		Desktop	6	6%
	16 to 20	12	12%		Laptop	12	12%
	21 to 25	13	13%		Tablet	8	8%
	26 to 30	2	2%		Other	0	0%
	More than 30	3	3%		All	25	25%
Size of the Firm	Small	65	66%	Country	Bangladesh	45	45%
	Medium	25	25%		India	35	35%
	Large	9	9%		Pakistan	19	19%

2. Measurement Model

For the investigation of the measurement model, SmartPLS 3 was employed. We used Anderson and Gerbings' (1988) two-step statistical analysis approach to achieve the objective in SEM. The two-step strategy builds measures validity and reliability before studying structural links. Internal consistency and dependability are assured when Cronbach's alpha and composite reliability are equal to or greater than 0.70 (Hair et al., 1995).

Table 3. Measurement Model

Construct	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Cost Benefit Aspect	0.941	0.958	0.849
Information Quality	0.924	0.946	0.814
Institutional Pressure	0.947	0.960	0.826
Information Seeking	0.889	0.931	0.819
System Quality	0.913	0.938	0.792
OSN Espousal in TSCN	0.928	0.954	0.875
Supply chain Perceptibility	0.905	0.940	0.840
Tourism Supply Chain Network Performance	0.939	0.956	0.846

Table 3 illustrates the study's Cronbach's alpha and composite reliability. Cronbach's alpha ranged from 0.889 to 0.947, and composite reliability from 0.931 to 0.960. The study's internal reliability is above the threshold value of 0.70. We utilized Fornell and Larcker's (1981) criteria to assess convergent validity. Table 4 reveals that all item loadings (bold and italic) were above 0.70, and Table 3 shows that AVE values were similarly over 0.50 (Fornell and Larcker, 1981; Hair et al., 2013). So the investigation validated the suggested measuring model's convergent validity. Most researchers employed the Fornell and Larcker (1981) criterion to measure discriminant validity. Henseler et al. (2015) argued that neither the Fornell-Larcker (1981) criterion nor the examination of cross-loadings adequately allowed researchers of variance-based SEM to establish discriminant validity. Henseler et al. (2015) strongly advocated the heterotrait-monotrait ratio of correlations (HTMT) as a unique method for measuring discriminant validity in variance-based SEM. It is also used other fields (Kuppelwieser et al., 2019). According to Henseler et al. (2015), an HTMT value of 0.90 (Gold et al., 2001) is acceptable, while an HTMT value of 0.85 (Kline, 2011) is regarded as the tightest requirement. Table 5 shows that all values are smaller than Gold et al. (2001) requirements (<= 0.90), ensuring the discriminant validity of our data.

Table 4. Item Loading. Note: square root of AVE on diagonals in bold; CBA: Cost Benefit Aspect; IQ: Information Quality; IP: Institutional Pressure; IS: Information Seeking; SQ: System Quality; OSNE: OSN Espousal in TSCN; SCP: Supply Chain Perceptibility; TSCNP: OSN Tourism Supply Chain Network Performance

	CBA	**IQ**	**IP**	**IS**	**SQ**	**OSNI**	**SCP**	**OSNISN**
CBA1	***0.918***	0.777	0.855	0.795	0.765	0.801	0.822	0.805
CBA2	***0.936***	0.766	0.819	0.763	0.729	0.831	0.803	0.838
CBA3	***0.924***	0.781	0.832	0.778	0.734	0.783	0.814	0.834
CBA4	***0.907***	0.788	0.849	0.776	0.776	0.814	0.810	0.834
IQ1	0.768	***0.893***	0.782	0.814	0.832	0.794	0.821	0.798
IQ2	0.730	***0.894***	0.759	0.737	0.738	0.740	0.743	0.731
IQ3	0.780	***0.924***	0.807	0.816	0.789	0.802	0.826	0.785
IQ4	0.767	***0.898***	0.806	0.830	0.765	0.747	0.831	0.765
IP1	0.783	0.796	***0.893***	0.773	0.763	0.774	0.781	0.786
IP2	0.819	0.795	***0.910***	0.751	0.749	0.786	0.781	0.786
IP3	0.837	0.776	***0.908***	0.812	0.742	0.791	0.801	0.801
IP4	0.848	0.826	***0.926***	0.826	0.788	0.796	0.812	0.837
IP5	0.846	0.781	***0.906***	0.789	0.758	0.797	0.799	0.793
IS1	0.728	0.812	0.761	***0.892***	0.737	0.729	0.764	0.731
IS2	0.787	0.810	0.811	***0.923***	0.806	0.762	0.824	0.788
IS3	0.776	0.786	0.787	***0.899***	0.740	0.723	0.798	0.761
SQ1	0.728	0.757	0.750	0.735	***0.876***	0.700	0.771	0.728
SQ2	0.697	0.760	0.715	0.723	***0.888***	0.696	0.719	0.714
SQ3	0.751	0.789	0.755	0.755	***0.914***	0.760	0.768	0.733
OSNE1	0.800	0.786	0.794	0.742	0.733	***0.920***	0.792	0.783
OSNE2	0.839	0.813	0.832	0.766	0.754	***0.956***	0.823	0.850
OSNE3	0.820	0.801	0.809	0.781	0.781	***0.930***	0.808	0.860
SCP1	0.787	0.804	0.777	0.805	0.763	0.743	***0.890***	0.768
SCP2	0.819	0.837	0.805	0.812	0.807	0.825	***0.947***	0.838
SCP3	0.818	0.816	0.823	0.801	0.762	0.804	***0.913***	0.800
TSCNP1	0.844	0.793	0.808	0.794	0.789	0.835	0.819	***0.919***
TSCNP 2	0.833	0.794	0.813	0.790	0.763	0.811	0.827	***0.938***
TSCNP 3	0.815	0.746	0.784	0.712	0.689	0.794	0.771	***0.909***
TSCNP 4	0.812	0.804	0.834	0.791	0.740	0.830	0.803	***0.913***

Table 5. Heterotrait-Monotrait Ratio (HTMT) Note: square root of AVE on diagonals in bold; CBA: Cost Benefit Aspect; IQ: Information Quality; IP: Institutional Pressure; IS: Information Seeking; SQ: System Quality; OSNE: OSN Espousal in TSCN; SCP: Supply Chain Perceptibility; TSCNP: OSN Tourism Supply Chain Network Performance

	CBA	IQ	IP	IS	SQ	OSNE	SCP	TSCNP
CBD								
IQ	**0.805**							
IP	0.864	**0.835**						
IS	0.823	0.878	**0.847**					
SQ	0.879	0.843	0.899	**0.833**				
OSNE	0.837	0.823	0.825	0.897	**0.878**			
SCV	0.856	0.877	0.845	0.880	0.833	**0.841**		
TSCNP	0.856	0.815	0.833	0.818	0.876	0.851	**0.849**	

3. Common Method Bias Estimations

Since cross-sectional data come from one source, we investigated for common method bias (CMB) using a correlation matrix (Bagozzi et al., 1991). There is a common method bias if the correlation table reveals strong correlations (above 0.90). The correlations between constructs are 0.898 or less (Table 5). The tests indicate that our work is free of common method bias.

4. Estimation of Model Fitness

Because Smart-PLS was utilized in this work, we estimated the overall model fitness using several indices generated by

Smart-PLS. We used the following model fitting parameters: 1. A satisfactory fit is defined as a Standardized Root Mean Square Residual (SRMR) of less than 0.08 (Hu and Bentler, 1999). 2. The Normed Fit Index (NFI) computes the proposed model's Chi-square value and compares it to a meaningful benchmark (NFI values greater than 0.9 usually indicate a good fit) (Hu and Bentler, 1999). 3. d_ULS (Euclidean distance squared) 4. d_G (the geodesic distance). The third and fourth fit values are exact model fits that investigate the statistical (bootstrap-based) inference of the gap between the actual covariance matrix and the composite factor model's anticipated covariance matrix. According to Henseler et al. (2016), a model is well fitted when d_ULS and d_G are greater than the 95 percent bootstrapped quantile (HI 95 percent of d_ULS and HI 95 percent of d_G). Since the SRMR value is 0.032 (<0.08), the NFI is 0.923 (> 0.90), the d ULS bootstrapped HI 95 percent of d_ULS, and the d_G bootstrapped HI 95 percent of d_G, the software generated value implies our model is well fitted (Table 6). Our structural model considerably proves the link between distinct constructs (Hair et al., 2013), and we may now investigate the structural model's path coefficient.

Table 6. Model fit Summary

Parameters	Saturated Model value	Recommended value	Sources
SRMR	0.032	≤ 0.08	Hu and Bentler (1999)
d_ULS	0.477	< than the 95% bootstrapped quantile (HI 95% of d_ULS)	Henseler et al. (2016)
d_G	0.812	< than the 95% bootstrapped quantile (HI 95% of d_G)	Henseler et al. (2016)
NFI	0.923	≥ 0.9	Hu and Bentler (1999)

5. Structural Model

SmartPLS software was used to test the relationships. Figure 3.2 illustrates the structural model's route coefficients. Hypothesis (1) is supported by our hypothesis testing results (p <0.05, t = 2.143). As a result, the system quality of online social networks impacts tourism supply chain professionals' use of OSNs for tourism supply chain communication. Information quality has not a beneficial influence on OSN espousal (p >0.05, t = 0.437). Thus H2 is not supported. It shows that OSNs' technical aspect influences tourism supply chain professionals to communicate with this platform. Hypothesis (3) is unsupported because information seeking (p >0.05, t = 0.728) is statistically insignificant. So we cannot support Hypothesis (3). On the other hand, the statistical value (at p 0.000, t = 3.701) of supply chain perceptibility is statistically significant. So we can't reject hypotheses (4). As a result, the utilitarian component of online social networks encourages tourism supply chain specialists to adopt this technology to increase communication among partners. Espousal of OSNs is not positively impacted by institutional pressure (p >0.05, t=0.306). It suggests that institutional pressure does not drive tourism supply chain experts to use OSNs for partner communication. We accepted Hypothesis (6) because the cost-benefit aspect positively influences tourism supply chain professionals' desire to utilize OSNs for partner communication (p 0.000, t = 3.632). Cost-benefit aspect seems to be one of the drivers for OSN espousal among tourism supply chain experts.

