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C O N T E N T S

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CURRENT PROBLEMS IN THE TOURISM AND HOTEL INDUSTRY TAKING THE WORLD'S TOURIST CITIES AS AN EXAMPLE

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Abstract: Chinese tourism companies are facing problems such as over-exploitation of tourism resources, severe homogeneity of tourism service products, and gradual decline in corporate competitiveness. The article aims to provide the theoretical basis and experience for Chinese tourism to go abroad and develop international operations. This article uses a combination of qualitative and quantitative analysis methods. This article analyzes Singapore's tourism investment environment in many aspects, based on the existing theories of tourism transnational management, starting from relevant research results outside China. The results demonstrate that the tourism industry in Singapore is the highest among Asian countries.

Key words: Singapore, China, current issues, management, infrastructure

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INTRODUCTION

With the further development of globalization, Chinese tourism companies must implement transnational operations, actively expand their living space, strive to achieve sustainable development, and strive to improve their management level and international competitiveness. Going abroad and participating in the competition in the international market is an active way for companies to survive. At present, there are obvious "scattered, weak, small and poor" in the operation of Chinese tourism companies. Among all tourism companies, the strongest Chinese tourism company is the Jinjiang International Hotel Group, with its total assets of 16.8 billion (Rong and Bu, 2018). The yuan renminbi, converted into US dollars, is about 2 billion US dollars. However, compared with the tourism enterprise groups in the traditional tourism countries such as the United Kingdom, the United States, and France, the strength is far behind. Among the top ten hotels in the 2011 world hotel rankings released by "HOTELS", one is from the United Kingdom, six from the United States, one from France, two from China. There are branded hotels in foreign countries, and Home Inns in China does not operate hotel brands abroad (Rong and Bu, 2018). What is worrying is that, first of all, Chinese tourism companies are not only far from the world's major tourism giants in terms of asset scale.

Secondly, there is a big gap between Chinese tourism companies and foreign countries in terms of management level, corporate governance structure, technical level, and marketing network. Only when China's tourism enterprises develop strong, can China develop into a truly powerful tourism country. On the one hand, in the increasingly fierce competition in the international market, on the other hand, we must continue to innovate and seek development, seize opportunities, and rapidly develop into a powerful tourism enterprise group (Myronov and Myronova, 2021). With the further opening of the Chinese market, European and American travel groups have taken capital, networks and brands to drive straight into the Chinese travel market and compete for the small market share of Chinese travel companies.

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Chinese travel-related companies should seize good opportunities as soon as possible. When it grows up, it is obvious that you can no longer stay behind closed doors, and must actively participate in the fierce competition with foreign companies. Therefore, for Chinese tourism companies, rather than waiting for competitors to cannibalize their own market, it is better to go out and actively participate in international market competition. Although it is difficult to go global and gain a foothold, Chinese tourism companies urgently need to exercise and grow so that they can become internationally competitive. This is of great significance (Fu, 2020).

In recent years, as China's international popularity has increased, more and more travel enthusiasts have regarded China as their only place to travel to Asia. If China wants to retain these international tourists, relying solely on the promotion of the Chinese market is far from achieving a large marketing effect. It must also use the international market as a big stage to showcase the charm of China and Chinese companies. Chinese tourism companies can use Singapore as a regional tourism hub to improve the promotion and marketing of Chinese tourism companies and even Chinese tourism products. Since ancient times, Singapore has no territorial disputes with China, and its per capita income has reached the level of developed countries, suitable for multinational investment in China's tourism industry, and there are more Chinese and overseas Chinese. Singapore is also a well-known financial center in the Asia-Pacific region, with a very mature financing and investment environment (Chancellor et al., 2021). It is China's second suitable foreign direct investment testing ground after Hong Kong. The implementation of the transnational operation strategy of Chinese enterprises is the inevitable choice to improve the transnational operation strength of China's tourism industry. International competitiveness is not only an important aspect of measuring the international status of the tourism industry, but also an important factor that promotes Chinese tourism enterprises to reach a considerable international level. Although Singapore has the inherent shortcomings of developing tourism, it can rely on acquired efforts and planning to become the world's third largest convention center and one of the world's top ten tourism centers. China has a long history of investment dealings with Singapore. At present, China's investment in Singapore has also become one of the countries with greater investment in Singapore, but it is far less than the scale of Singapore's investment in China.

Chinese tourism companies are still in their infancy in the "going out" stage. On the basis of considering the domestic market situation, the reasonable choice of partners and destinations for "going out" is particularly important. Successful "going out" cannot only have low cost but also obtain key resources. As the capacity of China's tourism market may be limited, it is an inevitable choice to actively explore foreign markets. On the one hand, it can provide new development space for tourism enterprises, and on the other hand, it can bring enterprises a larger economic scale and gradually cultivate a competitive advantage over competitors. In addition, only by "going out" to enter the unfamiliar host market, tourism companies can continuously improve their competitiveness in international competition only when they are familiar with and master the prevailing international competition rules. Therefore, the implementation of the "going out" strategy can not only help tourism companies realize their own competitive advantages, but also enable them to seek new competitive advantages in a larger space, and then become leaders in the tourism industry (Chan et al., 2020). At present, the development of Chinese tourism enterprises is facing many difficulties: excessive development of tourism resources, serious homogeneity of tourism services, fierce competition among enterprises and narrowing of profit growth space. Research on the transnational investment and operation of Chinese tourism enterprises in Southeast Asian countries can accumulate relevant information, experience, to explore new development paths for Chinese tourism companies. This article first discusses the current status of Singapore's tourism industry and the development status and level of China's outbound tourism and China's investment in Singapore with detailed data, and analyzes Singapore's tourism investment environment with a graded scoring method. Then, a detailed comparative analysis of the strengths of China's and Singapore's hotel industry is performed. Then it gives the enlightenment of Chinese tourism companies' multinational operations in Singapore. Finally, it is provided a summary of the whole article.

MATERIALS AND METHODS

This article selects Singapore as the research object, analyzes the advantages of Singapore's tourism investment environment, and studies the investment environment faced by Chinese tourism companies investing in Singapore from the perspective of Chinese tourism companies' investment in tourism projects in Singapore. It provides theoretical basis for enterprises to "go global" and provide regional cases for the transnational operation of China's tourism industry. In addition, the investment research of China and New Zealand can also provide assistance for the cooperation and exchanges between the two countries in the field of investment, promote the development of friendly cooperative relations between China and New Zealand, and also helps the two governments to formulate relevant economic strategies and policies and promotes trade between the two countries and service development, so that the two countries can benefit from each other and develop together (Kravchuk et al., 2021). The degree of international operation of an enterprise determines to a certain extent whether it has long-term development capabilities. Chinese tourism companies can try to conduct joint ventures, overseas investment, establish international strategic alliances, etc., carry out a variety of international operations, actively participate in international competition, and gradually realize international development. Therefore, the research on the transnational operation of Chinese tourism enterprises has far-reaching significance. This article uses a combination of qualitative and quantitative analysis methods (Figure 1). In the quantitative analysis, rich data are used to elaborate and analyze the investment environment of Singapore's tourism investment and China's investment in Singapore, and summarize the internal laws of tourism investment. Obtained from public data such as yearbooks and statistical reports, mainly from the Singapore Tourism Board (STB), Singapore Monetary Authority (MAS), Singapore International Enterprise Development Board, World Economic Forum, United Nations Conference on Trade and Development Database (UNCTAD), China Websites such as the Ministry of Commerce and the National Bureau of Statistics of China have collected the latest data.

The study of the investment environment of Singapore's tourism industry through the grading method, it mainly analyzes from the eight perspectives of political stability, capital withdrawal restrictions, and foreign equity restrictions. Theoretical research and countermeasure research. Based on the analysis of the basic theory of international direct investment, this article explores the path and mode of Chinese tourism companies entering Singapore. This is of great significance to the development of Chinese tourism enterprises' foreign investment and the enhancement of international competitiveness, which is also consistent with China's strategic plan to build a tourism power.

RESULTS AND DISCUSSION
The State of Singapore's Tourism Industry

Singapore's international airport is an important aviation hub in Asia, and it occupies a considerable location advantage. Changi Airport has more than 80 airlines every week, with more than 4340 flights, and convenient transportation links with 116 cities in 59 countries around the world. Since 1987, Singapore's Changi Airport has been awarded the title of "Asia's Best Airport" for more than 20 consecutive years. It has been awarded the IATA Eagle Award, the Asia-Pacific Best Airport, the World's Best International Airport, and the World's Best Airport for 80 times by internationally recognized organizations and media. The best duty-free airport, etc. 2, has first-class aviation facilities and service system (Fan et al., 2017).

Singapore attaches great importance to the development of the convention and exhibition economy. With the vigorous development of the government, Singapore's convention and exhibition economy has achieved great success and development. Singapore started the related convention and exhibition industry in the 1970s. Since then, the convention and exhibition industry has developed rapidly. Singapore's first multi-functional convention and exhibition center, the World Trade Center, was put into use in 1981 and hosted many convention and exhibition activities. The center has become the leading symbol of Singapore's convention and exhibition industry. After that, the convention and exhibition industry in Singapore developed rapidly. In 1985, the Marina Center built three conference hotels, and in 1986 the Raffles City Convention Center (Raffles City Convention Center) was built. The Raffles City Convention Center had the world's tallest hotel at the time, the WestinStamford Hotel (WestinStamford). The conference center can accommodate up to 3,500 delegates and is equipped with modern communication facilities, making it one of the most advanced conference centers at that time. The city of Singapore was approved by UAI in 1983 (Antošová et al., 2021).

Table 1. Top 20 Country and City Rankings (Chang et al., 2020)

1	U.S.A.	934
2	Germany	714
3	France	595
4	Spain	578
5	United Kingdom	567
6	Italy	550
7	China P.R.	539
8	Japan	527
9	Netherlands	356
10	Portugal	342
11	Paris	237
12	Lisbon	190
13	Berlin	176
14	Barcelona	156
15	Madrid	154
16	Vienna	149
17	Singapore	148
18	London	143
19	Prague	138
20	Tokyo	131

Figure 1. Flowchart of the research methods (compiled by the authors)

Table 2. Top five sources of tourists (compiled by the authors)

Country	Person times	Year-on-year growth	Tourism income (S$ billion)
China	960000	+3%	10.9
Indonesia	725000	-3%	7.3
India	300000	+2%	3.3
Malaysia	283000	0%	
Australia	263000	-1%	

Table 3. China Hotel (compiled by the authors)

Bloc	Number of hotels	Five stars	Four stars	Three stars
Jinjiang International Group	10695	68	72	20
Beijing's first trip, home hotel group	4895	56	26	12

It was rated as the No. 1 conference city in Asia, marking the initial success of the convention and exhibition economy. After that, in August 1995, Singapore built a larger convention and exhibition center, the Suntec Singapore International Exhibition Center (SICEC). As one of the largest conventions and exhibition centers in the Asia-Pacific region, the center's largest column-free conference hall can accommodate 12.000. The number of seats has greatly improved Singapore's ability to host large-scale conventions and exhibitions. Singapore's investment in the construction of convention and exhibition infrastructure has transformed Singapore into an important city for holding large-scale conferences and further enhanced its competitiveness as a world-class conference city. The city of Singapore also pays attention to the development of the convention and exhibition economy suitable for the locality, and built the Singapore City Expo Center near Changi Airport, covering an area of 60.000 square meters (Chang et al., 2020). This large-scale integrated venue facility is to follow the trend of combining conferences and exhibitions, and the center is second only to Japan in scale (Table 1).

The large-scale resort Marina Bay Sands Resort was completed in 2010, and the total project investment reached 7 billion US dollars. Leisure, shopping, entertainment, casino, catering, exhibition, hotel facilities are complete. Among them is the Golden Sands Hotel, which has thousands of rooms. The shopping environment is excellent, with a wide variety of international brands and more than 300 shopping stores. There is everything from international first-line brand shopping to specialty retail shopping. Most Europeans and Americans come to Sands to play and shop.

One of the famous scenic spots, the Sky Garden, costs 150 million yuan, is 340 meters long, can accommodate nearly 4.000 people at the same time, and spans three large hotels (Chen et al., 2021). The observation deck on the top of the building and the borderless swimming pool are outstanding features of the Sands project. On the sightseeing level, you can enjoy the skyline of Singapore, the main city, the river, the open sea area, and even Batam Island in Indonesia. It is a good location for viewing the urban landscape of Singapore. Resorts World Sentosa was built by Malaysia's Genting Group with a US$5 billion investment (Joo et al., 2018).

It is the first choice for family leisure travel resorts and incentive travel destinations. Sentosa's famous place is the Resorts World, in addition to it has a wealth of natural sightseeing spots, restaurants and hotel facilities. According to the information provided by the Sentosa Map by the Singapore Tourism Bureau, there are nearly 30 natural sightseeing spots on Sentosa Island, nearly 70 fine dining shops, and many fine gift shops and tourist goods shops, four-star and five-star. There are also more than 10 international brand hotels (Joo et al., 2018).

There are three beaches that can be visited by the public, but they have a clear segmentation positioning. To the east is Siloso Beach, which is positioned for young sports and sightseeing tourists, with beach bars and restaurants full of enthusiasm. The Tanjung Beach and Palawan Beach in the west are positioned for family tourists and vacationers, where resort hotels and children's amusement facilities are complete, and they are relatively quiet and comfortable. Singapore is vigorously building an integrated resort. The development and construction of the two integrated resorts of Marina Bay and Sentosa have improved the network effect of Singapore's tourism products. These two integrated tourism and vacation projects not only bring more business people to engage in convention and exhibition activities in Singapore, but also attract their family members to come for vacation, improving the quality of Singapore's tourism industry (Hsu and Chen, 2019).