Table 7. Hypothesis Result. Legend: p: significance: *p<0.05 ; ** p<0.01 ; ***p<0.001

Hypothesis	**Relationship**	**Std.Beta**	**T Statistics**	**P Values**	**Decision**
H1	**SQ-> OSNE**	0.206	2.143*	0.033	Supported
H2	**IQ -> OSNE**	0.067	0.437	0.662	Not Supported
H3	**IS-> OSNE**	-0.067	0.728	0.467	Not Supported
H4	**SCP -> OSNE**	0.444	3.701***	0.000	Supported
H5	**IP -> OSNE**	-0.010	0.306	0.760	Not Supported
H6	**CBA-> OSNE**	0.318	3.632***	0.000	Supported
H7	**OSNE -> TSCNP**	0.878	32.689***	0.000	Supported

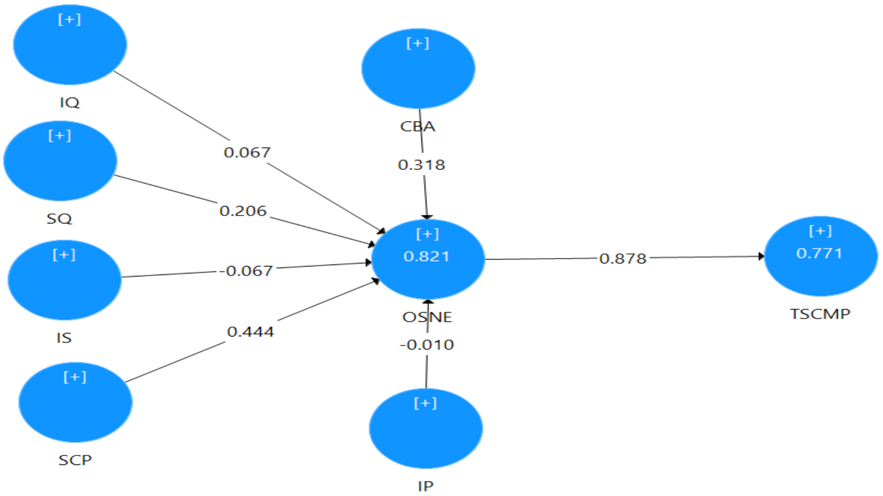

Figure 2. Validated Model

Overall, the use of OSNs by tourism supply chain specialists to connect with their partners has a considerable beneficial influence on the functioning of the tourism supply chain network. We accept H7 because it is statistically significant (p 0.000, t = 32.689) (Table 7 for details). The prediction power (R^2) of online social network espousal (OSNE) is 0.821, while the performance of the tourist supply chain network (TSCNP) is 0.771. Chin (1998), Höck, and Ringle (2006) consider findings over the threshold level of "0.67", "0.33", and "0.19" to be "substantial", "moderate", and "weak". All of the numbers are more than the criteria cutoff of 67 percent. The model is responsible for 82.1 percent of online social network endorsement and 77.1 percent of tourist supply chain network performance. The study also looked at effect size (f2) to assess the research model's significance. Cohen (1988) recommended

0.02 for “small”, 0.15 for “medium” and 0.35 for “high” effect sizes. The influence of tourism supply chain network performance (f2 = 0.168) is medium, whereas online social network espousal (f2 = 3.368) is a substantial effect size

DISCUSSIONS

This work examined the espousal of online social networks (OSNs) in tourism supply chain communication during a pandemic induced by COVID-19 by constructing a unified research model. To determine the espousal of OSNs as a communication platform among tourism supply chain partners during COVID -19, we combined IS success model, U&G theory, institutional theory, and transaction cost theory. Eight variables were included in the study model: SQ (System Quality), IQ (Information Quality), IS (information seeking), SCP(supply chain perceptibility), IP (institutional pressure), CBA (cost-benefit aspects), OSNE (Online social network espousal), and TSCMP (Tourism supply chain network performance). This study model's overall explanatory power is strong, with an R2 of 82.1 per cent for online social network espousal and 77.1% for tourism supply chain network performance, whereas previous studies on IS acceptance show an R square 45.6 per cent (Haque et al., 2020), R square 45.8 per cent (Bhuiyan et al., 2020), R square 47.8 per cent (Haque and Khan, 2020) and R square 38.7 per cent (Haque et al., 2020). The hypothesis test results showed significant links between the eight constructs, with four hypotheses being highly supported. Different route coefficients such as SQ, SCP, and CBA influence the espousal of online social networks in tourism supply chain networks. Several obvious conclusions might be drawn from this unified research model: First, the technical elements of the online social network have a good impact on the espousal of OSN in the tourism supply chain network. The system quality of the online social network dramatically influences the tourism supply chain network espousal. It shows that the online social network system is user-friendly for supply chain partners to communicate. It validates the usefulness of online social networks for tourism supply chain partners to interact with their partners in the Indian sub-continent during a pandemic induced by COVID-19. It is similar to other IS/IT research, such as Oliveira et al. (2014) in the mobile banking context. It is also consistent with Hwang and Rho (2016), where they found system quality of RFID an influential predictor of supply chain performance.

Another technical aspect of online social networks (Information quality) has not statistically significant influence on tourism supply chain network espousal. This result implies that the online social network's information quality does not significantly induce tourism supply chain professionals to communicate with their partners in the Indian sub-Continent during pandemic disorder. This result is similar to other research in different contexts, such as online banking assimilation in Malaysia (Ndubisi and Sinti, 2006). This result contradicts the findings of Hwang and Rho (2016), where they explored the information quality of RFID as a prominent indicator of supply chain performance.

This study also unveils that the utilitarian component of online social networks is necessary for the espousal of OSNs in tourism supply chain networks during pandemic situations. Supply chain perceptibility significantly influences the espousal of online social networks for tourism supply chain professionals' communication. According to the findings of this study, online social networks greatly improve supply chain perceptibility among tourism supply chain partners. This finding is comparable to that of Lee-Won et al. (2014), who discovered the relevance of OSNs in increasing user perceptibility. This outcome is also unfailing with Hwang and Rho (2016), where they explored supply chain visibility as a persuasive antecedent for the espousal of RFD in the supply chain network. Intriguingly, another valuable feature of the online social network, Information seeking, is non-statistically influential, though online social network is supposed to let users disseminate information faster than conventional media. This result is incompatible with (Kim et al., 2014) and Gan (2017), where they discovered social media an essential platform for seeking and sharing information in a different context.

Then, Institutional pressure does not seem to be the most crucial predictor of OSNs espousal in tourism supply chain network during pandemic disorder. This finding contradicts Haque et al. (2019), where exploring environmental and organizational aspects is vital in adopting social networking sites among the institutional investors in Bangladesh. It is also failing with Bharati et al. (2013) finding, where they found institutional pressure an essential element in the adoption of social media. The cost-benefit component was identified in this study as a direct driver of online social network adoption in tourism supply chain networks for communication during the pandemic. It was discovered that CBA had a beneficial influence on OSN espousal in tourism supply chain networks. It affirms the concept of perceived cost and benefit of new technology adoption. This study supports the findings of Setterstrom et al. (2013), who discovered that perceived cost and benefit influence user acceptance of web-enabled wireless technology. This conclusion is consistent with the findings of Kim et al. (2007), who discovered that increasing perceived value is essential for technological adoption. In a different study environment, this discovery is analogous to Cocosi and Igonor (2015) and Hong et al. (2017).

Finally, online social network espousal substantially impacts the tourism supply chain network performance. This study is in line with Ahmad et al. (2018), who discovered that the adoption of social media technology improves an organization's performance. This result further supports Parveen et al.'s (2016) findings that social media helps firms improve performance by lowering marketing and customer service costs. It is also consistent with Schlagwein and Hu (2017), who explored that espousal of social media improves firm performance. The research examined the importance of online social networks espousal in the tourism supply chain network during the COVID-19. The statistical outcome supports every hypothesis except information seeking, institutional pressure, and information quality. It shows that online social network espousal in tourism supply chain networks during the pandemic is pragmatic and adds value to tourism supply network performance.

Implications

Since there is little study regarding the espousal of online social networks in supply chain networks during COVID-19, this study is the first to integrate IS success model, institutional theory, U& G theory, and transaction cost theory to investigate online social network espousal in tourism supply chain networks. This will add a new dimension to the tourism supply chain and MIS research. There is widespread usage of online social networks, but studies on OSN espousal in tourism supply chain networks during COVID-19 are rare. It will add a new dimension to tourism supply chain and information technology adoption research. This research highlighted how technical and utilitarian factors influence online social networks espousal in tourism supply chain networks. Originally institutional theory was developed to forecast people's behaviour in organizational settings. However, this study stemmed from questioning its applicability in tourism supply chain settings. It also added the cost-benefit aspect in the tourism supply chain context though this aspect is mainly used in financial research. These will enrich the tourism supply chain and social media literature.

It will assist all organizations in defining their plan for integrating online social networks into tourism supply chain networks to improve partner communication. Also, firms that do not utilize OSNs will plan to use them in their tourism supply chain networks. It will assist various supply chain experts maintain one-to-one conversations with their supply chain partners and TSCN regulators to formalize their standards on using OSNs for communication purposes. This research will help OSN service providers understand the factors influencing the tourism supply chain, allowing them to include OSNs and build more innovative platforms to deliver better services.

Research Limitations and future direction

Despite developing and justifying the research model using empirical data for OSN espousal during the pandemic, this study has certain limitations. Primarily, the study used cross-sectional data acquired from tourism supply chain specialists from three countries in the Indian sub-continent. Longitudinal data can be used to verify the research model in the future from more countries. The suggested integrated model revealed that the well-known constructs such as information quality, information seeking, and Institutional pressure have statistically insignificant influence on online social network espousal. Developing and validating suitable scales for these constructs would revalidate the study's model. Finally, although the research model's variance (82.1%) of online social network espousal and (77.1%) tourism supply chain network performance are more than other IS/IT espousal models, further research might find and check other borderline conditions of the research model.

CONCLUSION

This study responds to a need for the espousal of online social networks (OSNs) for tourism supply chain network communication during COVID-19. Studying IS success model, institutional theory, U&G theory, and transaction cost theory helped build a research model. Thus, the research used technical and utilitarian constructs from several theories to develop a model that would explain OSN espousal in the tourism supply chain network. The suggested research model included seven key hypotheses. The empirical findings show that system quality, supply chain perceptibility, and cost-benefit aspects directly predict OSNs and influence online social networks espousal in TSCN.

However, information quality, institutional pressure, and information-seeking do not significantly influence on the espousal of OSNs networks espousal in TSCN during COVID-19. The study also found that supply chain espousal has a favorable impact on the tourism supply chain network. A pandemic induced by COVID-19 in the Indian sub-continent demonstrates the importance of this research in adopting OSNs among tourism supply chain specialists. A final benefit of this research is that it adds a body of knowledge in tourism supply chain management, MIS, and social media literature. It also provides practical guidance to tourism supply chain professionals regarding the espousal of OSN in tourism supply chain networks during pandemic disorder.

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DETERMINATION OF ATTRACTIVENESS INDEX AND CARRYING CAPACITY OF THE GEOSITES FOR SUSTAINABLE GEOTOURISM DEVELOPMENT IN THE CYCLOOPS MOUNTAINS OF PAPUA, INDONESIA

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Abstract: The Cycloops Mountains are geologically and ecologically important conservation area, but are disturbed by degradation and deforestation. Geotourism is applied as an activity that supports sustainable use of the area. The aims of this research is to analyze the attractiveness and carrying capacity of the geosite for the development of sustainable geotourism. This research uses expert judgment in determining attractiveness based on the index value method and the suitability of carrying capacity with physical, real and effective geosite method.

Key words: Attractiveness, Carrying Capacity, Cycloops, Sustainability

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INTRODUCTION

The tourists are motivated in a place because of its natural beauty and unique culture of the community. Natural elements inherent in all living beings and numerous natural formations. Whereas culture is the way humans adapt to the natural and inherited to the following generation. The elements of tourism environment to be part of the point of interest of a destination (Hermawan and Brahmanto, 2018). The built tourism environment is a community creation area that was built by man-made structures that formed the balanced interaction between biotic to abiotic components, thus supporting the tourist activity. A mutual relationship between human and nature to ecologically produce distinctive cultural community behavior. A combination of nature, society and results of fostered to attract the tourists and specifically developed which is known as the special interest tourist attraction. Law of the Republic of Indonesia No. 10/2009 concerning tourism defines a tourist attraction as the object that has uniqueness, beauty and value resulting the diversity of nature and culture, as well as man-made outcomes into tourist destination. The diverse, original, unique and vintage geological objects can be attractive if they are developed as a special interest nature tourism and are combined with a specific theme and challenging adventurous activities. Geotourism is a geology and landscape themed with special interest nature tourism (Farsani et al., 2011; Hose, 2012) which is applied to conservation areas as a tool for sustainable development if managed effectively (Newsome et al., 2012). Cycloop mountains is natural reserve territory that serves as forest conservation, protection of water sources and landslides, as well as the natural laboratory. The existence of a conservation area is not only important because of ecological aspect, but also to improve economic and social culture of society. The main threat of forest areas in mountains are deforestation and land degradation due to high population growth and natural resources exploitation, in form of shifting cultivation and illegal excavation, hunting and trade of endemic plant and animal species. The sustainability issue of natural resources utilization into strategic issues of the Cycloop mountains management. Geotourism development in Cycloops mountains is based on geosite as a unit of site analysis of potential geodiversity by considering the sensitivity aspect of the nature reserve caused by tourists, such as noise, movement and garbage. The influence of tourists is not only reduce the value of attraction, but also reduce the ability of existing carrying capacity of geosite. The ability of carrying capacity according to amount and activity of tourists can keep environment quality and tourist attractions (Yulisa et al., 2016). Geotourism research not only focuses on geology, but takes into account scientific, ecological, aesthetic and economic value (Fassaulas et al., 2012). This research aims to analyze the attractiveness based on index value and to determine the physical, real and effective carrying capacity of the geosite. It is hoped that potential and superior geosites can be obtained that can be developed as sustainable geotourism in Papua.