China is currently the second largest source of tourists in Singapore and the second largest source of tourism revenue. In 2011, China accounted for 12% of Singapore's tourist arrivals. In 2012, China accounted for 14% of Singapore's tourist arrivals. In 2013, China accounted for 14.6% of Singapore's tourist arrivals. However, per capita consumption expenditure is 20% higher than the overall average. Although China's GDP growth rate has slowed down, the Chinese people's consumer confidence and desire to consume have remained strong. Since 2009, the number of Chinese tourists visiting Singapore has grown at a high rate of 30% every year. According to statistics from the Global Business Travel Association (GBTA), China's business travel expenditures increased by 16% annually (2000-2012). It is predicted that from 2013 to 2015, China is expected to grow by 15% (Jiang et al., 2019).

After 2015, China will become the world's largest business market. Hong Kong will become the number one destination for Chinese business travel, followed by Singapore City and Singapore. Leisure tourism drives China's outbound tourism demand. The increase in the number of leisure tourists during school summer vacations and some major holidays (Spring Festival, National Day) is even more obvious. Newcomers among Chinese outbound tourists often choose experienced tour groups and have a fixed itinerary. Experienced travelers prefer free and independent travel so that they can freely enjoy what they like. Most of the increase in Chinese outbound tourism in Singapore is related to the rise in disposable income, the convenience of airlines and the relaxation of visas. These conditions make overseas travel easier. In the past 10 years, wealthy first-tier cities such as Beijing, Shanghai and Guangzhou have seen an increase in the number of outbound tourists, and stronger growth has occurred in second-tier city clusters such as Hunan and Chongqing. Thanks to the increase in foreign investment in recent years and strong government policy support, the increasingly affluent middle class in second-tier cities also has the spending power and preference to travel abroad. Due to the convenience between Singapore and China Airlines, Singapore has seized more outbound tourists from China. There are as many as 350 flights from China to Singapore every week, taking off from 20 airports in China. Whether subconsciously or deliberately, Singapore is a good place for Chinese people to go out for leisure and vacation (Table 2).

The strengths of Singapore and Chinese tourism companies
The first hotel to operate in Singapore was the London Hotel, which opened in 1832. By the turn of the 19th and 20th centuries, there were about 20 hotels in Singapore. The Adelphi Hotel built in 1863, the Hotel de L'Europe in 1865, the Raffles Hotel in 1886, the Goodwood Park Hotel and the Seaview Hotel in 1900 are among the more well-known. In 1907, luxury hotels such as Grand Hotel de L'Europe were built. These hotels were born for business tourism in China, mainly to provide accommodation for new European businessmen. Some relatively large hotels, such as Nanya Hotel and Ocean Park Hotel, were also built in the 1860s. Clustered near the Tanglin area on Orchard Road are Hilton, Grand Hyatt, Phoenix and Ming Court Hotel hotels. This area has formed a hotel cluster and established a famous tourist area. In 2008, Shangri-La Hotel was the best business hotel in the world and the Asia-Pacific region, the St. Regis hotel was the best emerging business hotel, the Stamford Swiss Hotel was rated as an outstanding conference hotel in Asia, and the Fullerton Hotel was rated as an outstanding leisure hotel in the Indian subcontinent of Asia. The Ritz-Carlton was named the Best Hotel in Asia in 2005 by the Asian Yuan Magazine. Tourism is a major driving force of Singapore's economy, especially the hotel industry in Singapore. At present, the hotel industry in Singapore is home to the world's most famous hotels, including the Shangri-La Hotel from Hong Kong, the Hilton Hotel and its resort projects in the United States, the Holiday Inn Royale Hotel and resorts in the United Kingdom, and the Marriott hotel and resort projects. Hotel group The hotel chain brands in Singapore are: Ascott the Residence, footwayinn, Best Western, Bayview International Hotels and Resorts, Crowne Plaza Hotels & Resorts, Copthorne Hotels, Design Hotels, Citadines Days Inn, Compass Hospitality, Far East Hospitality, Fragrance Hotel (Rong and Bu, 2018; Zaichuk, 2021).

BTG has large total assets, high economic strength, operating results and other major economic indicators that rank among the forefront of the national tourism enterprises. According to the 2013 annual report of Beijing BTG Hotels

(Group) Co., Ltd., BTG completed the acquisition of 25% of the external equity of BTG Jianguo in 2013, which cleared the way for the company to control and adjust hotel operations in the next step. BTG Hotel Group attaches great importance to brand building and active capital operation. Its future development idea is: implement the "brand + capital" strategy, with hotel brand operation management as the core, learn from the operation model of international hotel groups, and adopt a more active approach. The capital operation of the company, the implementation of the brand strategy of scale priority, complete system, outstanding characteristics and advanced culture of the brand, so as to create the company's core competitiveness and sustainable development of profitability. The company will actively integrate resources and carry out mergers and acquisitions: BTG Hotels Group will actively leverage the resources of BTG's hotel sector and give full play to the advantages of listed companies, implement internal and external integration and mergers, and actively seek outward expansion. In addition, other hotel brands rarely have the experience of expanding overseas.

Shanghai Jin Jiang International Hotels (Group) Co., Ltd. has currently carried out multinational tourism business projects in 5 countries and has built 7 hotels overseas. As a leading hotel group in China, Shanghai Jin Jiang International Hotel Group is mainly engaged in business scope including travel agencies, restaurant operations, hotel operations, management and franchising, passenger logistics, etc. In December 2006, Jin Jiang Hotel was listed on the Hong Kong Main Board. It became the first Chinese hotel concept stock in China to enter the Hong Kong capital market. By the end of 2013, the hotel had a total of more than 235,000 rooms and a total of 1,566 hotels. The hotel network covers about 280 cities in 31 provinces, municipalities and autonomous regions in China.

Hotel, etc., comprehensive hotel services are complete and unique business models. In terms of international cooperation, Jin Jiang International Group and Del Group of the United States cooperated in the acquisition of Interstate Hotels and Resorts Group of the United States, holding 50% of the shares of Interstate Hotels Group of the United States, and managing nearly 400 hotels in ten countries around the world. Calculated by the number of rooms, Jin Jiang Hotel Group ranked 9th in the world on the top 300 global hotel groups published by HOTELS in 2012 (Table 3).

On the HOTELS 2020 list of the top 100 global hotel groups (top 10), 3 have their headquarters in China. Because Singapore is a city-state, it cannot be assumed that the level and quality of Singapore's hotel industry is not high because of the lack of a hotel group headquarters. On the contrary, it is precisely because Singapore, as a city country, is the world's shipping, transportation, financial, and trade center city. 60% of the top 100 hotel groups announced by HOTELS are operated in Singapore, and the core hotel products of all hotel groups are operated in Singapore.

There are three hotel groups in China on the list, but most of the hotels are located in China, and a few are located outside the country, which is not sufficiently internationalized. The overseas business of the three hotel groups mainly relies on mergers and equity cooperation to participate in overseas business operations (Table 4).

Table 4. HOTELS 2020 Global Hotel Group Top 100 List (compiled by the authors)

Ranking	Hotel Group	Headquarters location	Number of hotels
1	Marriott International	America	7642
2	Jin Jiang International Holdings Co. Ltd	Shanghai, China	10695
3	Hilton Worldwide Holdings	America	6478
4	IHG, InterContinental Hotels Group	America	5964
5	Wyndham Hotels & Resorts	America	8941
6	Accor	America	5100
7	Huazhu Group Ltd	Shanghai, China	6789
8	Choice Hotels International	America	7147
9	BTG Homeinns	Beijing China	4895
10	BWH Hotel Group, Best Western	America	4033

Table 5. 2020 Global Competitiveness Report (compiled by the authors)

Country (region)	2019	2020
Singapore	1	1
Denmark	8	2
Switzerland	4	3
Netherlands	6	4
China Hong Kong	2	5
Sweden	9	6
Norway	11	7
Canada	13	8
United Arab Emirates	5	9
America	3	10

Human resources are a necessary condition for enterprises to achieve rapid development and improve the competitiveness of hotels. The "World Competitiveness Report" pointed out that Singapore's human resource reserves and high-quality labor reserves rank prominently, and the quality of education and training is also rising year by year (Table 5).

In 2013, in terms of the ability index to retain talents: Singapore ranks 8th and China 31st; in terms of national ability to attract talents: Singapore ranks 2nd and China ranks 26th. The relevant departments of the Singapore city government attach great importance to the construction of a skill development system. Academic education and vocational and technical education are equally important. This formal system has brought the advantages of human resources training in Singapore, making the intensity and proportion of manpower training in Singapore far exceed China. The Singapore city government and enterprises jointly cultivate talents in the hotel industry and set up three major certificates in hotel accommodation: WSQ Hotel and Accommodation Service Certificate (room service), WSQ Hotel and Accommodation Service Certificate (receptionist), WSQ Tourism Diploma (Management). WSQ Tourism Diploma (Management) is divided into Advanced Certificate (Supervision) and Certificate (Operation). Due to people's traditional concepts and the hotel's own attractiveness, service culture has always had no place in Chinese traditional culture. Since ancient times, China's service awareness and service concept have not been high. Regardless of whether it is from the enterprise, the government or the hotel employees themselves, there is a lack of attention to vocational training. In addition, the rapid increase in the number of multinational operations and budget hotels in China's hotel industry is the latest (Martínez García de Leaniz et al., 2018).

After more than ten years, the increase in demand followed closely. Due to the late start and poor training level, many hotels in China currently lack a complete and efficient training mechanism. The hospitality industry talent training

method is relatively simple, and the method of master and apprentice is generally adopted. Another serious problem in the Chinese hotel industry is that the turnover rate of Chinese employees has been high, which is very detrimental to the long-term development of the hotel industry. The high turnover rate not only seriously affects the cohesion and centripetal force of the enterprise, but also brings about the increase of training costs, the decline of service quality, the leakage of trade secrets and other problems (Gong et al., 2019). Hotel management is the effective integration of various resources such as human resources, capital, and networks within the hotel organization. Efficient hotel management can save costs and improve efficiency, thereby increasing the hotel's operating profit. Management innovation has increasingly become a key factor for hotels to gain competitive advantage (Hrynko et al., 2021).

Therefore, the innovation of the hotel management model is the basis for the hotel to gain a competitive advantage. Singapore's hotel industry started early, and hotel clusters have led to the overflow of management technology and innovation. In Singapore, where hotels gather, management innovation is much easier than in China. Ascott quickly enters the Chinese market through private equity fund financing, builds or acquires existing 3 to 4-star hotel brands in China, and waits for these hotels to mature after their operation and development, and then incorporate them into the trust for the next round of circulation in China. In terms of operating methods, Ascott Group takes into account both investment and management operations, adopting a trust fund method to obtain withdrawal of funds in a short period of time, and then expand the scale of the hotel and strengthen management. Hotels in China lack a sound management mechanism, a management mechanism to attract talents, and a lack of brand culture.

There are a large number of hotels in China, but the common problems are poor management quality, lack of competitiveness, inadequate segmentation of the market, and excessive investment of resources are even more serious. Although a small number of powerful multinational hotel companies have relatively rich management experience, there is still a practical problem of lack of a mature system management model. On the other hand, many hotels in China lack the awareness of combining successful management experience and management technology with their actual conditions, and no longer retain their own characteristics to carry out management innovations, but blindly learn and follow. In addition, China's hotel areas are very different and unbalanced in development. It is difficult to integrate resources for cross-border investment. Compared with the more successful hotels in Western developed countries and Singapore, there is still a big gap (Fu, 2020).

From the perspective of national tourism brand cultivation, Singapore's approach is a good learning object, adopting the principle of differentiation to establish a distinctive tourism brand to distinguish itself from the tourism brands of neighboring Southeast Asian countries. In order to cultivate local hotel brands, the hotel industry in Singapore has made more efforts than China. The Singapore city government attaches great importance to the internationalization of tourism brands. It started very early in encouraging Singapore tourism companies to go global. Ascott Hotel Group's multinational operations are better than Chinese tourism companies in brand cultivation. The huge emerging market giving Ascott Hotels a considerable influence in the Chinese hotel industry. Brand is a very important mechanism for sending signals. It has rich information and helps alleviate the problem of information asymmetry (Hsu and Chen, 2019).

Brands have great commercial value to the modern hotel industry, especially under the conditions of asymmetric market information, the attractiveness of the brand plays a key role. If the hotel does not have the support of the brand, it will be difficult to go abroad. Internationally renowned hotel groups attach great importance to brand building, and they usually achieve the goal of occupying market segments and expanding market share by creating a diversified brand strategy. Although the Chinese hotel industry has made great progress in building well-known national hotel brands, such as the Shangri-La Hotel Group, which was born in Hong Kong, there are very few well-known hotel brands in the world. Due to the lack of brand awareness, hotel brands in mainland China generally do not have a great international reputation, and the brand effect is also insufficient. In most of my budget hotels, I choose a single-brand strategy, and the brand's market position is unclear. The blurring of the brand makes it difficult to have an advantage in the market segment and cannot capture the diversified needs of customers, resulting in poor hotel operations and difficulty in diversifying market risks.

Marketing technology means that hotels provide customers with better products and services by integrating prices, brands, channels, etc. The accumulation of hotel human capital and experience can improve marketing technology. In this era of popularization of informatization, the application of marketing information system plays a key role in whether the hotel can successfully promote the brand. Under the conditions of the network economy, the promotion and use of network marketing technology plays an important role in the expansion of the hotel's sales space. At present, the hotel's marketing technical service advantage mainly depends on the utilization rate of the computer reservation system and the satellite image information processing system. The advanced computer reservation system can collect relevant customer databases, analyze and develop customer needs, so as to occupy the market first. Holiday Hotel Group has the world's largest civilian computer network Holidex2000 and the United States' largest private satellite image receiving network. These hotel service technologies are undoubtedly the icing on the cake for the adjustment of its business strategy and the stable control of the source market.

Through the big data in the computer reservation system, the adjustment strategy can be directly analyzed, so that the hotel can quickly and efficiently complete the reservation business to retain the hotel's regular customers and actively develop potential customers. The use of the reservation system of Chinese hotels is relatively backward, and there is no research and development of the reservation system. Only Shangri-La Hotel Group attaches great importance to the advancement of the reservation system and has adopted the advanced FidelioOpera central reservation system. Chinese hotel marketing usually uses two channels, agents and official websites. Online agents mainly use CallCenter and online methods for product sales. Typical Chinese representatives are Ctrip and Tuniu. Traditional agents mainly rely on traditional stores to promote products. Comprehensive media mainly include portals, comprehensive search, online videos, etc. The online travel industry also uses its own vertical industry media for online travel marketing, such as Kuxun, Qunar, Traveler, and Dadao.

In addition, according to the rise of the mobile Internet, the marketing position of the tourism industry has also expanded rapidly, and new media such as various mobile apps, WeChat, and Weibo have increasingly become important sales channels. Singapore tourism also makes good use of the Internet for tourism marketing. And more importantly, the city of Singapore is also actively adhering to the concept of "building a country through information technology", actively advancing the development strategy of a "smart country", and promoting the fundamental role of information technology. The Singapore City Government actively participates in the cooperation of all parties, adopts a variety of tourism promotion measures, and the government and enterprises jointly promote the expansion of overseas source markets. The City of Singapore also uses all available channels to publicize, such as providing various forms of tourism materials to the source country, extensive cooperation with the tourism industry of the source country, free organization of sightseeing groups to visit new tours, and participation in tourism seminars and expos. China's tourism management department is relatively lacking in this regard, lacking unified planning and various publicity and marketing, and the government and the majority of tourism companies also lack close cooperation, and the government's marketing of the tourism industry has basically not started (Fu, 2020).

Analysis of existing problems

Activities and population in Singapore are generally concentrated in the metropolitan area, which has also caused traffic congestion. Traffic problems cannot meet the rapid population growth and fully meet the needs of the people. In Singapore, about 18 million transportation methods are used every day to meet the needs of population movement. Land use changes have changed from agricultural land to urban land, but without proper planning. Therefore, the ratio of street area in Singapore is lower than the standard requirement of urban transportation (Singapore's street area is about 10% compared to the city's area, while Tokyo's street area is about 23%, and New York's street area is about 38%). In addition, for personal needs, most people buy public parking spaces, which also leads to road traffic congestion in Singapore. Most public transportation systems still use the same roads as private cars. Rail transit only accounts for 3% of all modes of transportation. Overall, Singapore lacks integrated management plans and other types of transportation (Alola et al., 2020).

Singapore is a famous tourist city. Therefore, the development focus of Singapore City is how to accommodate many tourists, but it lacks standard improvement measures. With the increase in the number of tourists, the government lacks basic safety supervision. Tourists do not feel safe when traveling. A small problem may threaten the lives of tourists, such as crossing the road. Singapore adopts left-hand traffic, and many foreign tourists are not familiar with it. Chaos will inevitably occur when crossing the road. There are no traffic lights in some places, and Singaporeans are accustomed to mainly consider their own safety when driving vehicles. They rarely give way to pedestrians on the road, and there are very few crosswalks in Singapore. In some places, the tourists are very dense, and there will be traffic police to guide the traffic so that passengers can safely cross the road. In general, the road conditions in Singapore are not conducive for tourists to walk, and there is a lack of supervision measures for road cleanliness. In some areas, the roads are bumpy, and some streets even have open manhole covers and road repairs, but no warning signs have been set up to remind passers-by to be more careful. In addition, there are messy electrical wiring laying on the streets of Singapore, which is very likely to cause danger during heavy rains (Aktymbayeva et al., 2017).

In the past ten years, Singapore's politics has been seriously lacking in stability. Since September 2009, there has been a coup d'état, and the rioters have attempted to seize government power. Political views are mainly divided into two parties. There are protests and expulsion of political parties. Each party has a central area that instigates mass gatherings, government buildings, and the economic center of Singapore. The purpose is to drive away party opponents. These protests did not affect the development of the tourism industry, because they occurred in non-tourism areas. However, there are sometimes gatherings in scenic spots and important areas, which affect the travel itinerary of tourists. Violent incidents often occur, and there are even deaths of protesters and third parties. In addition, some people, for their own benefit, look for opportunities to deliberately cause trouble (Aliyeva et al., 2019).

Prospects for the development of the tourism industry in Singapore

Singaporeans do not like basic public transportation such as buses. One of the main reasons is inconvenience. If the number of buses increases to meet demand, the condition of the cars will improve significantly. There are cars that set clear timetables, and I believe that more people will switch to buses. Because buses go to every area, in Singapore, only the subway can go to the city center. The current problem in the country is that many people are crowded on the bus, and the waiting time is long due to the small number of buses. There are too many passengers and many factors such as being unable to get on the bus even if there are trains. Tourists generally think that private cars are more convenient. First of all, I suggest that the government introduce compulsory measures to stipulate that the outermost lane is a dedicated bus lane (in order for buses to be unimpeded, buses can choose to travel along the road). By dividing the road, cars and other types of vehicles are more convenient. If all kinds of cars are on their own normal roads, there will be no vehicles changing lanes back and forth. The phenomenon of vehicles changing lanes causes traffic congestion.

The accident happened. After adding buses, government departments should redefine the road traffic system so that buses can run at normal speeds without congestion. In this process, the pilot station can be arranged intelligently, which will provide passengers with information on the number of vehicles, route and waiting time, making it easier for people to make travel plans. The system is jointly developed by the smart bus and mobile phone software to tell the waiting time and update the information in real time. GPS is installed on the bus so that people do not need to wait for a long time at the bus stop. It can improve the ticket payment system to choose electronic cards to pay the fare, reduce the burden on cashiers, and thus pay more attention to the safety of passengers (Aktymbayeva et al., 2021).

The main security problem in Singapore is crime. Since Singapore is the capital of Singapore, many people come to Singapore for work. In addition, the high level of urban commodity prices in Singapore, relative to the income of the population, these reasons have caused crime in Singapore. The local people should be alert and aware of various risks. The addition of security surveillance cameras in the streets can also increase community volunteer training, safeguard the social system, and increase the police's patrol vision. In addition, low-income families should be encouraged to enjoy social welfare benefits, including shopping malls that provide cheap consumer goods, to reduce incentives for crime. In addition, the city of Singapore also needs to install additional monitoring to cover the entire Singapore city area, including checking the functions of CCTV and electrical systems in different locations, requiring availability and standardization. There is also a need for stricter law enforcement and increased punishments against crimes. If the above measures are implemented, criminals will not take risks. Legal measures should be combined with politics. In order to determine the legal system is established on a reasonable basis. If there are gatherings without any legal requirements, it may lead to violent gatherings and cause damage to the lives and property of participants (Kulakhmetova et al., 2018).

Even though Singapore is a famous tourist attraction in the world, it should actively maintain the ranking of tourist cities in the ranking of tourist cities in the world, by improving safety. More than 70% of tourists go to Singapore to relax, so Singapore must make tourists feel safe and belong. The main agencies include the Singapore Tourism Authority (TAT), and tourism promotion in Singapore has achieved considerable success. However, many tourists find that the quality of products and services is worse than expected when they come to Singapore.

This is due to the lack of supervision measures by tourism units, so there should be strict standards on the prices of services and products. Hotels should cooperate with many departments, such as the Ministry of Tourism, Singapore Hotel Basic Standards, Singapore Hotel Association, Singapore Tourism Board and Singapore Tourism Business Association. These departments should evaluate hotels, whether it is the hotel's construction, facilities, food, and staff service quality. Stars are set to rank and standardize the standards of different hotels.

In addition, hotels, resorts, or different types of accommodation should be standardized, and excellent hotels should be rewarded and promoted, so as to stimulate each hotel to maintain a standard level and develop standard services. In addition, tourism-related enterprises should be promoted, whether it is the development of hotels, restaurants and hot springs, to make them famous all over the world. For example, Blue Elephant Restaurant, which is a famous Singaporean restaurant, has branches in major cities around the world. Tourism organizations can provide capital to participate in international exhibitions, and a good image display will have a positive impact on Singapore's tourism.

In the past ten years, Singapore's politics has been seriously lacking in stability. Since September 2009, there has been a coup d'état, and the rioters have attempted to seize government power. Political views are mainly divided into two parties. There are protests and expulsion of political parties. Each party has a central area that instigates mass gatherings, government buildings, and the economic center of Singapore. The purpose is to drive away party opponents. These protests did not affect the development of the tourism industry, because they occurred in non-tourism areas. However, there are sometimes gatherings in scenic spots and important areas, which affect the travel itinerary of tourists. Violent incidents often occur, and there are even deaths of protesters and third parties. In addition, some people, for their own benefit, look for opportunities to deliberately cause trouble.

CONCLUSIONS

This article outlines the theory of international investment environment evaluation and reviews the related literature on foreign direct investment in the tourism industry. Based on the grade scoring method, a preliminary assessment of the tourism investment environment in Singapore has been carried out, such as the degree of political stability, capital withdrawal, foreign equity and other factors. The article analyzed the general situation of Singapore's hotel industry and pointed out that under the active guidance of government policies and plans, the local hotel industry in Singapore actively participates in international competition, strives to go global. Also, it was analyzed the general situation of China's hotel industry and pointed out that in recent years, China's hotel industry has accumulated a certain amount of experience in transnational investment, but compared with major tourism companies in Europe and the United States, China's hotel brand concept is lacking. Finally, it analyzes the investment status of Chinese tourism companies in Singapore. The reason is that the scale and quantity of investment by Chinese tourism companies in Singapore are far less than the scale and quantity of investment by Singapore tourism companies in China.

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THE DYNAMICS OF "POKDARWIS CAPUNG ALAS" IN THE DEVELOPMENT OF COMMUNITY - BASED TOURISM IN PUJON KIDUL VILLAGE DURING THE COVID-19 PANDEMIC

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Abstract: The development of tourism or tourist villages cannot be separated from the contribution of the community through tourism awareness groups with various roles they carry out by existing needs and conditions. This study aimed to examine the existence, role, impact, and barriers of the Kelompok Sadar Wisata (Pokdarwis) Capung Alas in the development of a tourism village under the principle of Community Based Tourism (CBT) in Pujon Kidul Village before and during the Covid-19 pandemic. This study employed a qualitative method through observations, interviews, and literature reviews. Findings confirmed that (1) the existence of Pokdarwis Capung Alas could be seen from several forms of development, (2) its role was in providing training and community empowerment programs that helped to improve the economy and welfare of the community, and (3) the main barriers it faced were the limited human resource skills, development exploration, expansion, group or tourism management, and the Covid-19 pandemic.

Key words: CBT, Covid-19 Pandemic, Desa Wisata, Pokdarwis Capung Alas

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INTRODUCTION

Tourism is one of the development cornerstones of a country—nowadays, it centers on the concept of sustainable tourism development, including the aspects of destinations, the community, and the environment (Ismail, 2021). Tourism has a very important role in the development of a country or region because tourism has a very broad and significant impact on economic development—it also contains efforts to conserve natural resources and the environment and will have an impact on the socio-cultural life of the local community (Hamzah and Irfan, 2018). According to World Tourism Organization (UNWTO), sustainable tourism can be defined as tourism that takes full account of its current and future economic, social and environmental impacts through optimization and preservation of natural resources and originality of the host communities in the tourism and non-tourism sector—one form of sustainable tourism is the development of rural or village tourism (Streimikiene et al., 2021). A tourism village represents the implication of development in the regional tourism sector that emphasizes the characteristics or attractive features of an area, community participation, and is sustainable in terms of tourist attractions, accessibility, accommodation, and amenities.

In line with that, (Trisnawati et al., 2018) define a tourism village as a rural area that offers comfort and beauty of the rural people's daily life, including its socio-economic, socio-culture, customs, arts, spatial structures, architecture, or other attractions as the unique features of the village. Human Resource (HR) has been one of the primary constraints in the development of tourism villages in Indonesia—thus, increasing community participation with the help of groups to provide education or empowerment to the community and contribute to the tourism development is necessary. An example of such an empowerment group is *Kelompok Sadar Wisata* (Pokdarwis), a group in a tourism village consisting of community members having the same goal of developing the tourism sector by implementing programs related to tourism development and community empowerment (Suhermanto et al., 2021). Corona Virus Disease 2019 or Covid-19 is a virus first discovered in Wuhan, China, at the end of 2019, which then spread worldwide and caused a global pandemic as stated by the World Health Organization (WHO) in March 2020 (Baloch et al., 2020). The Covid-19 pandemic also poses new challenges for the world, not to exclude the people of Indonesia. The pandemic has had major impacts on people's work as well as social, economic, cultural, educational, and other sectors, including tourism. The pandemic has forced the government to implement policies to prevent the spread of the virus, such as the Restrictions on Community Activities (*Pemberlakuan Pembatasan Kegiatan Masyarakat* – PPKM), Large-Scale Social Restrictions (*Pembatasan Sosial Berskala Besar* – PSBB), regional quarantine, work from home, and so on so. The policy implementation has led to strict health protocols in tourism activities and events closure of tourist objects—all have added new challenges for tourism (Kristiana et al., 2021).

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Pujon Kidul is one of the villages in Pujon District that has succeeded in developing a tourism village with its various potentials, such as its socio-cultural potential, economy, employment opportunities, natural resources (Paramitha Dewi et al., 2021). The development of Pujon Kidul Village as a tourism village is also inseparable from community participation through Pokdarwis Capung Alas Tourism, a group of community members to develop and introduce tourism potential in Pujon Kidul Village and to empower local communities to participate in advancing tourism in Pujon Kidul Village, and to help community members to benefit from the village development (Sakti, 2021). The development of community-based tourism villages opens up opportunities for the community to participate in developing tourism in their area through the bottom-up model or tourism development originating from the community's initiatives, widely known as Community Based Tourism (CBT) approach. CBT is a concept or strategy for tourism development based on community contributions from various circles by prioritizing a community empowerment system to explore and develop tourism potential in an area (Utami et al., 2019). There have been many previous studies on CBT in tourism villages. One of the studies was done by Septiofera Eresus Prabowo (2016) on the forms of community participation in developing Pujon Kidul as a tourism village—the participation could be ideas or involvement in the development, including management of educational tourist attractions, agriculture, and animal husbandry, becoming tour guides, and providing tourism supporting facilities, such as parking lots, toilets, prayer rooms, and others.