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STUDY AREA

Study area is located in Cycloops mountains in between Jayapura Regency, Papua Province, Indonesia. The mountains occupy position coordinates of 140° 22′ – 145°43′ East longitude and 2°25′ – 2° 33′ South Latitude. Geographically, location of study is limited by Pacific Ocean in Northern part, Humbold Bay in Eastern part, Sentani Lake in Southern part and Tanah Merah Gulf in Western part. The area is about 35,000 Ha and about 80% are located in territory of Jayapura Regency administrative area (Figure 1). These mountains are located on Northern coastal of Papua Island, separated from Central highlands of Papua. Name of Cycloops was given by Dutch sailors who sailed in Northern of Port Numbay, due to its resemblance to the Greek god-eyed. Local people call this mountain with the name of the Dafonsoro or Rohong Hollo or Ravenirara, meaning forest where has the source of water. Surrounding mountains, there are 5 settled major tribes who have customary rights to land, consist of Enggros-Tobatí (Jayapura City), Sentani, Moy, Tepera and Ormu (Jayapura Regency). The existence of culture can add to tourist experience that describes interaction between human activities and their environment (Pica et al., 2014). Cycloop mountains have a vital function in ecologically and geologically. These mountains is a conservation area with status of a Nature Reserve based on the Minister of Forestry Decree (SK Menhut) Number: 365/kpts-II/1987-defined as forest area with function as protected areas, particularly for: (a) water management (hydrology) and micro-climate; (b) prevention of erosion, landslides and floods; (c) forest ecosystem and wild animals habitat, and; (d) significance of education and culture. Geologically, these mountains represent condition of floor of ocean and arc of volcanic islands that was Paleogene aged, as well as being part of a complex ophiolite of Papua (Ishlah, 2012) consisting of a group of metamorphic Cycloops and igneous mafic-ultramafic formed in pre-Tertiary (Suwarna and Noya, 1995).

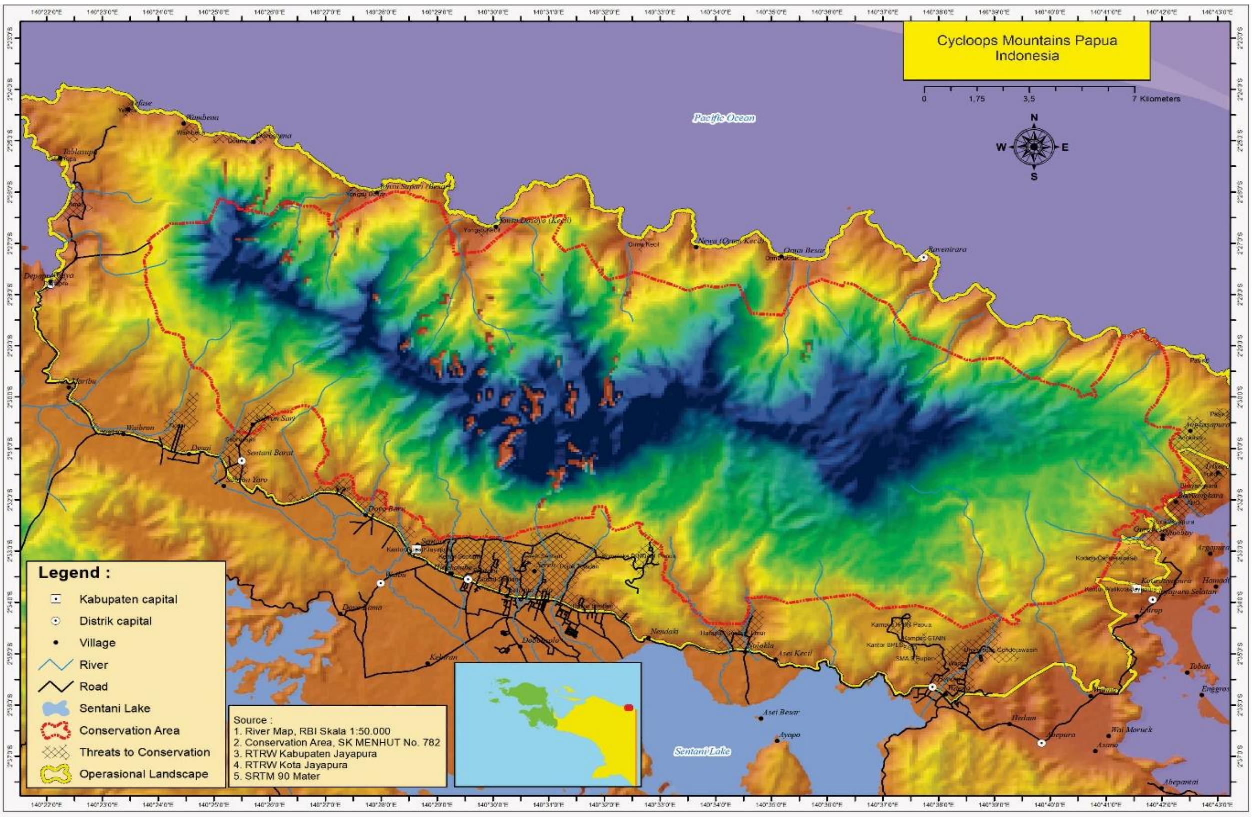


Figure 1. Location map of study in Cycloops Mountains, Papua, Indonesia (Source: Digital Elevation Model, 2018)

MATERIALS AND METHODS

The term of geotourism became popular in Indonesia around 2003, which National Seminar on Earth was held by the Center for Research and Development of Geology Bandung (Today is known as Geological Agency). Geotourism is defined as the tourism based on the geological and landscape (Sunkar and Brahmantyo, 2013; Hurtado et al., 2013; Farsani et al., 2014). Geotourism activity is different from other natural attractions. Thus it is categorized as special interest tours. This tourism applies the conservation principles in accordance with ecotourism rules, so that geotourism is seen as both environmentally insightful or sustainable tourism. Geosite assessment was obtained from survey results and expert opinions. Following the scheme of applied research methodology (Figure 2).

Attraction

Geotourism activities were conducted at tourist destination that displays uniquely and authentic geological objects to become a tourist attraction, which is known as geosite. Geosite is vital element of region in geotourism planning because it contains education, research, tourism, conservation, and other aspects. Geosite that contains elements and records of geological history in a particular region can be a legacy of the earth (geoheritage) which its existence can be witnessed, studied, documented and preserved (geoconservation). A large number of geosites can compete with each other and affect directly or indirectly. The ability to compete determines success of a geosite as a superior destination (Pavolova et al., 2014). A indicator that affects competition between geosites is element of geological attractiveness.

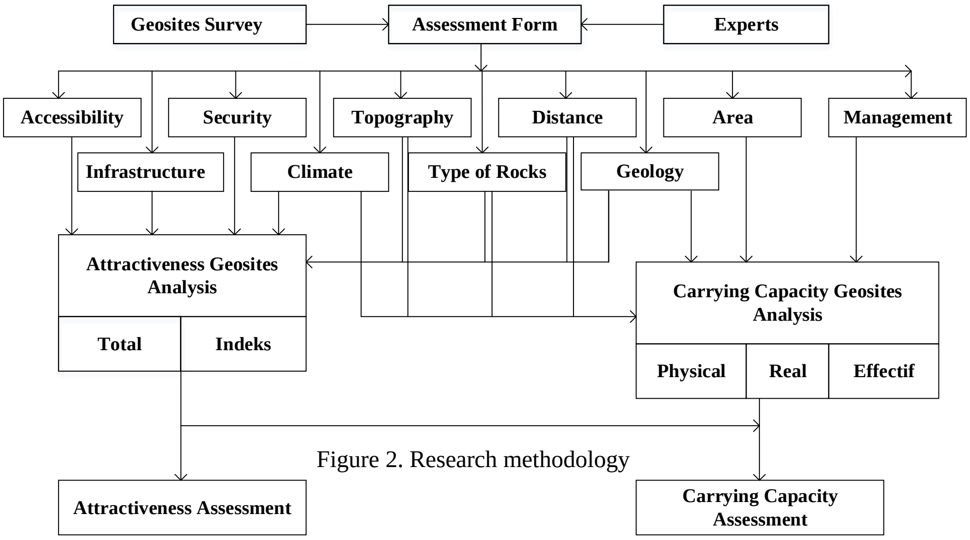


Figure 2. Research methodology

Elements of geology which became attraction of a) materials (soil, rocks and minerals, including dairy), b) process (result of tectonics, volcanism, weathering dissolution, including fossilization, and c) period (history of geology and fossils of living creatures). The geosite attraction can also be determined from principles application aspect of geology and visualization of landforms evolution process (landscape). The attractiveness of geosite is determined by aesthetics value of geology and quality of environment. Hassan et al., (2012) suggested the geosite attractiveness assignment by index approach. This method has been developed in Razavi Khorasan Province in Iran towards 5 elected geosite. The geosite attractiveness assessment is determined by 9 criterias and weights (Table 1).: The determination of score (1 – 5) is carried out by experts who understand the geology objects and context of nature tourism. Experts who consist of the academicians, the professionals, and the government officials of tourism. The index is calculated by comparing scores and weights against maximum score of each criterion (Equation 1). The result of index summation of all criteria are then determined by geosite categories, ranging from less attractive to very attractive (Table 2). In this research, we will look for geosites that are categorized as attractive to very attractive expressed as a potential geosites that are worthy of further development.

Equation 1: $I_{DT} = \frac{S*B}{S_{max}}$ where I_{DT} = Attractiveness index, S = Score (1 – 5, 1 for lowest score and 5 for highest score), B = Weight of each criterion, and S_{max} = The maximum score that has been set on each criteria.

Carrying Capacity

Potential geosite tend to have more tourists compared to other geosite. The behavior of tourists could give a significant impact on environment around geosite, particularly in areas that have sensitive plants or wild animals. The ability of geosite to accommodate tourists and their activities not to disturb or damage ecosystem is highly dependent on the carrying capacity of a tourist location. Carrying capacity is capacity of a location to receive tourists or maximum number of tourists that can visit without causing a decline in environment quality. Carrying capacity can be determined based on physical, biological, and regional management condition by considering 3 capacity, a) physical capacity, b) real capacity, and c) effective capacity (Zacarias et al., 2011; Lucyanti et al., 2013). The third capacity are also pay attention to movement or tourist flows, size or area, amount of space available for each tourists and visiting time in tourist destination.