Another study by Fitria Rahayu Utami (2019) confirms that stakeholder involvement in the tourism village development centers on the role of leaders who can move the community to participate in the development of the tourism sector and creative economy businesses in the village (Utami, 2019). The other study discussing tourism village development during the Covid-19 pandemic was done by Dwi Cahyani (2021). Her findings show several strategies as alternatives for tourism village development during the Covid-19 pandemic; these strategies include increasing the competitiveness of tourism villages through the development of tourist attractions, presenting a wider choice of tour packages, collaborating with youth/other stakeholders, developing the creative industry with the community, and providing supporting amenities such as cleaning facilities and tourism supporting facilities during the pandemic (Cahyani, 2021). Previous studies were mostly oriented towards two aspects, namely villages and tourism. While this research is important to do because it has novelty and advantages in terms of urgency and the theme of the discussion. The purpose of this research is to find out how ups and downs the development of Pokdarwis Capung Alas started from the beginning of its formation until now. It's also to describe the involvement, role, and participation of the community through the existence of the Pokdarwis Capung Alas in developing the concept of a tourism village by applying the Community Based Tourism (CBT) approach to develop and manage tourism potential in Pujon Kidul Village. In addition, this research also aims to find out the obstacles or problems experienced by Pokdarwis Capung Alas in developing the Pujon Kidul Tourism Village before and during the Covid-19 pandemic.

MATERIALS AND METHODS

This research is field research carried out by applying descriptive qualitative methods. The research subjects were members of Pokdarwis Capung Alas, village government officials, and local communities. Data were collected through observation, documentation, literature review, and in-depth structured interviews with the resource persons. The study took place in Pujon Kidul Tourism Village, Pujon District, Malang Regency, East Java Province, Indonesia. Resource persons were selected using a purposive sampling method based on certain criteria we determined prior to the study.

The resource persons were competent and could provide data according to research needs under the following criteria: (1) aged 18 to 35 years and over, (2) a resident of Pujon Kidul Village, (3) a member of Pokdarwis Capung Alas, (4) male and female, and (5) willing to be interviewed and provide data related to Pokdarwis Capung Alas and the development of the Pujon Kidul Tourism Village. Data sources were classified into two: (1) primary data came from interviews with eight resource persons consisting of local people, community leaders, village government officials, and members of Pokdarwis Capung Alas, and documentation in voice recordings, photos, and field notes, and (2) secondary data obtained through literature review and documents of the same theme as the research, archive, and photos of Pokdarwis activities. The data analysis in this study consisted of three stages: (1) data reduction, (2) data presentation, and (3) conclusion drawing. Data validity was checked using the triangulation method related to data/sources and the researchers (Moleong, 2018).
The stages in this research are explained through a flowchart as follows:
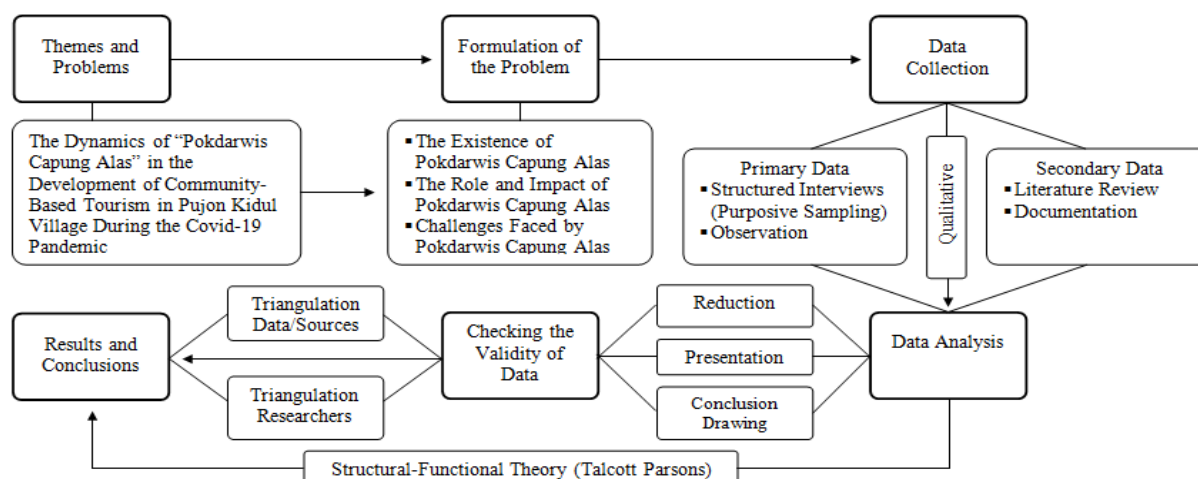
Figure 1. Research Methodology (Source: Personal Documentation of the Researchers, 2021)

RESULTS AND DISCUSSION

Pujon Kidul Village is one of the villages located in the northern part of Pujon District, Malang Regency, East Java Province, with a position of $7^0 21'$-$7^0 31'$ South Latitude and $110^0 10'$-$111^0 40'$ East Longitude. The area is 1200 meters above sea level. The village covers an area of 486.40 ha consisting of three (3) hamlets, nine (9) RW[1], and 18 RT[2]. The total population is 4,337 people (Krajan Hamlet 3009 people, Maron Hamlet 993 people, and Tulungrejo Hamlet 335 people). The majority of the population is Muslim. Pujon Kidul Village consists of hills and plains areas, most of which are agricultural land or rice fields and forestry so that the main livelihood of the community is as farmers and dairy farmers (Longkul et al., 2020). Ngroto and Pujon Lor Villages border Pujon Kidul Village due north, Sukomulyo Village due west, forests owned by Perhutani due south, and Pujon Lor Village and Pandesari Village due east (Nadiasari and Nurhadi, 2019).
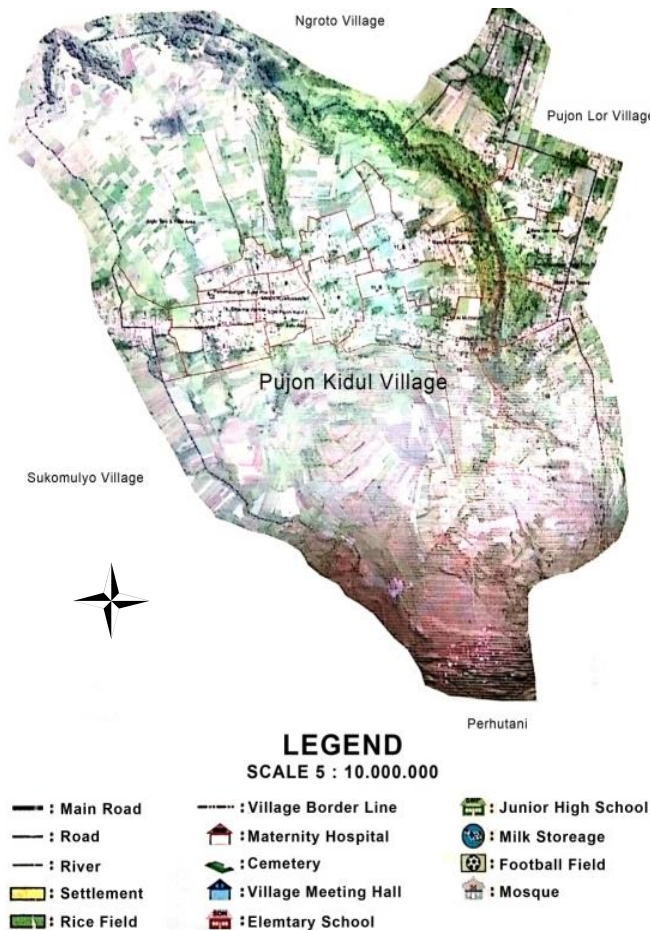
Figure 2. The Map of Pujon Kidul Village
(Source: Personal Documentation of the Researchers, 2021)

Figure 3. The Landmark of Pujon Kidul Village - Wisata Café Sawah (Source: Personal Documentation of the Researchers, 2021)

Figure 4. The Landmark of Pujon Kidul Village - Wisata Café Sawah (Source: Personal Documentation of the Researchers, 2021)

Pujon Kidul Village started to gain popularity after its launch as a tourism village by the Regent of Malang on August 10, 2016. It became even more famous after receiving the 2017 national award as one of the 10 best tourism villages under the category of the agrotourism village from the Ministry of Villages, Development of Disadvantaged Regions in Independent Village Autonomy, and Transmigration of the Republic of Indonesia (Hilmi et al., 2021). In addition, the 2020-2024 National Medium-Term Development Plan (*Rencana Pembangunan Jangka Menengah Nasional* – RPJMN) targets approximately 244 tourist villages certified as independent tourism villages, which includes Pujon Kidul Tourism Village. Pujon Kidul is one of the pilot tourism villages in Indonesia—evidenced by the 2021 Village Development Index (*Indeks Desa Membangun* – IDM) data showing that Pujon Kidul Tourism Village ranks 1709 with IDM status as an independent village, and the index is around +0.19%. Pokdarwis Capung Alas in Pujon Kidul Village is also an important part of the transformation of the village into a tourist village, as evidenced by the achievement of Pokdarwis Capung Alas to rank first and receive an award in the category of community business activities in the tourism sector from the Ministry of Tourism of the Republic of Indonesia in 2017. Pujon Kidul is also famous for its landmark named Café Sawah, village-owned land management used as a leading tourist object in Pujon Kidul Village. Café Sawah was developed to combine tourism, culinary feature, photo spots, playgrounds, education, and others within one single tourist attraction (Rahmawati et al., 2020).

Table 1 shows that the majority of the population of Pujon Kidul Village are between 16-59 years old in 2021, as many as 3,031 people. The data confirmed that the village had a fairly high workforce, of which 950 people were unemployed (Pujon Kidul Village Government, 2021). The Pujon Kidul Village government has tried to balance the surge

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[1]Rukun Warga, a division of a region smaller than a hamlet

[2]Rukun Tetangga, a division of an RW into several groups of households

in the workforce with employment opportunities to reduce unemployment and urbanization, one of which is by developing the tourism sector to accommodate the workforce. Tourism has opened job opportunities for the locals. Pokdarwis Capung Alas can also direct the community to contribute to the development of tourism potential itself through the business units and tourist attractions managed by Pokdarwis Capung Alas. This follows the CBT strategy applied by Pujon Kidul Village to develop tourism potentials in the village (Oka et al., 2021). CBT implemented by Pujon Kidul Village represents a strategy and approach to develop and manage existing tourism potential through contributions and involvement of the locals. It also represents sustainable tourism development through business units and tourist attractions to achieve equity and improve living standards and the economy to prosper the community (Nafidah et al., 2021). This is also evidenced by the fairly high village community involvement, reaching 50% of the population or approximately 2,000 villagers who actively contributed to tourism businesses and tourist attractions in Pujon Kidul Village.

Figure 5. Pujon Kidul Tourism Village SIE Interface (Source: Pujon Kidul Village Electronic Information System, 2021)

Age Range	Number of People
0-6	68
7-15	529
16-59	3031
60-110	706
Not Officially Recorded	3

Table 1. Pujon Kidul in Population-Based on Ages (Source: Pujon Kidul Village Population Statistic, 2021)

Figure 6. Disinfectant Spraying Program by Members of Pokdarwis Capung Alas (Source: Personal Documentation of the Researchers, 2021)

The high community participation was well responded to by Pujon Kidul Village government through the establishment of information systems and technology as a form of village government transparency, which also involves active community participation in monitoring and evaluating village development. The information system is known as the Electronic Information System (*Sistem Informasi Elektronik* – SIE) for the public to access. Pujon Village Regulation Number 6 of 2017 Article 5 related to Tourism Businesses and/or Tourist Attractions explains that tourism business managed by the Sumber Sejahtera Village Owned Enterprise (*Badan Usaha Milik Desa* – BUMDes) includes Café Sawah, parking lots, and other businesses approved by the village head, either in the tourism sector or other sectors. The role of BUMDes in managing tourism businesses and or tourist attractions in Pujon Kidul Village represents the CBT strategy or approach in tourism development (Suhermanto et al., 2021). One of the management strategies is to have a community group, in Pujon Village it refers to Pokdarwis Capung Alas, to direct and organize the community to participate in the development of the tourism village concept through programs, training, or community empowerment in tourism (Longkul et al., 2020). The development of tourism villages through CBT that involves the community structure follows the structural-functional theory from Talcott Parsons, assuming that the community is seen as a structured and integrated system, each having its respective functions to support each other to achieve equilibrium (Turama, 2020). In addition, this theory emphasizes social order within society and general social actions, such as organizations and social systems in society (Ormerod, 2020). The AGIL (Adaptation, Goal Attainment, Integration, and Latency) scheme developed by Talcott Parsons describes society as a functional structure. The aspects in the study of the structural-functional theory include: (a) society is seen as a unit, (b) there are reciprocal relationships and mutual influence between each part, (c) social interaction leads to a dynamic balance, (d) dysfunction or conflict will be resolved along with long-time adaptation, and (e) social changes occur through three processes of adjustment to external changes, changes through differentiation, and structural and functional (Turama, 2020). The CBT strategy implemented by Pujon Kidul Tourism Village integrates components of tourism based on their respective roles. Pokdarwis Capung Alas, as one of the components, functions as a driver of community participation in exploring and developing tourism potential. The next component is BUMDes Sumber Sejahtera, an institution that oversees the business units and tourist attractions—it also involves Pokdarwis Capung Alas in the management of several business units BUMDes Sumber Sejahtera. The other component is reciprocity represented by community participation in tourism development through Pokdarwis Capung Alas—it has an impact on increasing the economy and welfare for the community itself. The other reciprocity comes from the village government, which is an increase in village income and the utilization of existing tourism potential (Parsudi et al., 2021).

The Existence of Pokdarwis Capung Alas

The Capung Alas Community Group was initiated in mid-2012 for concern over the status of the village as an underdeveloped village with a low level of the economy, community welfare, and human resources and the lack of facilities and infrastructure of the village. Some young people of the village then initiated the movement to develop the village by exploring the tourism potential—the village had Sumber Pitu Waterfall as its primary tourist attraction at that time and several forms of educational tourism from the agricultural and livestock sectors. After the opening of the Sumber Pitu Waterfall tourist attraction, the Capung Alas Community Group was formed, and its focus was on developing Pujon Kidul as a tourism village by exploring and optimizing the potential of the village. The Capung Alas Community Group started to conduct socialization, empowerment, and training for locals. Pokdarwis Capung Alas was initiated by several community leaders in Pujon Kidul Village, including the head of Pujon Kidul Village and several village youths. Its initial name was the Capung Alas Community Group. The word "*capung*" in English means dragonflies. Throughout their life circle, a dragonfly has to go through several stages before becoming fully mature—this is the philosophy underlying the process Pujon Kidul has to go through before fully becoming an independent and settled tourism village. The word "*alas*" means forests in English—this represents the habit of the group members or the villagers to go to the forests. Along with the development of Pujon Village as a tourism village, the community group was changed into Pokdarwis Village to become stakeholders in tourism development and a forum for people to contribute to the development of the village. Tourism in Pujon Kidul Village is primarily intended to accommodate the youth in village development. Capung Alas started with only 10 members in 2012, and now it has 100 members. Pokdarwis Capung Alas is also involved in developing Pujon Kidul as a tourism village. Some members of Pokdarwis Capung Alas are members of the youth organization (*Karang Taruna*), managers of tourist attractions, village public relations, and other strategic roles. Pokdarwis Capung Alas is also part of BUMDes Sumber Sejahtera. Pujon Village Regulation Number 6 of 2017 related to Tourism Businesses and/or Tourist Attractions and Other Forms of Tourism mentions that the tourism business managed by the community includes culinary stalls, playground, souvenir kiosks, agrotourism, homestays, guest houses, outdoor education, cultural tours, educational tours, and other businesses that support tourism activities. Covid-19 has hit Indonesia since the beginning of 2020 and has caused various changes in the life of the people (Muhyiddin, 2020). The Covid-19 pandemic has paralyzed several sectors, one of which is the tourism sector.

The government policies and regulations to restrict community activities during the pandemic and strict application of health protocols to reduce the spread of the Covid-19 virus have affected tourism much (Rodiyah et al., 2021). Pujon Kidul Tourism Village has also felt the impact of the Covid-19 pandemic, including the closure of tourist objects in Pujon Kidul Village and the delay in the implementation of several programs from Pokdarwis Capung Alas, such as batik and sewing training for women and the community of Pujon Kidul Village, automotive training for village youths, and procurement of Kejar Paket C[3]. From the perspective of the structural-functional theory, the existence of Pokdarwis Capung Alas Pujon Kidul can be constructed as Goal Attainment and Latency within the AGIL scheme by Talcott Parsons. The Goal Attainment is related to the main objective of Pokdarwis Capung Alas to explore and develop the potential of Pujon Kidul Village optimally, especially in the tourism sector, to improve the community welfare and economy and to raise awareness of the locals on tourism, while the Latency is seen as maintaining or updating a pattern (Turama, 2020). In developing a community-based tourism village in Pujon Kidul Village, maintenance takes two forms: maintenance of the community group and tourism objects. The first maintenance is related to institutional maintenance or providing discussion forums to maintain cooperation and a sense of kinship between each group member.

The latter is carried out in the form of development and empowerment, and training for managers of tourism objects and the community around tourism objects. A study with a similar topic conducted by (Ira and Muhamad, 2020) entitled "Partisipasi Masyarakat Pada Penerapan Pembangunan Pariwisata Berkelanjutan (Studi Kasus Desa Pujon Kidul, Kabupaten Malang)" discussed community participation in the implementation of sustainable tourism development in Pujon Kidul Village, Malang Regency. Findings show that Pokdarwis Capung Alas is managed based on the developed tourism potential, from the initial exploration of tourism potential to empowerment and training for the locals and the participation of Pokdarwis in managing several business units related to tourism in Pujon Kidul Village. The implementation of the program and participation in tourism were the parameters confirming the existence (and role) of Pokdarwis Capung Alas.

The Role and Impact of Pokdarwis Capung Alas

Pokdarwis Capung Alas represents one of the implementation efforts of rural tourism by Desa Pujon Kidul under the principle of "Sapta Pesona" (*Aman, Tertib, Bersih, Sejuk, Indah, Ramah, dan Kenangan*), a principle that guarantees the safety, cleanliness, and beauty of the tourism objects, the friendliness of the locals, and the comfort and good memories tourists will gain from visiting Pujon Kidul. Pokdarwis plays a significant role in tourism village development since members of Pokdarwis are the initiators, motivators, communicators, and actors of the management and development of tourism objects in Pujon Kidul Village. Pokdarwis Capung Alas assists the needs of the village related to tourism and other needs.

Pokdarwis Capung Alas as a medium and forum for community participation in developing Pujon Kidul Village is closely related to its role as a community group with the vision and mission to explore, build, develop, manage, and preserve tourism potential, increase the quality of tourist objects, and create a tourism-aware community in Pujon Kidul

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[3]Kejar Paket C is one of the basic education programs organized through out-of-school education. Out-of-school education functions to develop the potential of students or citizens with an emphasis on mastery of functional knowledge and skills as well as the development of professional attitudes and personalities. Participants of Kejar Paket C can take the senior high school equivalence exam. Equivalence exams are held twice a year. Every graduate is entitled to a certificate equivalent to formal education. (Source: https://www.homeschoolingtalenta-jakartatimur.com/apa-sih-kejar-paket-c-itu/artikel-homeschooling/)

Village. The contribution of Pokdarwis Capung Alas and the community as a manifestation of the CBT strategy in the development of Pujon Kidul is as follows: a. Ideas: As the locals are aware of the existence of Pokdarwis Capung Alas, they have started to contribute ideas for the development of Pujon Kidul as a tourism village, such as suggestions on having development programs related to tourism and other non-tourism sectors. Pokdarwis also helps channel the aspirations of the locals toward the village government through a discussion forum it holds.

b. Time and Energy: Pokdarwis is also involved in managing business units and tourism objects in Pujon Kidul. Members of Pokdarwis are involved in the programs by the village governments, such as becoming employees in the tourism objects, building village and tourism-supporting facilities and infrastructure, and involvement in village activities.

c. Skills, Creativity, and Innovations: The function of Pokdarwis Capung Alas to explore, build, develop, and manage tourism potential in Pujon Kidul Village certainly requires skills to support tourism businesses, tourist attractions, or other matters related to tourism development—for example, becoming a tour guide requires skills such as communication. In addition, Pokdarwis Capung Alas also empowers and trains the village Micro, Small, and Medium Enterprises (MSMEs), such as batik training and processing culinary delights or local specialties. During the Covid-19 pandemic, a trend in digital or virtual tourism has developed to answer tourists' needs. This certainly requires new tourism management skills to adapt to the current demands.

d. Money and Materials: The development of tourism potential in Pujon Kidul Village involves Pokdarwis members, one of which is the materials or cash by Pokdarwis to realize village programs related to community empowerment and training and development of tourism potential. Pokdarwis Capung Alas contributes materials, such as providing vehicles to take tourists and allowing their agricultural fields for educational tourism activities. Community empowerment or training aims to improve human resource quality in the tourism village development through business units and tourist attractions. Table 2 presents the empowerment programs of the Pujon Kidul Village government and Pokdarwis Capung Alas:

Table 2. The Empowerment Programs of the Pujon Kidul Village Government
and Pokdarwis Capung Alas (Source: Personal Documentation of the Researchers, 2021)

Empowerment Activities	Elaboration
Agricultural Education	Agricultural education emphasizes agricultural land management in Pujon Kidul Village as a tourist attraction. The agricultural land becomes a place for tourists to learn how to cultivate crops and other agricultural processes. The landowners are involved as land managers; they are assisted and guided by experts.
Livestock Education	This effort involves the locals directly participating in tourism development by renting their cowshed. They are also trained to provide information (education) to tourists on dairy cows, procedures for milking cows, and processing cow's milk. Tourists can also taste the products from cow's milk.
Art Education	This effort aims to preserve the local culture by opening up art studios for children and youth of Pujon Kidul. The art studios can also become a tourist attraction so tourists can join the activities in the studio and get to know the local culture.
Homestay	The program aims at providing tourism accommodation for tourists who want to stay to feel the rural atmosphere. The locals provide rooms and houses for rent.
Home Industry	This is a periodical coaching program by Pokdarwis Capung Alas to teach some skills, including batik skills for women and food processing skills (to process fruit, vegetables, and cow's milk into products that can be marketed widely). The activities can also become tourist attractions or educational tourism.
Cash Assistance	Each RT receives IDR 10 million to be managed by its community as the business capital, either in the tourism sector or other sectors.

Table 2 confirms that the development of rural tourism in Pujon Kidul emphasizes how to involve the locals to improve their skills and manage local potential from the perspective of human resources, natural resources, and business opportunities to improve local welfare and economy through empowerment programs and training by the village government and Pokdarwis Capung Alas. The impacts the locals feel from the existence of Pokdarwis Capung Alas and the empowerment programs are as follows:

a. The opening of new job opportunities, reducing unemployment, and increasing the community economy

Tourism development, especially involving the community, will affect the community itself, one of which is employment for the community. There are also business opportunities along with the development of tourism destinations and the number of tourists visiting Pujon Kidul Village. Capung Alas Pokdarwis helps the community open businesses such as grocery stores, souvenir kiosks, culinary stalls, vehicle rental services, and others—all of these will help reduce unemployment and poverty in Pujon Kidul Village. The continuous assistance provided by Pokdarwis Capung Alas will also help the locals find and develop their potential to increase welfare.

b. Improving community productivity and environmental preservation

The programs run by Pokdarwis Capung Alas also aim at helping the community develop their skills and business (human resources). In addition, several programs impact environmental conservation efforts through counseling and outreach to the community to maintain the surrounding environment and tourism facilities.

c. Optimizing tourism potential: Community empowerment, especially related to tourism potential, is one effort to introduce, utilize, and optimize the tourism potential in Pujon Kidul Village. An example of this is the opening of several tourist objects directly managed by the locals, such as Café Sawah.

Our findings indicate that the Covid-19 pandemic, with the policy and restrictions implemented, also have impacted tourism in Pujon Kidul. There has been a shifting in the role of Pokdarwis Capung Alas that it has to condition the locals through programs related to handling Covid-19, including:

a. Periodic disinfectant spraying: The program deploys Pokdarwis members to spray disinfectant in each hamlet in Pujon Kidul Village during the pandemic. Members come in groups.

b. Distributing free masks: Pokdarwis Capung Alas cooperates with *Karang Taruna* to distribute free masks in Pujon Village.

c. Providing ISOTER houses for people exposed to Covid-19: ISOTER stands for *Isolasi Terpadu* is a program to provide independent integrated home isolation facilities for people exposed to Covid-19. Pokdarwis Capung Alas and the hamlet heads in Pujon Kidul Village collaborate to provide and manage the home isolation facilities for the locals exposed to Covid-19.

d. Establishment of the Covid-19 task force in Pujon Kidul Village

Pokdarwis Capung Alas also acts as the public relations and is involved in establishing the Covid-19 task force to provide information and guidance on activities during the pandemic and prepare equipment following the health protocols.

The role of Pokdarwis Capung Alas in the development and management of the tourism village in Pujon Kidul Village, before and during the Covid-19 pandemic, follows the concept of structural-functional theory in the AGIL scheme proposed by Talcott Parsons. Pokdarwis Capung Alas plays the Integration role, forming a synergy or involvement of supporting components in a certain structure. Pokdarwis Capung Alas is one of the components in village tourism development, and it continues to play its role well during the Covid-19 pandemic. The study by (Nadiasari and Nurhadi, 2019) entitled "*Pengorganisasian Kelompok Sadar Wisata Melalui Program Desa Wisata di Desa Pujon Kidul*" also mentions the role and contribution of pokdarwis in Pujon Kidul Village related to improving understanding of the locals on tourism, increasing community participation in tourism development, and increasing the value of the tourism sector in Pujon Kidul Village for its community, and taking part in achieving the goals of tourism development.

Challenges Faced by Pokdarwis Capung Alas

Pokdarwis Capung Alas, as one of the important institutions in Pujon Kidul, also faces some challenges, as elaborated in Table 3. In addition to the challenges mentioned above, Pokdarwis Capung Alas also faces other challenges during the Covid-19 pandemic, including (1) delays in empowerment and training programs and (2) decreased and abruption halt of some tourism activities. These have been the challenges for Pokdarwis Capung Alas to continue maintaining and developing tourism potential in Pujon Kidul Village even during the Covid-19 pandemic. One of the efforts made by Pokdarwis Capung Alas to tackle the challenges during this pandemic is the use of digital media or social media, such as Instagram, YouTube, and village-owned websites for tourism promotion and marketing some tourism businesses to replace the offline marketing system. Pokdarwis Capung Alas has tried to make adjustments to the current situation. From a sociological point of view, through the functional-structural theory put forward by Talcott Parsons, Pokdarwis Capung Alas successfully practices the AGIL scheme of Adaptation, a form of adjustment the community makes to the current needs (Turama, 2020). Although there have been restrictions on activities during the pandemic that have impacted tourism and caused delays in programs, Pokdarwis Capung Alas continues to show its contribution through other programs still related to community management and tourism amid the Covid-19 pandemic, one of which is the use of digital media.