Geosite carrying capacity is one of tools determining geological conservattion by evaluating geoheritage using geomorphosite assessment (Kirchner and Kubalikova, 2011). Carrying capacity assessment of geosite is using some assumptions so that applied comparison will be more consistent. Assumptions were obtained from general survey results and consideration of comfort and security of tourists. Assumptions used are:

1. Area for tourists is 10 m^2 per person (water tours) and 15m^2 per person (mountain tours);
2. Operating time of tourist location is 8 hours per day maximum;
3. A minimum distance of tourist attractions to nature reserve boundary is 100 m;
4. Maximum precipitation is 30 mm/day;
5. Maximum slope is 40^o

The method of analysis of carrying capacity using Cufuentes formula as proposed by Lucyanti et al. (2013), which is based on maximum number of tourists in one day, to observe correction factor of local biophysical characteristics, as well as management area capacity. Carrying capacity formula of environment based on Cufuentes method (1992), equation 2-4 modified by Muhammad (2013), as follows:

Physical Carrying Capacity (PCC) Equation 2: $PCC = A * \frac{1}{B} * Rf$ where A = area provided and used for tourism; B = area needed by every tourist for tourist activities; and Rf = rotation factor

Table 1. Attractivenes Assessment Form for Geosite (Source: Hassan et al., 2012)

No.	Indicators (Weight)	Parameters (level1)	Sub Parameters (level2)	Score	Description
1	Distance from the geosite (10%)	a. Long (>30km); b. Medium (10-30km) c. Short (<10km)		1 3 5	
2	Accessibility (10%)	a. Good (roadway/highway) b. Poor (unpaved/Limited road) c. No access (baling/hiking)		1 3 5	
3	Climate (5%)	a. Rainfall b. Temperature c. Humadity d. Windy	i. High (>20mm/day) ii. Medium (10-20mm/day) iii. Low (<10mm/day) i. Hot (>25^{o}C) ii. Normal (20-25^{o}C) iii. Cool (<20^{o}C) i. Dry (<80%) ii. Moderate (80-90%) iii. Humid (>90%) i. Strong windu (>10knots) ii. Moderate (7-10knots) iii. Breeze (<7knots)	1 3 5 1 3 5 1 3 5 1 3 5	
4	Type of Rock Formation (5%)	a. Igneous; b. Sedimentary c. Metamorphic; d. Melange			If found 1 then 1 score; 2 then 3 scores; more 2 then 5 score
5	Historical Geology (5%)	a. Stratigraphic relation; b. Age of formation c. Fossil content or beo-stratigraphy			If found 1 then 1 score; 2 then 3 scores; more 2 then 5 score
6	Topography or Slope (5%)	a. Highland b. Lowland	i. Mountaneous Streep (>40^{o}) ii. Rugged terrain/Cliff (>40^{o}) i. Rolling Hill (10-40^{o}) ii. Undulating Hill (10-40^{o}) iii. Flat (<10^{o})	1 2 3 4 5	
7	Geology/Geomorphology (25%)	a. Weathering forms b. Caves; c. Lake or Swamp d. Spring; e. Waterfall; f. Fold or Fault ofset g. River/Gully Erosion; h. Xeonolith/Vein/Enclave i. Underground River; j. Mine	i. Physical ii. Chemical iii. Combine		If found les 2 the 1 score; 2-4 then 2 scores; 5-7 then 3 scores; 8-9 then 4 scores; and more 9 then 5 scores
8	Security (10%)	a. Ranger/Officer; b. Police Patrol c. Police Station; d. Protection against Wilde animals ; e. Rescuer			If found 1 then 1 score; 2-3 then 3 scores; more 3 then 5 score
9	Tourist's Infrastructures (25%)	a. Appropriate Gide signs; b. Accommodation c. Drinking Water; d. Telephone/Mobile Network e. Emergency Service; f. Restaurants/Bars g. Gas Stations or Repairing Service h. Shops or Traditional Market i. Sanitary Service; j. Tourist Protection (sair, railing, pavement, Life jaket, teh) k. Electricity; l. Banks or Money Change m. Health Center or Drugstore n. Parking or Car rental			If found les 3 the 1 score; 3-5 then 2 scores; 6-8 then 3 scores; 9-11 then 4 scores; and more 12 then 5 scores

Table 2. Geosite attractiveness category (Source: Director of Nature Tourism and Utilization of Environmental Services, 2003)

Attractiveness category	Index
Less attractive	< 3.0
Quite attractive	3.1 – 5.5
Attractive	5.6 – 8.5
Very attractive	> 8.5

Table 3. Geosite carrying capacity criteria (Source: Lucyanti et al., 2013)

Carrying Capacity	Category
PCC > RCC > ECC	Appropriate
PCC > RCC > ECC	Inappropriate
PCC < RCC > ECC	Inappropriate
PCC < RCC < ECC	Beyond capacity

Real Carrying Capacity (RCC) Equation 3: $RCC = PCC * C_{f1} * C_{f2} * ... * C_{fn}$ where C_f ... C_{fn} = correction factors of geosite biophysical environment parameters, and C_{fn} = correction factor to -n associated with component data to –n.

Correction factor: $C_{fn} = 1 - (\frac{Mn}{Mt})$ where M_n = real conditions on fn countless variable; and M_t = maximum limit on fn variable

Effective Carrying Capacity (ECC) Equation 4: $ECC = PCC * MC$ where, MC = management capacity area.

Management parameter: $MC = \frac{Rn}{Rt} * 100\%$ where Rn = Number of available officers or manager, and Rt = Number of required officers to manage geosite. The suitability of carrying capacity is determined by comparing results of calculation of PCC, RCC and ECC. The carrying capacity category of sustainable geosite such as Table 3.

RESULTS AND DISCUSSION

Cycloops Mountains Nature Reserve as an ecology conservation area needs to be supported by determination of geology conservation status of which is based on diversity value and geological uniqueness. Cycloops Mountains are isolated mountains that have an important value for scientific, aesthetic or recreational opportunity to be integrated conservation area that can be developed for limited education and research, conservation and nature tourism purposes. Geotourism activity can be one of alternatives that support management of area that benefits in economically and socially inclusive and environmentally sustainable. The application of geotourism activity can only be conducted on geosite that is stated as attractive and do not give significant impact to ecosystem. The survey results have identified 26 locations as geosite based on classification criteria of geodiversity (Geological Agency, 2017), most of which are in Jayapura Regency. Although study area is located in mountains, some of geosite located on edge of the beach (Figure 3).

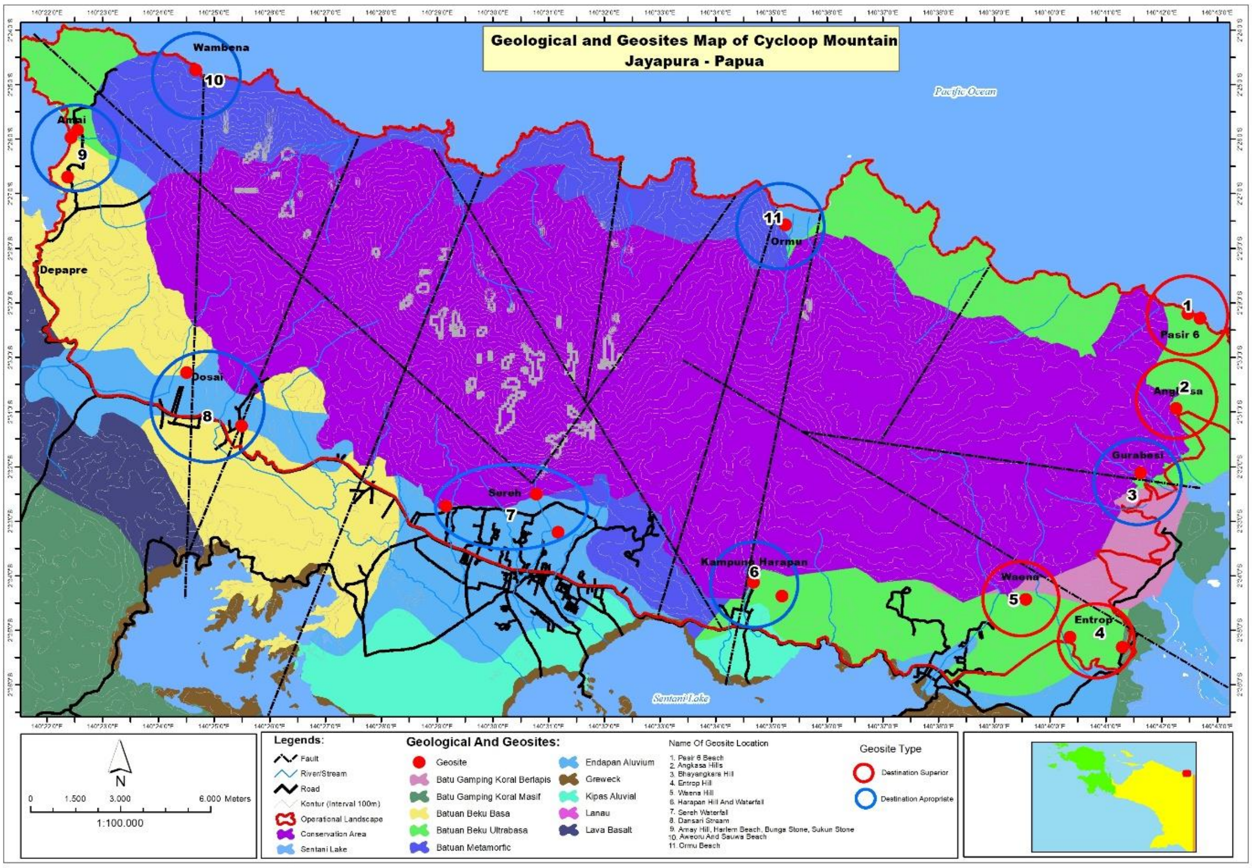


Figure 3. Geological and geosites map of Cycloops Mountains. Suwarna and Noya (1995, revised 2019)

Elements of geodiversity of Cycloops Mountains are including landscapes, rocks, geological processes and tectonics. The landscape is in form of a structural mountain morphology, with constituent rock of ophiolite; gabbro, basalt, peridotite, serpentinite and island arc volcanic rocks, and group of Cycloops metamorphic rock, such as pre-Tertiary schist-phyllite mica. Suwarna and Noya (1995, revised 2019) stated that the Cycloops Mountains contain minerals of economic value, such as nickel, chromite, cobalt, iron sand, talc, garnet, marble and limestone. However, it has not been mapped in detail. The geological process of the formation of the Cycloops Mountains is related to the subduction and uplift of oceanic crust and continental collision with island arcs during the Oligocene (34 – 23 million years ago) which produced aphanitic volcanic rocks (Baldwin et al., 2012). As a result of this tectonic process, it produces beautiful and exotic landscapes in the form of beaches, hills, mountains and highland lakes. The geosite attractiveness can be determined in 2 ways, total score and index (Figure 2). In this study we only used index score, considering sensitivity of final score and category status. With attractiveness index, it is excessively firmly distinguished between quite attractive and attractive category. The considered potential geosites that are categorized as attractive, 1) Pasir6 Beach, 2) Klofkamp's Stream, 3) Bhayangkara Hill, 4) Kodam Hill, 5) Skylane Hill, 6) Entrop Hill, 7) Waena Hill, 8) Buper Swamp, and 9) Harapan river (Figure 4). Most potential geosites locations are residing in Jayapura City territory, due to accessibility is accessible and expeditious. However, many geosites are all managed in a professional manner. Only Pasir6 Beach, Skylane Hill and Harapan river geosite that have been managed by community with guidance from local government. Other geosites are operating on weekends or public holidays and do not have adequate facilities. Evidence of geology diversity at each location shows advantages and charm as a potential geosite. The excellence geosite is determined by the 9 attractiveness parameters index (Hassan et al., 2012).