The problems experienced by Pokdarwis Capung Alas are gradually being resolved along with the development of tourism potential in Pujon Kidul Village and the management system that has begun to adjust to the conditions and challenges during the Covid-19 pandemic. In addition, a central role of a leader who can protect, direct, and mediate the group is also crucial. The development of tourism villages as an effort to build and prosper the community also includes various parties or components. There are integrated aspects or parties within a group or institution, including Pokdarwis Capung Alas, referring to the assumptions of the structural-functional theory by Talcott Parsons related to social roles, social patterns, and patterns of social institutions, such as groups and community organizations.

Table 3. Challenges Faced by Pokdarwis Capung Alas in Developing
Tourism in Pujon Kidul (Source: Personal Documentation of the Researchers, 2021)

Challenges	Elaboration
Skills/Human Resource	Pokdarwis Capung Alas has a role in developing the tourism village in Pujon Kidul, and it needs special skills to manage some business units. The main challenge at the beginning of its formation was the skill to develop the potential of its members because its members were only the locals at the beginning. Pokdarwis Capung Alas found it hard to run some programs or empowerment efforts without back-up from experts or professionals.
Facilities and Infrastructures	Road access, public toilets, parking lots, and some other tourism-supporting facilities and infrastructure used to be the main problem for tourism development in Pujon Kidul.
Funding	Funding always plays a vital role in the sustainable development and management of the tourism sector. Pokdarwis Capung Alasalos experience a challenge in funding initially, especially to provide tourism-supporting facilities and infrastructure and manage the tourist attractions.
Stakeholders/ Partners	Cooperation with some stakeholders and partners within and outside the village was challenging for Pokdarwis Capung Alas at the beginning of opening and developing a tourist attraction.
Internal of the Group	This refers to challenges within the group, especially related to different opinions, disagreements, and conflicts among members or between Pokdarwis Capung Alas and the village officials.
External of the Group	This refers to challenges or problems with parties outside the group or the village. An example of this problem happened during the development of Sumber Pitu Waterfall as a tourist attraction. Perhutani wanted to be involved in the management of the waterfall because the waterfall is located in an area that Perhutani manages. Conflicts arose during the consolidation process because the parties could not agree on profit sharing and other matters.

CONCLUSION

Pokdarwis Capung Alas in Pujon Kidul represents an effort to implement CBT. Since its establishment, Pokdarwis Capung Alas has played a vital role in exploring, developing, and managing tourism potential in Pujon Kidul Village through empowerment and training programs. Pokdarwis Capung Alas and its members have contributed their ideas, energy, time, materials, and skills to open new jobs, reduce unemployment, increase community productivity, and maximize village

potential. Pokdarwis Capung Alas, an institution that accommodates community participation in tourism, has experienced obstacles at the beginning of its formation related to human resources and skills, finances, infrastructure, stakeholders, and others. The programs of Capung Alas Pokdarwis collided with regulations during the Covid-19 pandemic. However, these challenges could be overcome with improvements in management and the role of leaders that direct Pokdarwis Capung Alas to adapt to the challenges of tourism development during the Covid-19 pandemic. The quality of human resources needs to be improved so better support can be given to the local community in tourism development by members of Pokdarwis Capung Alas.

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RELIGIOUS TOURISM POST-COVID-19 IN THE CONTEXT OF MUSLIM COUNTRIES: DESTINATION IMAGE, PERCEIVED VALUE, INTENTION TO REVISIT MAKKAH AND HEALTH RISK AS MODERATOR

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Abstract: This research aims at broadening the religious tourism literature. It empirically discovers the links among the destination's image, perceived value, and a revisit intention to Makkah city and the role of a health risk as a moderator in these ties post-Covid-19. PLS-SEM techniques were used to determine the causal relationship of a sample of 147 visitors who had visited Mecca for Umrah. The results demonstrate that two out of five hypotheses were supported. This research broadens the theories of planned behavior and perceived consumer risk, mainly in times of crisis (e.g. Covid19) in the setting of Muslim countries. This study also may be the first attempt to combine the role of a perceived health risk as a moderator in religious tourism studies. The present study shows that either the destination image or the perceived value is a key antecedent of the intention to revisit Makkah. Managers and marketers should continue working on the image and value of the Makkah destination to improve the travel environment. This study may be the first study to estimate the behavior of tourists (pilgrims) in post-Covid-19 to Makkah. The results of the research are also useful in the field of Islamic marketing and religious tourism.

Key words: COVID-19, destination image, perceived value, health risk, intention to revisit

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INTRODUCTION

Tourism is seen as one of the world's largest industries. Even so, it is one of the most vulnerable sectors to disasters and crises (Farzanegan et al., 2021; Yu et al., 2020). Tourism plays a central role in the economic systems of countries, in particular the general gross domestic product (Al-Gasawneh and Al-Adamat, 2020). It is a source of foreign exchange, an essential part of export diversification, and a key component of poverty reduction in developing countries as well (Al-Adamat et al., 2020; Al-Salaymeh and Alkhawaldeh, 2019; Goffi et al., 2019). Tourism is really an economic, social, and cultural phenomenon; it is the main driver of a countries' socio-economic growth. Indeed, the tourism industry has lately become one of the fast-growing global business activities and its first type is religious tourism, which has begun since the dawn of history (Koshim et al., 2021; Rasul et al., 2016). Religious tourism refers to tourism to religious places. Battour et al. (2017) acknowledged that religion is significantly correlated with tourism in terms of a tourist-host relationship. Jaelani (2017) also conceded that spiritual and religious motivation for tourism has increased dramatically. In recent years, it has become common and has occupied a considerable percentage of international tourism. Rasul et al. (2016) emphasized that religious tourism creates value for tourists and enhances the government revenue of local authorities. Nevertheless, recent studies report that religious tourism activities are one of the less explored types in tourism studies (Battour et al., 2017; Jaelani, 2017). In Islamic travel contexts, Makkah is still the most renowned holy city on earth. Muslim people from different regions in the world visit this destination in Saudi Arabia in order to fulfill their religious duties such as Hajj or Umrah and to make religious tourism to other places inside the kingdom.

Briefly, tourists travel to visit Makkah, undoubtedly due to its religious importance. Gannon et al. (2017) insisted that traveling to Islamic destinations such as Makkah and the behavioral intentions of visitors to revisit this city, or suggesting such trips to others, have still proved to be an attractive field of study. In this context, previous studies observed that the destination's image could play a crucial role in terms of tourists' behavioral revisit intention and recommendation of this journey to other friends (Gannon et al., 2017; Jiayu et al., 2019; Cham et al., 2021). Of equal importance, Hsiao-Ching (2018) believed that a perceived value of consumers would also generate purchase intention. Furthermore, several researchers have already discovered that the perceived value of tourists is significantly correlated with their revisit intention of the specific destination they have visited (Albayrak et al., 2016; Allameh et al., 2015; Cham et al., 2021). Conversely, researchers lately noted that the destination image (Endah et al., 2017; Lee et al., 2019) and perceived value (Chang et al., 2014; Waheed and Hassan, 2016) have not influenced the revisit intention. Past findings were interestingly diverse, inconsistent, and mixed; the relationship between them remains open to research. Hsiao-Ming et al. (2020) indicated the need to explain the image and value of destinations and the behavior of religious tourism.

Moreover, there is a new amount of research implying that the link between image and value with revisit intention is impacted by moderators (Dedeoğlu et al., 2016; Tosun et al., 2015). The moderator interacts with an independent variable

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in order to affect the strength or direction of the association between this variable and the dependent variable (Baron and Kenny, 1986). In Hasan et al.'s (2017) view, the main factor in the decision of tourists to revisit a destination seems to be the perceptive risk to that place, such as the health risk. Health risk experiences could have a major impact on travelers' plans and potential future travel habits (Sigala, 2020). Indeed, health risk also played a moderate role in the decision-making process (Cui et al., 2016; Hasan et al., 2017; Tavitiyaman and Qu, 2013). Along with the aforementioned studies, Hasan et al. (2017) reported that despite the importance of perceived risks in tourism studies, little real attention has been paid to health risks with revisit intentions. Yu et al. (2020) reported that only a few studies explicitly investigate tourism and health-related crises. Nowadays, coronavirus (COVID-19) has been identified as a health risk global epidemic, affecting many aspects of life such as traveling and tourism (Bakar and Rosbi, 2020; Hasanat et al., 2020; Lau et al., 2020; Yu et al., 2020). Sigala (2020) reported that it will be vital to analyze the phenomenon associated with tourism, risk perceptions, and future travel plans amid fundamental changes occurring through COVID-19. Obviously, it should be noted that the health risk of COVID-19 affected religious rituals like Hajj and Umrah in Makkah (Mujallad and Khoj, 2020; Mubarak and Zin, 2020). Thus, understanding the risk and safety challenges that religious tourism will be facing is crucial (Korstanje et al., 2018). Consequently, this work was planned to clarify, extend and fill gaps in established literature by undertaking an empirical analysis of the combined position of the destination's image and perceived value to a revisit intention of Makkah city and the role of a health risk as a moderator in those ties post-Covid-19. This work aims in particular to focus on tourists who have previously made a voluntary journey to Umrah to Mecca. The crux of the matter is predicting the behavior of tourists (pilgrims) post-Covid-19 to Makkah. This would help policymakers develop plans and strategies to further improve related sectors in Makkah as well as encourage religious tourism.

LITERATURE REVIEW
1. Religious tourism

Most noteworthy, religious tourism is one form of international tourism, and it has lately become popular (Akhmedenov, 2020; Akhmedenov and Idrisova, 2021; Jaelani, 2017). Religious tourism can be defined as "Visiting religious 'tourist attractions' because they are sacred" (Griffin and Raj, 2018, p4). Therefore, it is travel-focused on the spiritual or faith (Huang et al., 2020). In addition, it is a multipolar phenomenon that relates to specific tourism activities including worship, fact-checking as well as cultural heritage, and sightseeing by religious and laypersons (Raj et al., 2015). Further, it has a major commercial and scientific interest besides the religious side. It is critical that it is an economic activity in any case, and has facilitated economic growth in many countries (Antić, 2020; Moufahim and Lichrou, 2019). Rasul et al. (2016) conceded that religious tourism is extremely essential, as it is a revenue generator for a government.

In the context of religious tourism, Mecca is the most famous holy city in the world. It is located in Saudi Arabia's Hejaz region. It hosts around eight million visitors a year and contributes about twelve billion dollars to the economy (Ahmed and Memish, 2020; Gannon et al., 2017). People visit this destination to satisfy their religious obligations; these include the compulsory duty of Hajj or the voluntary Umrah (Rasul et al., 2016). Islamic tourism research is still in its infancy (Eid and El-Gohary, 2015). Kim et al. (2020) highlighted the key related domains of religious tourism and declared it to be considered worthy of studies by researchers from various disciplines. The COVID-19 epidemic is a massive worldwide health crisis, which has changed people's behavior (Sigala, 2020; Van Bavel et al., 2020). According to Ahmed and Memish (2020) and Mubarak and Zin (2020), the COVID-19 health risk is one of the research aspects that affects religious tourism and visit intention to Makka in which people seek to escape spiritual mass gatherings.

2. Revisit intention

Notably, revisit intention was identified as an important research topic in the market of tourism destinations (Chien, 2017; Som et al., 2012). Revisit intention is noted as "visitors being willing to revisit the similar place, for satisfactory experiences, and suggest the place to friends to develop the loyalty" (Chien, 2017:45). Undoubtedly, revisiting a location is a key determinant of profitability (Allameh et al., 2015). Customers' priorities are changing and often emerge with diverse perspectives. Rajput and Gahfoor (2020) argued that predicting and explaining human behavior like revisiting intention is crucial in consumer behavior research. Hence, the study of previous visitor re-visiting intentions is vital as it contributes to actual behavior (Huang and Hsu, 2009). In short, the willingness to visit a destination again is the intention to revisit it. Recent scholarly work has revealed that there are different and multiple motivating factors to visit or revisit intentions that lead persons toward a religious journey such as religious conviction and spiritual growth (Zhen et al., 2019), perceived value (Uslu and Karabulut, 2018) and destination image (Chew and Jahari, 2014) among other factors. Additionally, travel destination is affected by the risks (Hasan et al., 2017), especially during COVID-19 (Ahmed and Memish, 2020; Mubarak and Zin, 2020; Sigala, 2020; Van Bavel et al., 2020). This leads the marketers of destinations to understand the tourist's intention to revisit, as the cost of maintaining re-tourists is now much lower than the price of bringing new tourists (Abubakar et al., 2017).

3. Destination image

Image is a vital factor that leads to a growing relationship (Alkhawaldeh et al., 2018, 2020). Destination image is a key factor that influences the decision of tourists to select a destination (Allameh et al., 2015). The destination image is viewed as a person's mental image of the tourism location attributes. These features of a travel destination encourage tourists to visit and provide a positive travel experience (Chew and Jahari, 2014). Theoretically, the literature showed that destination image is mostly studied in cognitive and affective images. The cognitive side is individuals' belief and awareness of the locative; the affective side is people's feelings or connection to the destination (Alkhawaldeh et al., 2015, 2016; Kim and

Yoon, 2003). It is really known as a person's overall impression of a specific location (Phelps, 1986). Therefore, in this research, a destination image is defined as an overall mental image linked with the tourist's destination.