Assessment results of index shows that geological history, climate, accessibility and topography/slope to be important parameters in determining potential geosite in Cycloops Mountains. Geological history that is related to the Cycloops complex ophiolite formation process that is very attract tourists to know characteristic of ground floor of ocean are rarely found on surface of earth. The cool and calm mountain climate into tourists' choice to enjoy the atmosphere and geology object of landscape. Climate parameters that have a correlation with altitude and topography, so a lot of tourist sites are in high place or valley. The ease of access and distance to be vital for comfort in journey and the financial factors. Whereas, charm of geosite interpreted from harmony of nature elements composition, culture and built environment is seen

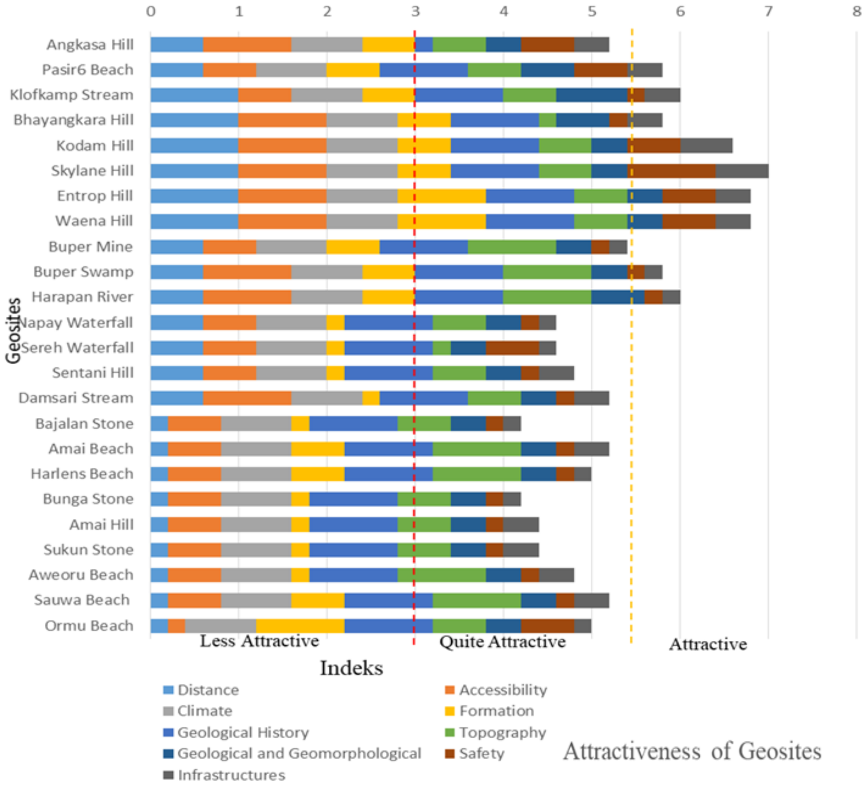


Figure 4. Determination of geosite based on attractiveness index (Source: Analysis results)

as mountainous landscape of ideal into geotourism area. Design and planning of mountains landscape is excessively requisite to support realization of geotourism. The geosites assessed for their carrying capacity are 16 locations based on index, located outside conservation area and managed by individuals or groups. The conservation area or sensitive ecology areas boundaries are used as a limiting factor for bearing real capacity. Geosite located in nature reserve, automatic is not in accordance with real carrying capacity. Similarly, if geosite who do not have a manager or person in charge of location, then effectivity of carrying capacity has no value. Carrying capacity suitability determination in this study is to compare 3 aspects, physical, real and effective. If one aspect is not valuable, then it does not qualify suitability of carrying capacity. That means, location is less feasible to be developed as a sustainable geosite. Results of experts' assessment to elected geosite have determined the 9 locations that meet the criteria in accordance with the carrying capacity for tourism activities, namely a) Angkasa Hill, b) Pasir VI Beach, c) Bhayangkara Hill, d) Skylane Hill, e) Entrop Hill, f) Waena Hill, g) Buper Pond, h) Sentani Hill, and i) Ormu Beach. Although there is a geosite which is not in accordance carrying capacity, but in physically, geosite is not beyond carrying capacity ability. That means, geosite is still worth as a tourist location by considering geophysical factors such as distance of nature reserves boundaries, climate, rock type, topography, and geology diversity. The results of the carrying capacity determination of a physical, real and effective, such as Figure 5. Geosite which has a high carrying capacity and many tourists is Skylane hill with panoramic view of Youtefa bay, then Entrop hill that highlights morphology diversity of the limestone hills, and Waena hill that offers two landscape of beautiful place, Sentani lake and Youtefa bay. The three geosites are located nearby so that the combination of its appeal can support each other forming the geotourism region or the geoarea.

The Sentani Geosite has a low carrying capacity as it is physically relatively narrow and oblique with the attraction that consists of peridotite chunks collection that are hanging on slopes of Sentani Hill (Figure 5). Geosites that are categorized as inappropriate for carrying capacity are influenced by real capacity value (RCC), particularly distance to ecologically sensitive areas, relative humidity and geology diversity. Geosite that is closer to nature reserve and has steep slopes, as well as a few of geology diversity has a lower bound of effective carrying capacity. That visitors are strictly limited so that balance of ecosystem and sustainability of attraction can be maintained.

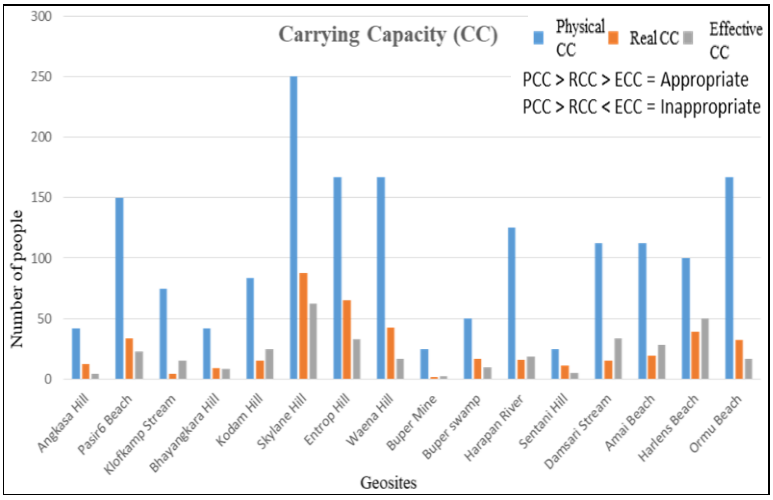
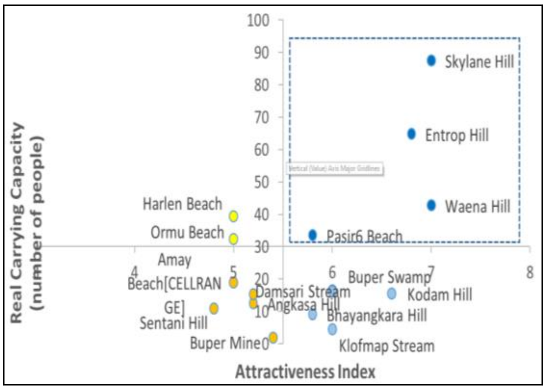


Figure 5. The geosite results of the carrying capacity assessment



Fiture 6. Determination of superior geosites in Cycloops Mountains

Based on attractiveness index and carrying capacity assessment (Figure 6), it is categorized as attractive and appropriate is in accordance owned by 4 geosites, namely Pasir6 Beach, Skylane Hill, Entrop Hill and Waena Hill. Geosite is likely to become a potential tourist destination that developed by community and local government. Pasir6 Beach and Skylane Hill geosites have become popular tourist destinations in Jayapura City. Skylane Hill has already become an icon of Jayapura City and Pasir6 to be the location of the typical ecological support of the Cyclops Mountains.

Geosites that meet attractive and appropriate criteria with carrying capacity potensially become to superior destination. The superior geosite in Cycloops Mountains is highly feasible to be developed as a sustainable geotourism model that has combined economic and socio-cultural benefits of community, and supports environmental conservation. Management of conservation areas through geotourism activities based on geological attractiveness and suitability of geosite's carrying capacity is one of solutions for handling welfare and sustainability issues in Papua.

CONCLUSION

Attraction and carrying capacity in the tourism study into a key parameter in planning the development of the nature tourism. A combination of attractiveness and the matching carrying capacity will determine the sustainability of nature tourism. Attractive Geosite in Cyclops Mountains based on attractiveness index is a Pasir6 beach, Klofkamp river, Bhayangkara hill, Kodam hill, Skylane hill, Entrop hill, Waena hill, Waena lake, and the Harapan river. The geosite attraction elements are influenced by the distance from geosite, accessibility, geology and geomorphology information along with adequate security and infrastructure. Suitability of physical, real and effective carrying capacity determines geosite feasibility as a natural tourist location that maintains balance of ecosystem. Geosite that meet the criteria of carrying capacity is Angkasa Hill, Pasir6 Beach, Bhayangkara Hill, Entrop Hill, Skylane Hill, Waena Hill, Buper Swamp, Sentani Hill and Ormu Beach. The real carrying capacity is very influential on determination of geosite feasibility which is located around sensitive ecology areas and has a high geology diversity.

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INVESTIGATING THE COVID-19 OUTBREAK AND TOURISM SECTOR FOR FUTURE RESEARCH AGENDA: A BIBLIOMETRIC ANALYSIS APPROACH

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Abstract: The study aims to explore and review the scientific documents published in the pandemic covid-19 and tourism sector. The bibliometric analysis was used to collect and analyze scientific documents in the Web of Science database. The analysis used the R program to get information and map the main idea related to contributors in different objects, including the authors, institution, country and publication source, thematic mapping of the paper in covid-19 and tourism sector. The finding discovers 791 scientific documents and 320 sources. The finding emphasizes that the research topic in pandemic covid-19 and tourism sector is generally given information and benefit.

Key words: covid-19, tourism sector, co-word analysis, mapping, bibliometric analysis

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INTRODUCTION

The pandemic covid-19 has been spread worldwide and has impacted all sectors since December 2019. The pandemic covid-19 has significantly impacted tourism sectors (Pahrudin et al., 2021a). The pandemic greatly impacted several sectors such as tourism, health, economic, social and education, and environment sectors (Pahrudin et al., 2021a). In addition, the pandemic covid-19 has given a loss of income around US$ 1.2 trillion and decreased the number of international arrivals in the world by around 78%. Moreover, the tourism sector's contribution is the leading sector to create the gross domestic product (GDP) in some countries worldwide. Therefore, despite health issues being the key in covid-19, the tourism sector is concerned by the authors with major questions for current issues and the future.

To understand the condition and vulnerability during the pandemic covid-19 and search for the solution, there is urgent to know the studies to analyze the comprehensive understanding to face the covid-19 pandemic. The World Health Organization (WHO) highlights that the global roadmap has also been outlined as the objective. However, this study focused on the tourism sector that has been impacted by the pandemic covid-19 with mapping of the scientific document published in the Web of Science (WOS) database. The bibliometric analysis is one of the dominances used in most medical and clinical fields, including pandemic and epidemic (including pandemic covid-19), supporting a systematic literature review (Mahi et al., 2021). From the methodological of study, the bibliometric analysis was found in several studies in medical study. The bibliometric analysis was expanded in several studies conducted by several authors, such as in medical studies by public health studies and generally in the infectious disease and virology study. The trend of research related to coronavirus, such as in SARS, MERS has been increased the number of articles. However, to cover the knowledge in bibliometric analysis, no previous studies have been yet used bibliometric analysis to cover the field in tourism literature and covid-19 using the WOS (Web of Science) database. Hence, this study tries to analyze and expand the literature in tourism and pandemic covid 19 for future research agenda. This study aims to identify the research and provide information on the tourism sector and the pandemic covid-19. Secondly, to find the tourism literature in the context of the covid-19 issue with future research. The bibliometric analysis was conducted on papers published in the Web of Science database. Thus, in this study, we can contribute to extending the literature related to tourism and the covid-19

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pandemic. Therefore, a broad scope can be applied in this area to explore future studies. In addition, this study tries to map the structure of information of the papers to provide an understanding for researchers, academicians, and policymakers in the pandemic and tourism field. To reach the aims in this research, we arrange the specific research questions are provided below:

1. Who are the most contributing authors, publication sources, institutions, and countries are discussing the tourism and pandemic covid-19?
2. What are the most frequently used by authors based on the tree-map analysis?
3. How will research in the tourism area and covid-19 outbreak evolve in the future?

In this study, bibliometric was used to analyze and provide the complete result in pandemic covid-19 literature and connected with the tourism field since 2020-2022. For theoretical implications in tourism, we provide the scientific result and map the area of research in this study such as bibliometric analysis, finding the authors, journals and thematic or issue of the publication based on the publication in the period early of covid-19 in 2020-2020 using Web of Science (WOS) database. We attempt to provide the scientific result in a specific field and increasing trend in publications since covid-19 and tourism sectors. In addition, we try to visualize the finding more appropriately, such as the publishing sources, map of collaboration around the authors, and interconnection between the country, institution, and publisher. The finding in this research helps us understand the research concentration at different areas or topics in the tourism sector. From the perspective of the stakeholders or managers, the study gives the understanding and knowledge of the emergence of the pandemic covid-19 for the tourism industry, such as in tourism destinations and the hospitality industry. It is urgent to solve the situation of covid-19 in the tourism industry, such as applying the concept of CHSE (Clean, Health, Sustainability and Environment) during the pandemic covid-19. Therefore, the stakeholders such as the government, travel managers, and policymakers need to understand the pandemic covid-19 impact on the tourism industry. Thus, the study encourages the stakeholders or marketers in the tourism industry to consider the pandemic covid-19 as danger situation. This paper sets several sections: section 2 explores the data and methodology section, which deeply explores the indicators and discus the bibliometric studies to assess the scientific result. The output or the results of the study is discussed in section 3. The last section, or section 4, is the conclusion to summarize the findings and outline the research gap and direction for future research.

METHODOLOGY AND DATA ANALYSIS

This study employs bibliometric analysis to solve the research issue and scientific mapping approach. This method analysis is one of the methods in mathematical and statistical with purposing to analyze knowledge quantitatively (Shahzad et al., 2021). The main idea of bibliometric analysis is to analyze the object based on the number of an object such as kinds of publication, the authors, various documents, the linking of the co-authors among the authors (Gao et al., 2021). Bibliometric analysis is one method in recording the publication, examining the number of documents used, and understanding publications' management. Recently, bibliometric methods have been used in conducting of analyzing the research (Farrukh et al., 2020) and institutes and countries around the world (Nawaz et al., 2020). Therefore, visualization in bibliometric analysis gives information more deeply and broadly to understand research trends by highlighting the knowledge structure (Cobo et al., 2013). In this research, We perform five steps in bibliometric analysis adopted from (Zupic and Čater, 2014). The flow chat of bibliometric analysis is described in Figure 1. Furthermore, we use Lotka’s Law in this study to assess the frequency or number of publications by authors, which determines the pattern of productivity in a particular field of study over a given period, allowing conclusions to be drawn as to whether the area under study is one where most of the production is concentrated in a small number of authors or not (López-Fernández et al., 2016). In addition, in this study, we considered through Bradford's Law for journal increasingly with the highest number of publications are ranked as ‘core zone’ so on. Bradford's Law is determined how the literature is distributed in the journal and as a direction to decide the publication's number based on the core and subject of the publication (Garg and Tripathi, 2018).

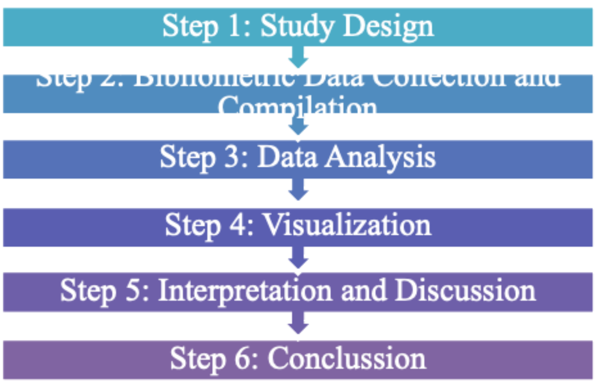

Figure 1. Workflow Chart of the Analysis
(Source: Adopted from Zupic and Čater, 2014)

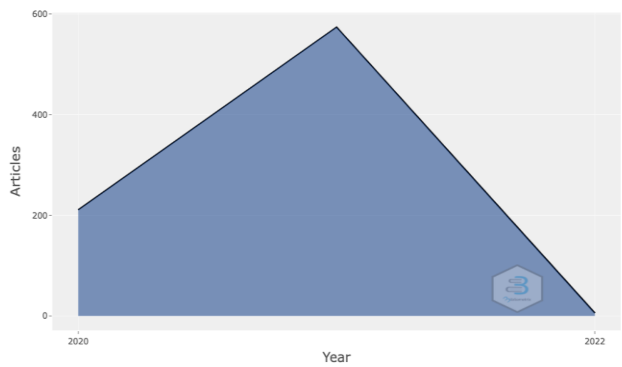

Figure 2. Annual Publication Trend
(Source: analyzed by author)

Therefore, in this study, we used the keyword and co-word analysis to find the research’s structure overall to give information and knowledge structure of the paper. This method is the systematic method in science to cover the field linkages search the phenomena (Feng et al., 2017). Meanwhile, co-word analysis is the content and context of paper to link co-occurrence connection among the paper structure (Feng et al., 2017). Furthermore, to know the structure and thematic map, we used Multiple corresponding analyses (MCA). MCA is a method to draw and describe the conceptual structure of the field research and K-means clustering to recognize the group of the document that explains the common concept of the research (Aria and Cuccurullo, 2017) and identify the research structure by measuring the keyword in the study (Demiroz and Haase, 2019). Web of Science (WOS) database was used in this study to answer the research questions related to getting information on bibliometric analysis. The Web of Science (WOS) is one of the most significant source databases for scientific databases covering more than 161 million records and coving more than 254 subject areas (Web of Science Group, 2021). Compared with other databases such as the Scopus database, the Web of Science (WOS) is not essentially the largest index journal in all different fields (Ellegaard and Wallin, 2015). We used the keyword search strings to get the bibliometric information from the WOS database to refer to the focus research. The topic can be searched through the keyword: ("Virus*"OR" Pandemic*" OR "Coronavirus" "Covid-19" OR "Tourism" OR "Hospitality" OR "Leisure") and found 791 results. The authors searched the documents or papers in December 2021. In the last, in this study examines and visualizes the map of the research focus, we used the 'Bibliometric' package (http://www.bibliometrix.org) to find the bibliometric analysis and was founded by (Aria and Cuccurullo, 2017) in R (statistical program). The bibliometrics analysis using R packages is the familiar software and covers the features in publications (Firdaus et al., 2019; Linnenluecke et al., 2019).

RESULTS AND DISCUSSION

Trend publication and Main information

The descriptive analysis explained the sample description of information related to the number of publications. After the software's cleaning and filtering process, table 1 explained the primary information about the publication data related to main bibliometric research in covid-19 and the tourism sector. In this study, we obtained 791 documents of publication to analyze. Moreover, the trend number of publications presents in Figure 2. The growth of publication regards to covid-19 and tourism sector significantly increased in 2021. This trend indicates a great increase in 2022. However, the publication's trend in 2022 significantly decreased compared to 2021. The trend of publication in early 2020 to 2021 indicated the concern of authors around the world toward covid-19 in the tourism sector and gained the interest in the scholarly over the world.

Table 1. Sample descriptions. Source: Web of Science (WOS) database

Description	Results
MAIN INFORMATION ABOUT DATA	
Timespan	2020:2022
Sources (Journals, Books, etc)	320
Documents	791
Average years from publication	0.259
Average citations per documents	8.284
Average citations per year per doc	5.904
References	34139
DOCUMENT TYPES	
article	717
article; data paper	4
article; proceedings paper	1
editorial material	21
letter	7
review	41
DOCUMENT CONTENTS	
Keywords Plus (ID)	1080
Author's Keywords (DE)	2569
AUTHORS	
Authors	2519
Author Appearances	2719
Authors of single-authored documents	130
Authors of multi-authored documents	2389
AUTHORS COLLABORATION	
Single-authored documents	130
Documents per Author	0.314
Authors per Document	3.18
Co-Authors per Documents	3.44
Collaboration Index	3.61

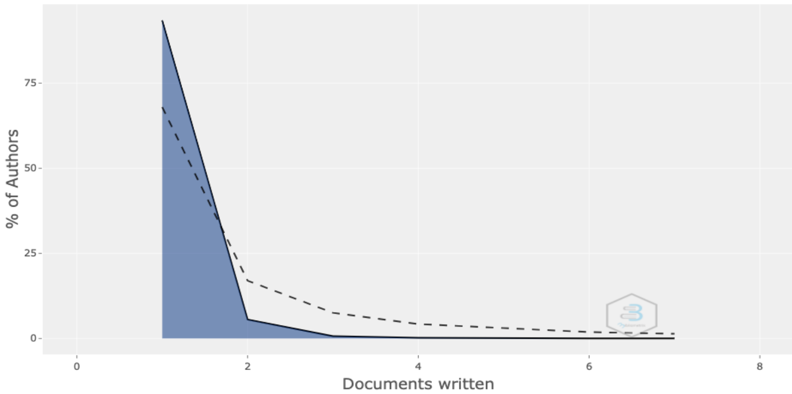

Figure 3. Distribution of Publication through Lotka's Law (Source: Analyzed by author)

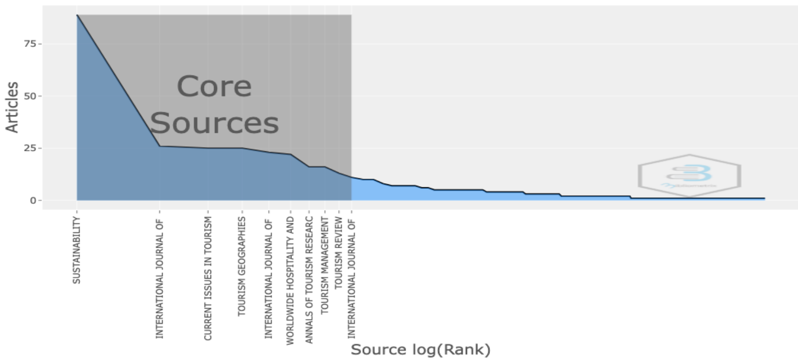

Figure 4. Bradford's Law of Sources Cluster (Source: analyzed by author)

Most Contributing Authors and Publication Sources

In this section explains the authors and source of publication in the field study of covid-19 and tourism. In figure 3, we offer the frequency distribution of scientific production using Lotka's Law scientific productivity. Lotka's Law explains that document production is focused on the limit of authors or not (López-Fernández et al., 2016). In this study, the result is various, with many authors (2.355 out of 2.519) having only one publication, which accounts for 93.5% of the total contributing authors. The distribution illustrates that contributions to scientific papers are not distributed to a few writers but are spread over many of them. Moreover, according to Bradford's Law, in terms of publication sources, just four journals have established themselves as the primary publishing sources in this field. As presented in figure 4 for Bradford's Law, several journals as the core of publishing, such as the journal sustainability, International journal of hospitality management, current issue in tourism, tourism geographies, international journal of environmental research and public health, worldwide hospitality and tourism themes, annals of tourism research, tourism management, tourism review, and international journal of contemporary hospitality management are the primary journals that have a greater impact on publishing than other journals in the area. Based on Table 2, we present the most 20 contributing authors with the number of publications and journals related to covid-19 and tourism to know the contribution, productivity and their impact on the publication. With the number of authors published in several journals, we can conclude that Han H is the leading contributor in publication with the total number of publications seven article documents with article fractionalized 1.54, followed by Kim J has published six articles since covid-19 period until 2022. Therefore, in the third position, Al-Ansi A is the most contributing author with 4 article documents during the pandemic covid-19. Generally, the information about the most contributing authors and journal contributing in the field of study in the Web of Science database can be seen in table 2. Sustainability is the most contributing journal to publish the scientific documents with 89 article documents, followed by international journal hospitality management with 26 article documents. In addition, current issues in the tourism journal are the third most contributing journal with 25 article documents. The summary is presented in table 3 below. The sustainability journal is the journal that has increased significantly in covid-19 and the tourism sector. The sustainability journal is that most journals have significantly increased the number of citations and are the dominant journal over the years.