Amazingly, the impact of perceived destination image in forming destination choice is undoubtedly complicated, specifically in the area of Muslim culture and it is still under investigation (Gannon et al., 2017). However, few studies have explored the religious destination image (Cheng and Chen, 2014; Terzidou et al., 2018). In a competitive environment, Koçyiğit (2016) argued that the destination image viewed by people who came for religious tourism purposes might encourage more travelers. Liu et al. (2018) revealed the effect of an image of the destination on visitors' intent to revisit the same venue. Gannon et al. (2017) regarded the image of a destination as a driver to travel to Mecca. Given the severe and long-lasting effects of the Covid-19 pandemic, it is indeed necessary to study tourism in times of crisis, such as the image of the destination and the travel intentions (Sigala, 2020). Briefly, the image of the destination leads to revisiting intentions of the destination (Allameh et al., 2015; Jiayu et al., 2019; Cham et al., 2021), with some contrary results (e.g. Endah et al., 2017; Lee et al., 2019), and ironically they have always left the relationship open. Therefore, the present work suggests the following hypothesis based on previous arguments:

H1: There is a significant relationship between destination image and revisit intention.

4. Perceived value

Perceived value is linked to sacrifices made by tourists such as time, cost, threat, and effort in order to achieve possible financial, social, and personal benefits (Al-Adamat et al., 2020). In relationship with the marketing context, it is one of the main marketing activities (Oh, 2003). Um and Yoon (2020) pointed out the role of perceived value in judging future possible intentions of tourists. Wang et al. (2017) also noted that perceived value is crucial to fostering long-term relationships with tourists. It is interesting to note that perceived value can be described as a customer's perspective of a value they have after purchasing (Zeithaml, 1988). In this work, perceived value is defined as an overall assessment of potential benefits associated with a visitor's destination. Consumer's decisions are in line with the benefits provided. In the same time, maximizing value contributes to positive behavioral outcomes. Even so, the value can change depending on aspects like the current situation and time (Şen et al., 2020). Although many studies have examined perceived customer value, a value of Muslim tourism destinations has been neglected (Eid and El-Gohary, 2015; Isa et al., 2018). The significant link between perceived value and re-visit intentions was supported (Albayrak et al., 2016; Cham et al., 2021). It was contrary to the outcome of Chang et al. (2014). In addition, Waheed and Hassan (2016) pointed out that there is no correlation between perceived value and revisit intention. Based on the above debate, the recent following hypothesis is proposed:

H2: There is a significant relationship between perceived value and revisit intention.

5. Health risk

Risk is a key aspect of the perception of customer behavior. It relates to the issues that any traveler may encounter at any phase of a trip (Perpiña et al., 2021). Health risk is the probability of getting ill while travelling, and it is a critical factor when people choose a tourist destination. Meanwhile, reducing traveler's risk perceptions can also raise traveler behavioral intent (Tavitiyaman and Qu, 2013). Safety is a key element when travelers decide to visit a place (Rittichainuwat and Chakraborty, 2009). The tourism sector is rapidly affected by various events such as disease outbreaks (Çetinsöz and Ege, 2013; Yu et al., 2020). Previous studies reported that real or perceived health concerns at a specific destination have a direct bearing on the formation of negative perceptions, which in turn negatively affect the selection of destination (Tavitiyaman and Qu, 2013; Perpiña et al., 2021). In general, only few studies examined the link between health hazards and consumer intentions (e.g. Cocosila et al., 2007), in addition to perceptions of health risks of destinations, such as epidemics (Rittichainuwat and Chakraborty, 2009), natural disasters (Mansfeld, 2006) and terrorism (Sönmez and Graefe, 1998). However, a study of the impact of perceived health risks on future travel behavior of tourists is essential (Chew and Jahari, 2014; Hasan et al., 2017; Yu et al., 2020). Reisinger and Mavondo (2005) stressed that the health risk of travel is negatively correlated with safety and with the intention of a visit. Sönmez and Graefe (1998) discovered that the safety of places has been a major element in neglecting a trip to a destination viewed to be dangerous. In the same vein, Hasan et al. (2017) and Çetinsöz and Ege (2013) asserted that risk and safety is a major obstacles to travel decision-making.

It should be noted that several studies illustrated the decisive moderating role of risks. For example, Tuu et al., (2011) argued that perceived risk is an obstacle to the formation of loyalty with a negative moderating effect on the satisfaction-loyalty relationship. Tavitiyaman and Qu (2013) confirmed that the low perceived risk of disasters leads to a higher positive image of their destination and has more intentions than others. Perpiña et al. (2021) preserved that perceived risk should be assessed with the perceived image in order to assess their impact on travel behavior. Risk and image integration is vital since perceptions of a tourist destination include a combination of both negative and positive at the same time (Isaac and Eid, 2019). Tam (2012) also stated that, even though the perceived risk is high, customers would continue to return to the same service provider when they have a high value. This study is concerned about the risk to health after Covid19. Raj et al. (2018) highlighted the risks and safety challenges that religious tourism is facing. Health risks of Covid-19 will affect travel and booking plans and tourists will therefore need to live with this illness. Thus, future tourism research should analyze health risks on how humans act, live, and deal with severe or lifestyle-related diseases (Sigala, 2020). Health risk may play a role in moderating the link between the destination image, value, and intention to revisit. If a perceived risk is low, a destination image and value may not lead directly to the same destination being re-visited. To date, the absence of empirical studies examining the role of health risk in moderating the relationship between the image as well as the value and intent to revisit the same destination. Thus, based on past debate, the next hypotheses are proposed:
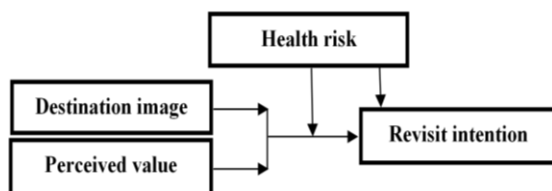
Figure 1. Proposed model

H3: There is a negative relationship between health risk and revisit intention.

H4: Health risk moderates the effect of destination image on revisit intention.

H5: Health risk moderates the effect of perceived value on revisit intention.

Based on the hypotheses mentioned previously, the theoretical model is shown in Figure 1.

METHODOLOGY

Makkah is a suitable research context as it is the most popular religious tourist destination in the world and has lately been impacted by COVID19. Due to lack of time and quarantine issues during the COVID19 crisis, this research occurred from 13 June to 19 June 2020 and targeted 147 Jordanian tourists (pilgrims) who had visited Makkah in the past. According to Hair et al. (2014), a sample of ten times the number of constructs is sufficient for factor analysis. VanVoorhis and Morgan (2007) recommended that the ratio of predictor constructs to sample size be at least 1:15. Sekaran (2003) also stated that 30% response rate is adequate for surveys. This study focused on Jordanian tourists (pilgrims) who had visited Makkah in the past in the Al-Mafraq governorate in Jordan. This study used systematic sampling via a mall intercept survey to select participants who had previously visited Makkah in Jordan's Al-Mafraq governorate. Because of the COVID19 situation, the sample was selected face to face in the mall, and an online link was delivered via Facebook and WhatsApp to all participants instead of a written questionnaire. The flowchart method is shown in Figure 2.

In order to gain the main goal of this research, a survey instrument consists of 17 items (See table1), which have been developed and modified on the basis of previous research using well-established scales, including Jalilvand et al. (2012) for destination image; Sweeney and Soutar (2001) for perceived value items; Tuu et al. (2011) for health risk items; and Huang and Hsu (2009) for revisit intention items. Moreover, data were analyzed using Smart PLS 2.0 software.
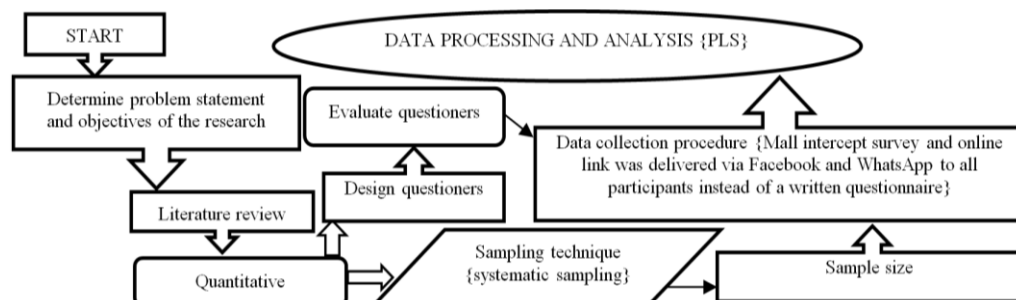
Figure 2. The flowchart method

DATA ANALYSIS

The researcher utilized partial least square structural equation modeling (PLS-SEM) to test the proposed relationship between the variables. PLS-SEM, according to Hair et al. (2019), provides solutions for small sample sizes and the absence of data distributional assumptions. Undoubtedly, the results of the convergence and discrimination tests in Table 1 and Table 2 exceeded the recommended threshold value of prior studies (e.g. Bagozzi et al., 1991; Hair et al., 2020; Hulland, 1999; Fornell and Larcker, 1981). Besides, R Square (R^2) for revisit intention was (0.401); it is regarded as substantial (Cohen, 1988). Additionally, the study tested bootstrapping and the path coefficient results of causal relationships. As shown in Table 3 below, the results indicated that hypotheses 1 and 2 were endorsed, while hypothesis 3 was not accepted. As well, Table 3 shows that the moderating effect was not accepted in assumptions 4 and 5. In short, the results endorsed two out of five hypotheses.

Table 1. Convergent validity

Construct	Items	Loading	AVE	Alpha	CR
Destination image (DI)	Mecca is a secure place.	0.756	0.665	0.873	0.908
	Makkah has spiritual attractions.	0.856			
	Makkah is a very exciting and interesting place to visit.	0.841			
	Makkah has an excellent spiritual value as a religious tourist destination.	0.807			
	Mecca is characterized by an attractive spiritual climate.	0.811			
Perceived value (PV)	Visiting Makkah is something that you are enjoying.	0.852	0.681	0.883	0.914
	Once you visit Makkah, you feel emotionally relaxed.	0.833			
	Visiting Makkah is a pleasure for me.	0.786			
	Visiting Makkah would make me feel spiritually good.	0.831			
	Visiting Makkah makes me want to visit it again.	0.824			
Health risk (HR)	I would say traveling to Makkah is still a health alpha-risk due to Covid-19.	0.960	0.834	0.917	0.938
	I would say that Makkah is still an unsafe place to travel because of Covid-19.	0.894			
	If I were to tell a friend about traveling to Makkah, I would describe Makkah as a risky place due to Covid-19.	0.884			
Revisit intention (RI)	You intend to revisit Makkah in the next two years	0.823	0.679	0.841	0.894
	You plan to revisit Makkah in the next two years	0.871			
	You desire to visit Makkah in the next two years	0.879			
	You probably will revisit Makkah in the next two years	0.712			

Note: AVE= variance accounted for, CR= Composite reliability

DISCUSSION

This study found that there is a significant relationship between the destination image and the intention to revisit Makkah. This goes in line with the predictions of past studies (e.g. Jiayu et al., 2019; Cham et al., 2021). In addition, the perceived value has a significant relationship to the intention to revisit Makkah. This finding is also consistent with previous revisions (e.g. Albayrak et al., 2016; Cham et al., 2021). This study results in confirmed aspects of a planned behavior theory, which suggests that perceptions will lead to the intention to revisit (Ajzen, 1991). The findings from this research correlate with observations of Al-Gasawneh and Al-Adamat (2020) and Al-Adamat et al. (2020), who stated that tourist perceptions (e.g. image; value) contribute to the traveler's intentions. This supports hypotheses 1 and 2 as well. Consequently, image and value are critical factors in tourist decision-making processes and drawing visitors to a destination. Tavitiyaman and Qu (2013) argued that lowering travelers' perceived risk could boost travelers' behavioral intent. Similarly, Chaudhuri (2000) reported that visitors with less perceived risk were more likely to come back or definitely recommend to relatives than high-risk visitors. As opposed to our expectations, this analysis found that there was no significant relationship between the health risk and the revisit intention. This finding is in contrast to others (e.g. Çetinsöz and Ege, 2013; Sönmez and Graefe, 1998; Reisinger and Mavondo, 2005). Moreover, in terms of moderating the role of health risk, there is no support between the image as well as value and the intention to revisit Makkah. Having remarkable outcomes, this implies that there was no statistically significant difference between the graphs of strong and weak health risk in the destination image-the intention to revisit the Makkah connection, as well as the perceived value-the intention to revisit Makkah. However, a low effect size does not indicate that the key moderating role is unimportant (Chin et al., 2003). Repeat visitors are destination-conscious visitors who are more knowledgeable about the variety of hazards at their destination than first-time visitors. Importantly, another plausible explanation is that, given the importance of the spiritual value of Makkah as a religious tourist destination in the Muslim religion, health risks do not play a significant role in the attempt of revisiting it.The Hajj and Umrah are the dreams of the Islamic people, and many of them want to die in holy places and see that as a gift (Ebrahim and Memish, 2020).

However, according to Chin et al. (2003), a small effect size does not always imply that the underlying moderating effect is insignificant. "Even a small interaction effect can be meaningful under extreme moderating conditions, if the resulting beta changes are meaningful, then it is important to take these conditions into account" (Chin et al., 2003:211).