Table 2. Authors with the Most Contributions and Publication Sources (Source: Analyzed by author)

	Most Contributing Authors				**Most Contributing Publication Sources**	
Rank	**Authors**	**Freq**	**Articles Fractionalized**	**Rank**	**Sources**	**Freq**
1	Han H	7	1.54	1	Sustainability	89
2	Kim J	6	1.73	2	International Journal of Hospitality Management	26
3	Al-Ansi A	4	0.83	3	Current Issues in Tourism	25
4	Baum T	4	1.35	4	Tourism Geographies	25
5	Kim S	4	0.79	5	International Journal of Environmental Research and Public Health	23
6	Kumar V	4	1.75	6	Worldwide Hospitality and Tourism Themes	22
7	Shin H	4	1.20	7	Annals of Tourism Research	16
8	Barrientos-Baez A	3	0.70	8	Tourism Management	16
9	Cai GW	3	0.83	9	Tourism Review	13
10	Chua Bl	3	0.58	10	International Journal of Contemporary Hospitality Management	11
11	Dube K	3	1.67	11	Geo Uerj	10
12	Filimonau V	3	1.17	12	Tourism Management Perspectives	10
13	Gossling S	3	1.17	13	Tourism Recreation Research	8
14	Hall CM	3	0.92	14	Anais Brasileiros de Estudos Turisticos-Abet	7
15	Kang J	3	0.95	15	Journal of Destination Marketing & Management	7
16	Lai IKW	3	1.25	16	Journal of Hospitality and Tourism Management	7
17	Lee CK	3	0.78	17	Scientific Papers-Series Management Economic Engineering in Agriculture and Rural Development	7
18	Lee S	3	0.83	18	International Journal of Tourism Cities	6
19	Mostafanezhad M	3	1.58	19	Ocean & Coastal Management	6
20	Nicolau Jl	3	0.70	20	Almatourism-Journal of Tourism Culture and Territorial Development	5

The Distribution of Documents based on the Geographic and Institution

This part explains the mapping and distribution of published scientific documents. Table 3 explains the name of most countries and institutions in publishing scientific documents. In this study, the method Multi-Country Publications (MCP) and Multi-Country Publication Ratio (MCPR) were used to explain the collaboration around the countries for scientific publications. The institution of Hongkong Polytechnic University is leading for publication the scientific documents with the number of publications (NP=16), followed by the University of Johannesburg by 15 documents (NP=15). The third place for the most contributing publication is Griffith University, with 14 published papers. They were closely followed by Sejong university from South Korea country by13 document papers. The authors from University Sydney from Australia have contributed by 10 document papers. Several authors from some universities such as Bournemouth Univ, James Cook Univ, Univ Florida, Univ Queensland, Univ Surrey, and Zhejiang Univ have contributed nine paper publications. Among the authors from Auckland University of Technology, University Aveiro, University Cent Florida, Univ Complutense Madrid, Univ Macau, and Univ Oxford have contributed to publishing eight scientific articles. In addition, the authors affiliated from Univ Barcelona, Univ Canterbury and Univ Girona have published 7 document papers.

Therefore, China is the leading country in publishing the scientific document by 84 documents (NP=84), followed by the United States of America (NP=69) and in third place is Spain (NP=63). Moreover, South Korea is the most excellent collaborative document production compared to other top publishing countries, with an MCPR of 0.5556. The ratio indicated that the authors collaborate with the other countries. However, the other countries such as Australia, China, the USA, Japan, and Malaysia have MCPR values of 0.5366, 0.3929, 0.3913, 0.3846 and 0.3636. These countries have the trends in the research for collaborating with other countries in publishing the documents. Figure 5 indicates the network of article collaboration and production among the authors in the world. The blue color in the map means that the publications in those countries are under analysis, and the grey color means that there are no journals in those countries. The countries with the darkest indicate that most countries have published scientific documents. However, the red line represents the network of collaboration around the world. The countries with the most extensive line on the map indicate that the countries are the most active in collaborating with other countries. These countries are the United States of America, the

United Kingdom, and China. These countries have the most publishing and scientific collaborations with others authors. The result indicated that the most countries are dominated by developed countries in publishing scientific documents.

Table 3. The Most Contributing Countries and Institutions (Source: Developed by author)

Most Contributing Countries							Most Contributing Institutions		
Rank	Country	NP	SCP	MCP	MCP_Ratio		Rank	Affiliations	NP
1	China	84	51	33	0.3929		1	Hong Kong Polytech Univ	16
2	USA	69	42	27	0.3913		2	Univ Johannesburg	15
3	Spain	63	54	9	0.1429		3	Griffith Univ	14
4	United Kingdom	50	21	29	0.58		4	Sejong Univ	13
5	Australia	41	19	22	0.5366		5	Univ Sydney	10
6	India	40	35	5	0.125		6	Bournemouth Univ	9
7	South Korea	27	12	15	0.5556		7	James Cook Univ	9
8	Italy	25	22	3	0.12		8	Univ Florida	9
9	Brazil	24	20	4	0.1667		9	Univ Queensland	9
10	Poland	23	16	7	0.3043		10	Univ Surrey	9
11	Russia	18	17	1	0.0556		11	Zhejiang Univ	9
12	Turkey	18	16	2	0.1111		12	Auckland Univ Technol	8
13	Portugal	16	14	2	0.125		13	Univ Aveiro	8
14	Japan	13	8	5	0.3846		14	Univ Cent Florida	8
15	Croatia	11	8	3	0.2727		15	Univ Complutense Madrid	8
16	Malaysia	11	7	4	0.3636		16	Univ Macau	8
17	Greece	10	7	3	0.3		17	Univ Oxford	8
18	Indonesia	10	8	2	0.2		18	Univ Barcelona	7
19	Mexico	10	8	2	0.2		19	Univ Canterbury	7
20	Romania	10	8	2	0.2		20	Univ Girona	7

NP: Number of publications; SCP: Single country publications; MCP: Multiple country publications; MCPR: Multiple country publication Ratio

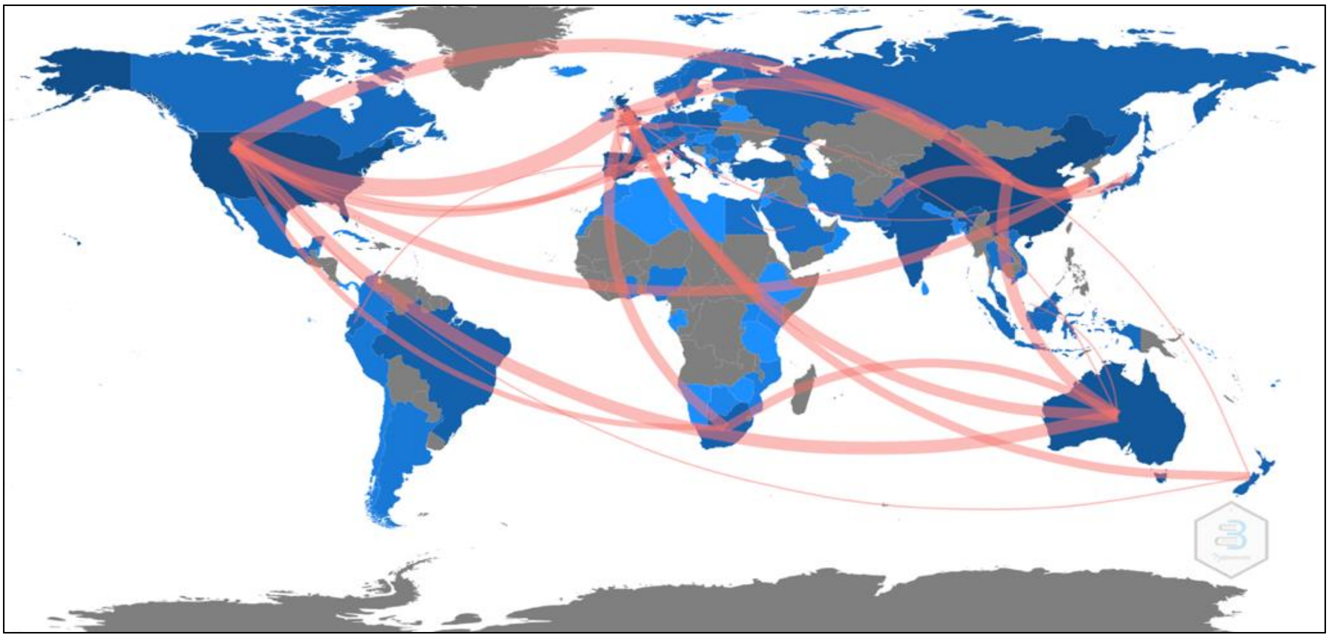

Figure 5. The Country Collaboration Map of the Authors (Source: Developed by author)

Thematic Map and Keywords

This part explains that the authors used to research keywords related to the pandemic covid-19 and tourism sector. The authors provide statistical analysis in the keyword to develop the scientific documents (Du et al., 2013). In addition, this part explains the different perspectives from research clusters or areas based on keyword co-occurrence and research dynamic. At the same time, we discuss the authors covering the research themes in the time of period of the study.

In the list figure 6, the word Tree-Map provides the 50 most frequently used keywords by the author in the scientific document publications refers to occurrences. Most words are used "tourism", "management", and "impact". The other keywords commonly used, such as "impacts", "model", "crisis", and "industry", are among the top 6 words in the study. The authors use these words to explain that these words strongly correlate to the focus of research in covid-19 and the tourism sector. In addition, the Multiple Correspondence Analysis (MCA) was applied to analyze the dimension of the conceptual structure map. The method emphasized the cluster main of the research interest. There are two-dimensional plots of the cluster of the research in this study. Figure 7 discusses the scientific output organized into two clusters that authors have considered on the related aspects. The content of clusters is the scope of the article, which illustrated the diversity, breadth, and intellectual in every cluster. Firstly, the red cluster conceives a total number of keywords associated with the article. The red cluster has 21 keywords that emphasize “covid-19 pandemic”. The red cluster has different aspects of covid-19 such as "hospitality" and "tourism". In addition, the study highlights the others aspect of representing the tourism aspect, such as "rural tourism" "tourism demand". The result of the red cluster indicates that the study of covid-19 refers to seeing how they impact the tourism sector such as recovery, sustainability, resilience, crisis management, innovation or related aspects are impacted during the covid-19 pandemic to the tourism industry.

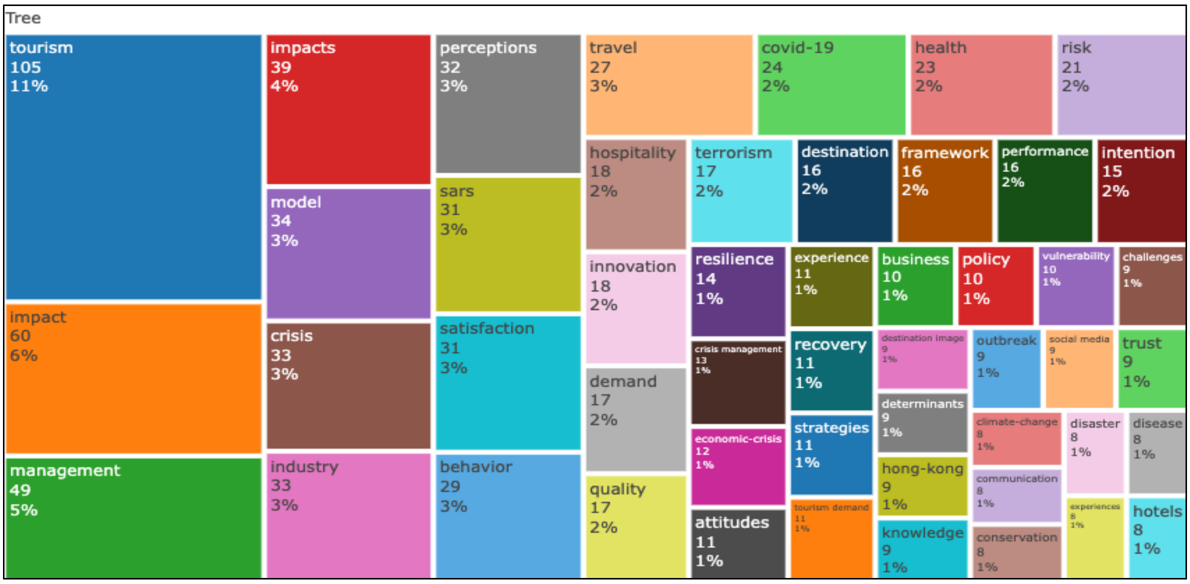

Figure 6. Words Tree Map of Author Keywords (Source: Observed by author)

Moreover, the second cluster is blue color. The blue color shows the vital word for an issue like "sentiment-analysis". The word of sentiment analysis explains the 'anxiety', 'well-being', 'nature-based tourism' and 'sustainable development. We generate that the research focuses on the sentiment analysis of the authors, focusing on how the tourism sector can develop in the pandemic covid-19 period related to nature-based tourism. The structure map is also the geographic word in this study, such as 'China' and 'Spain'. The authors highlight two countries to find these countries as vulnerable in this area for spreading the covid-19. We know that China was reported as the first time to appear of the covid-19 in the world. In addition, the county of Spain is the worst case of covid-19 in the early of covid-19 in the research period. The authors mention the geographic area between China and Spain and the risk of covid-19 can impact the tourism sector.

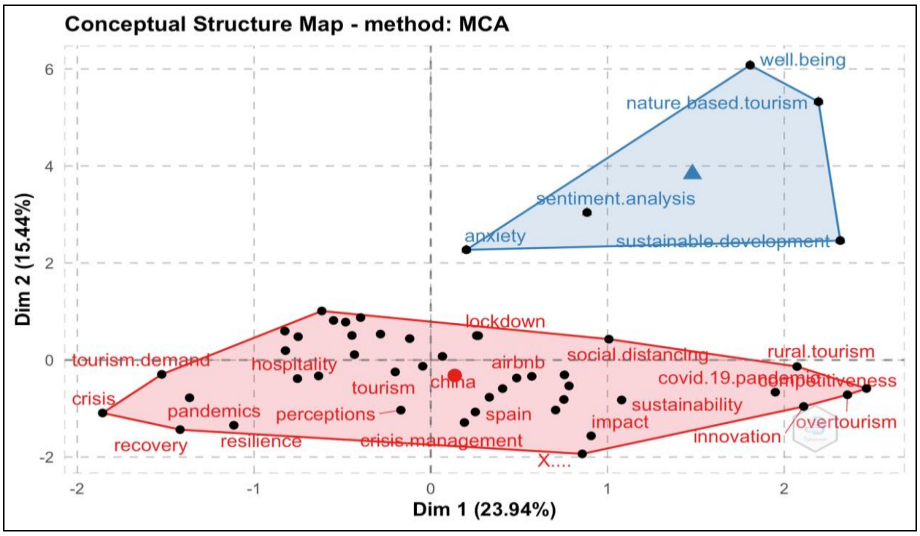

Figure 7. The Conceptual Research Structure (Source: Observed by author)

DISCUSSION

This paper is the bibliometric analysis to find the scientific publication on the theme of pandemic covid-19 and tourism sector from the early pandemic covid-19 period in 2020 until 2022. In this section, we provide the answer to the questions arranged previously in this study. The main findings are summarized in several discussions in this section. Regarding research question 1 (RQ1), based on the result of bibliometric analysis in this study, we find that the most contributing author in the pandemic covid-19 and tourism sector is Han H. They have published 7 document articles among 2519 authors. In the source of publication, the Sustainability journal is the leading journal by 89 document articles during the analysis period 2020-2022. Based on a study from several authors such as (Buckley, 2020; Higgins-Desbiolles, 2021), sustainability is one of the challenges in several industries post-pandemic covid-19 and having long-term and equitable development in local society. In addition, the time of covid-19 for the future of the tourism industry and hospitality provides the environment and social welfare or well-being (Everingham and Chassagne, 2020). This is in line with the author (He and Harris, 2020) revealed that the covid-19 give a chance for the company for the responsibility in corporate social responsibility and facing the international environment and social changes. Therefore, the most contributing country in the journal publication is China by 89 document articles (NP=89). In addition, the most institution in publishing scientific documents on the theme of covid-19 and tourism sector is Hongkong Polytechnic University.

To answer the second research question (RQ2), the keyword analysis explains the findings for the most keywords used by the authors in this research: tourism, impact, management, impacts, model, and crisis. The authors used the most keywords in this study based on pandemic covid-19 in the tourism industry. In addition, most keyword identifies that keyword explicitly explain the psychological aspects such as perceptions, satisfaction, behavior, attitude, and intention. The keywords in the psychology category explain the impact of the covid-19 in the tourism sector can impact tourist behavior and perception during the pandemic covid-19. The word's framework found in this study, such as tourism management, risk perception, tourist behavior, and satisfaction, will be important in the future post-pandemic covid-19. In this study, the selected of the word in the framework indicates that the building framework impacts covid-19 and tourism sector on the micro and macro environments such as in macro-environment such as economic aspects, lifestyle, a social and microenvironment in psychology behavior, satisfaction and intention aspects. These aspects can drive the change in tourism management (Mhlanga, 2018; Wang and Ap, 2013). The result of the study can bring the authors to find a new idea to conduct the research in tourism management in the future based on the central thematic. Some evidence said that tourists would consider visiting a destination based on the risk and crisis in the covid-19 pandemic period, and the risk influences the visit intention in the time of pandemic covid-19 (Qiu et al., 2020). At the same time, the author (Chen et al., 2020) said that the influence of traveler's perception was increased by the pandemic covid-19 and impacted the behavior in the tourism industry such as transport, visit time and tourist's destination. Similar to the author (Zheng et al., 2021) said that the travelling in the covid-19 pandemic period gave the tourists worry, enhancing their resilience and impacting them to change the behavior.

Furthermore, this study found that two research clusters refer to the authors' keywords. The main area in this study explains the main research area related to pandemic covid-19 and tourism sector such as hospitality, tourism, pandemic, covid-19 pandemic. The cluster of main research also explains in the area of management such as crisis management and the policy in the pandemic covid-19 such as lockdown, social distancing, innovation and sustainability. In addition, the keywords in the cluster discussed in geographical or the countries that have been mentioned by the authors, such as China and Spain. The finding indicated that these countries are the worst case of the pandemic covid-19 in early of a pandemic since 2020. Moreover, to try to answer the research question 3 (RQ) for the research future in tourism and pandemic covid-19 based on the conceptual research structure map, the authors can consider much research such as the word of sentiment analysis, sustainable development and nature-based on tourism. These topics can increase future research because pandemics change tourist behavior. Moreover, the study from (Brewer and Sebby, 2021) said that the pandemic covid-19 could positively influence online restaurants and purchasing intention in this sector. Furthermore, the impact of risk outbreak can enhance the consumer's confidence to choose the product in offline shopping due to pandemic covid-19 (Akhtar et al., 2020).

CONCLUSION AND LIMITATIONS

The pandemic covid-19 has been changed all of the industries in the world, including the tourism sector. The present study contributes to the research by providing information on state of art and identifying the research trends, gaps and future research agenda through several ways in the process selection, map analysis, published paper, journals, authors and institutions. It is important to search for bibliometrics for the published documents related to the research topic.

This study investigates the impact of pandemic covid-19 on tourism using the bibliometric analysis for future research agenda. The bibliometric analysis provides information and insight that can fully understand the research of impact pandemic covid-19 on tourism sector by applying the R program to answer the research questions. Our finding revealed that research on the pandemic covid-19 and tourism industry significantly increased from the documents from 2020-2021.

The study's finding can give an understanding for the academic and stakeholders in several areas of topics the impact of pandemic covid-19 on the tourism sector. The author has conducted several studies in tourism and pandemic, such as in the tourism destination (Pahrudin et al., 2021a), sustainable tourism and post-pandemic covid-19 (Higgins-Desbiolles, 2021), eco-tourism and pandemic (Buckley, 2020). In addition, several studies related to pandemic and covid-19, such as in the tourist behavior in the covid-19 pandemic period (Zheng et al., 2021), travel risk in the pandemic covid-19 period (Chen et al., 2020), social cost of tourism in the pandemic covid-19 (Qiu et al., 2020), travel risk and management perspective (Rahman et al., 2021) and tourists' behavior and non-pharmaceutical intervention and pandemic covid-19 (Pahrudin et al., 2021b).

Tourism and impact are great topics with other topics such as management, model, crisis, satisfaction, behavior, and risk. Furthermore, we identified that the future direction in the tourism area based on the pandemic covid-19 is sustainable, innovative, nature-based tourism and sustainable development. We proposed a future direction for research on pandemic covid-19 and tourism in post-pandemic. Stakeholders, government and tourism management should take advantage of the future tourism sector that will be adjusted in sustainable and nature-based tourism to avoid the spread of covid-19. It is gaining the knowledge of the papers related to covid-19 and tourism sector via bibliometric analysis using R shiny in R program. Future studies may refer to pandemics and risk in the general context in impacting the tourism sector.

Furthermore, the bibliometric analysis discusses several issues to understand the concept of the focus study, such as the most contributing author, institution, thematic map and the word clouding. Thus, this study summarized the existing research trend and found the article based on the Web of Science (WOS) database. Thus, this study can provide a guide for the researchers or for those who are interested in the concept of pandemic covid-19 and the tourism sector.

For future research agenda, it is suggested that some of the variables can be addressed in the analysis related to pandemic covid-19 and tourism, such as analyzing the pandemic covid-19 and impact on the sustainable tourism, sentiment analysis during the pandemic covid-19 in the tourism sector with a different approach. Another agenda for future research agenda in the tourism sector and pandemic covid-19 using bibliometric analysis is tourists' movement and behavior during the pandemic covid-19. This study is not without limitations. Firstly, articles were selected only from the WOS database. Future research might be the broad scope of the study by using additional elements such as other databases (Science Direct, WOS, JSTOR, etc.). Direction for future research agenda, the study should be broad to cover the area of research related to pandemic not only the pandemic covid-19 but also the epidemic and pandemic such as SARS, HIV, and other risks with the long-term period.

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