Table 2. Discriminant Validity

	DI	PV	HR	RI
DI	**0.815**			
PV	0.710	**0.825**		
HR	-0.050	-0.068	**0.913**	
RI	0.563	0.600	-0.098	**0.824**

Table 3. Path coefficient of Hypotheses

H	Relationship	Std. Beta	Stander Error	t-Value	P-value
H1	**DI -> RI**	0.276	0.130	**2.116**	0.018
H2	**PV -> RI**	0.400	0.131	**3.061**	0.001
H3	**HR -> RI**	-0.057	0.086	**0.663**	0.254
H4	**DI* HR -> RI**	0.087	0.587	**0.148**	0.441
H5	**PV* HR -> RI**	0.241	0.541	**0.445**	0.329
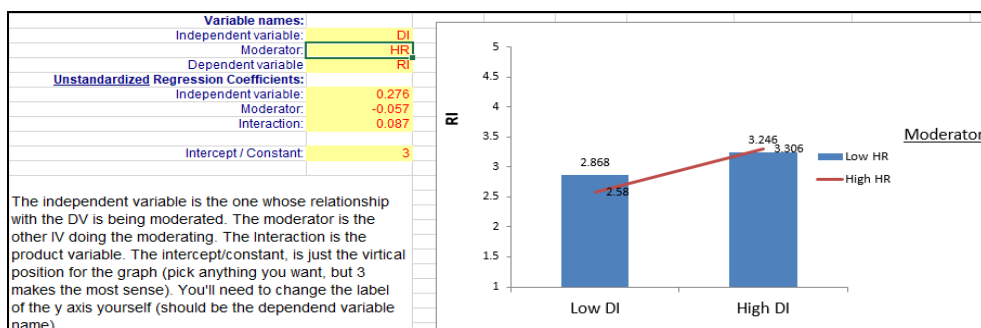
Figure 3. The moderating effect of health risk (HR) on the destination image (DI) - revisit intention (RI) relationship

The first potential cause of this result may be the influence of the culture of society where people do not trust the source of information presented to them on diseases (Hofstede, 2011; Van Bavel et al., 2020). Oluwaseyi et al. (2020) believed that people sometimes distrust the information presented by governments during the Covid 19 Pandemic. The second possible reason may be that repeat visitors are more informed about the set of hazards at their destination. Rittichainuwat et al. (2009) revealed that repeat visitors could differentiate between actual and imagined risks at the destination.

Figure 4. The moderating effect of health risk (HR) on perceived value (PV) - revisit intention (RI) relationship

Implications

This study brings unique theoretical and practical contributions to religious tourism research in-depth. Theoretically, this research broadens the theories of planned behavior (Ajzen, 1991) and perceived consumer risk theory (Taylor, 1974), mainly in times of crisis (e.g. Covid19) in the setting of Muslim countries. According to the literature review, there appears to be a knowledge gap regarding religious tourism studies in times of crisis in Muslim countries, particularly in terms of health issues.

Thus, this study may be the first attempt to combine the role of a perceived health risk as a moderator in religious tourism studies. Regarding the practical implications, the present study reveals that either the destination image or the perceived value is a crucial antecedent of the intention to revisit Makkah. Managers and marketers of the Makkah destination should continue working on the destination image and the value of the Makkah city, such as improving the efficiency of the travel environment and infrastructure that encourages people to visit the site that is definitely recommended to others. As stated by Chin et al. (2003), the moderator's small effect size is significant and should not be ignored. As a result, perceived health risks associated with potential harmful Covid19 to revisiting Islamic sites should be reduced. Thus, managers and marketers must take a different approach to increase security and safety to encourage post-Covid-19 religious tourism. The findings will help practitioners develop religious tourism strategies in times of crisis, especially when it comes to health concerns.

Limitations and Recommendations

There were some limitations on sample size, number of constructs, and sampling. Future work is expected to address these deficiencies. Therefore, this framework should be extended by adding additional variables and consideration should be given to the impact of mediation. Particular attention needs to be paid to other religious destinations using other methods with large sample size. Upcoming research is necessary in the Islamic context as well as in other religious contexts within and out of times of crisis.

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ANALYSIS OF THE IMPACT OF SOIL EROSION IN THE EMBULATOVKA RIVER BASIN ON THE DEVELOPMENT OF RECREATIONAL CONDITIONS OF THE NATURAL RESOURCE STATE OF THE WEST KAZAKHSTAN REGION

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Abstract: The article analyzes the impact of soil erosion in the Embulatovka River basin on the development of recreational conditions of the natural resource state of the West Kazakhstan region. The purpose of the work is to determine the process of washing out the soil of the river basin of the Embulatovka River for different types of agricultural land. The analysis of soil erosion in the Embulatovka River basin can serve as a basis for identifying and changing factors that negatively affect soil erosion, which will increase soil fertility and increase crop yields and the availability of livestock feed. The following data were used for the determination of the soil wash of the Embulatovka River basin: erosion potential of sediments, soil type, mechanical composition, steepness of slopes, vegetation, types of plowing. As a result of the study of the soil, an average washing of the soil in the Embulatovka River basin was determined for each landfill. After analyzing the map of the agricultural lands of the study area, we concluded that pastures occupy 27% of the land, arable land (38%), forest (8%), haymaking (4%), populated areas (0.50%), orchards (0, 50%), reservoir (0.50%), clean pastures (8%). If you pay attention to the average loss of soil, you can see the largest number of them fall on arable land-4,22 tons, the reservoir is 2,3 tons, the gardens- 0,22, haymaking-0,08, pasture-0,05. Analyzing the results of calculations, we can say that about 90% of the losses occur on the treated soil. The results obtained can be used as a basis for the development of soil conservation plans for specific sites in order to promote sustainable land management practices, since land resources are the basis for the placement of recreational facilities and are important in the recreational sector.

Key words: West Kazakhstan, natural resource state, river basin, soil, erosion, rusle, GIS

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INTRODUCTION

The most important component of the tourism industry is the traditional culture and way of life, as well as the national cuisine of the local population, which is directly related to the natural resource potential of the area. The natural resource state depends on the level of development of such areas of the national economy as agriculture, in particular crop production and

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animal husbandry. Indicators of the level of crop yield and the availability of animal feed are soil fertility and conditions of cultivation, processing and application of anti-erosion measures. Water erosion of soil is one of the most serious, environmental and economic threats around the world. The aggravation of this problem is often associated with changes in land use (Amralin, 2003; Bayandin, 1963). The development of virgin and fallow lands in the north and north-western part of Kazakhstan has increased dramatically over the last century creating major environmental challenges especially related to surface water quality (Ageleuov, 1982; Isachenko, 1991). The relationship between different land uses and soil erosion has been studied by many researchers who concluded that various combinations of vegetative cover and agricultural practices have different effects on soil properties (Zhaksybaev and Usmanov, 1986; Chigarkin, 1980). Riparian forest buffers are a management tool that helps reduce streambank erosion in agriculturally dominated watersheds (Schultz et al., 2000). The importance of streambank erosion to watershed-scale sediment export is being increasingly recognized (Schultz et al., 2013; Tevfik and Unal, 2012). Improved management of riparian areas to decrease streambank erosion results in significant water quality improvement in streams (Schultz et al., 2012). The empirical Universal Soil Loss Equation (USLE) is one of the most widely used models for estimating annual soil loss (Wischemeyer and Smith, 1978; Mukayev et al., 2022).

For the West Kazakhstan region of Kazakhstan, agricultural production is a traditional industry where a large part of the population is involved, and the volume of products produced ensures the food balance with the shipment of part of the products for export. Currently, the situation in the agro-industrial complex of the region is characterized by an increase in production volumes, an increase in its efficiency, significant attraction of financial resources for the development of branches of the agro-industrial complex and improvement of the quality of life in rural areas (Toksanbaeva et al., 2022).

Developing a common method that can be use throughout Kazakhstan is a challenge because of the vastness of the territory with a wide variety of natural conditions that support the culture of a wide variety of crops that have different impacts on the soil (Mukayev et al., 2020). It can be concluded that the problem of soil erosion is a key problem for agriculture in the Republic of Kazakhstan, also has an impact on the recreational sector, since recreational land use is directly related to agriculture, and agriculture depends on soil fertility and erosion component (Ramazanova et al., 2020).

THE RESEARCH TERRITORY

The river Embulatovka is the right tributary of the Zhayik river in Western Kazakhstan (Figure 1). The watershed is located along the border with the Russian Federation in West Kazakhstan between the latitudes 51.794331 N and 50.643325 N and longitudes 52.354869 E and 51.058482 E (Figure 1), (Dzhanaleeva, 1999; Darbayeva, 1966). The main channel of the Zhayik River, the length of the watercourse is 82 km, the catchment area is 890 km ² (Chashina et al., 2020). The river is located on the territories of two states: the Russian Federation and the Republic of Kazakhstan (Ignatov and Telyatov, 1978; Palmer et al., 2013). Intensification of agriculture in combination with extensive livestock farming in the early 20th century led to numerous environmental impacts, namely, increased soil erosion (Ramazanov, 2000). The objective of this study was to compare eight different land uses on soil erosion. The land uses included arable land, pastures, forest, meadow, a garden, clean pastures, deposits and settlements (Darbayeva et al., 2012; Chibilev, 1983). According to statistics, agricultural lands of the West Kazakhstan region on 01.01.2020 amount to 6 984.8 thousand hectares, arable land – 541.8 thousand hectares, hayfields and pastures – 5 977.2 thousand hectares. The sown area of agricultural crops in the region as of 01.01.2020 is 522.6 thousand hectares (2.4% of the total sown area of agricultural crops of the Republic of Kazakhstan). Grain crops occupy 251.4 thousand hectares or 48.1%. Fodder crops – 182.7 thousand hectares or 35.0%. The main share of land potential is concentrated in grain production. The directions of the grain produced are sales, feed, seeds.

Figure 1. Study area location of the territory of the West Kazakhstan region

MATERIALS AND METHODS

To analyze the natural conditions of the river basin, a topographic and cartographic method based on geomorphological analysis of the shape and location of the horizontal lines, as well as mathematical, graph analytic and other methods was used. Also, the method of assessing soil flushing was used, designed to identify and take measures for the occurrence of risks, as well as for timely and effective response to any deviations.

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Methods of decoding satellite images were used. That is, the processes of geo-informational mapping of basin territories, which consist of several stages and are carried out according to a methodology that includes primary data processing, analysis of cartographic materials and satellite images, the formation of a unified geodata database, as well as in-depth morphometric analysis based on a digital relief model (DEM).

The extent of erosion processes was estimated using the Wischmeier and Smith equation which is widely used around the world. The authors of this equation were Wischmeier and Smith, who in 1978 investigated erosion processes and created a guide to conservation planning in agriculture (Wischmeier and Smith, 1978):

$$A = R * K * L * S * C * P \qquad (1),$$

Where: A - loss of soil; R - precipitation; K is the coefficient of erosion; L is the coefficient of length; S is the slope coefficient; C is the coefficient of land use and P is the coefficient of anti-erosion measures.

Coefficient of soil erosion (K)

Values for the coefficient of soil erosion (K) were based on the soil map of Western Kazakhstan. Values for K in the equation were based on the structure, texture and organic matter content of the soils described on the map of the Embulatovka River basin. The mechanical map of the Embulatovka River basin was compiled on the basis of a soil map of the area with a scale of 1: 10 000.

Topographic factor. L is the coefficient of length; S is the slope coefficient.

For these calculations, we used the ArcGis10.5.1 program and the 2020 space image of the territories (DEM files), as well as a table for calculating the LS factor. The factors slope length (L) and steepness of the slope (S) show the effect of relief on soil erosion (Wischmeier and Smith, 1978) R is the precipitation factor.

The average annual precipitation in the study area is 94 mm, the data was taken from the meteorological station in Yanvartsevo, in the Zelenovsky district.

Land Use factor (C)

Factor C reflects the effect of vegetation on the rate of erosion (Renard et al., 1997), given that it reduces the erosive effects of precipitation. In this study the factor C factor was focused on presenting the variability in vegetation cover between the eight different types of land management that was evaluated. Soil cultivation methods were related with specific crops cultivated in the region. Values for C were produced in ArcGIS 10.5.1

Factor of anti-erosion measures (P)

The factor P was calculated from the ratio of average monthly and (or) average annual soil losses from individual land use measures (plowing, surface modeling, etc.) which depend on the type of cultivation of the land.

The block diagram of the study is shown below in Figure 2.

Investigation of the system of physical and geographical factors of formation and development of water erosion processes in the territory of the West Kazakhstan region on the basis of topographic-cartographic, mathematical and graph analytic methods

Determination of the research area using the method of decoding satellite images and geoinformation mapping of the basin territory:
- Primary data processing;
- Analysis of cartographic materials and satellite images;
- Formation of a single geodata database;
- In-depth morphometric analysis based on a digital terrain model

Determination of factors using the interpolation method

Determination of the degree of erosion processes based on the RUSLE loss equation

Figure 2. Block diagram of the study of soil erosion

RESULTS AND DISCUSSION

Of the 12 districts of the West Kazakhstan region, Baiterek district has the largest sown area - 224.6 thousand hectares or 43.0% of the total, Terekta district – 139.5 thousand hectares or 26.7%, Burlinsky district – 56.0 thousand hectares or 10.7%. There is a regional agrarian inequality. In total, these areas account for 80.4% of the cultivated area of the studied region. In the first half of 2020, in the created gross regional product of the Republic of Kazakhstan, the West Kazakhstan region structurally accounts for 4.3%. In agriculture, the indicator is 3.8% (in 2019, 3.2%, this is the 11th place among the regions of the Republic of Kazakhstan). This indicator is significantly lower in comparison with other regions of the republic. For example, the share of Almaty region in the gross regional product of the Republic of Kazakhstan agriculture is 16.3%, North Kazakhstan region 12.1% in 2019. The level of profitability of agricultural production in agricultural enterprises amounted to 43.8% in 2019, 35.5% in 2018. The growth rate compared to 2015 is 28.2%. The growth of the gross domestic product of agriculture of the West Kazakhstan region of the Republic of Kazakhstan on the forecast horizon is based on an increase in domestic demand, both consumer and investment. At the same time, there are a number of problems in the agriculture of the region that hinder the development of the industry. Among them in the crop production industry are: the use of extensive technologies, low efficiency of the use of irrigated land, which causes low crop yields; insufficient use of chemical plant protection products and mineral fertilizers leads to a large contamination of crops and a

decrease in the natural fertility of the land. Increasing the efficiency of crop production industries is associated with the introduction of modern technologies into production with the use of protective equipment and fertilizers, the development of seed production through state support. Agriculture should be developed on the basis of new generation agricultural technologies that ensure high labor productivity and high quality of products. It is necessary to use the world experience, to introduce it into our agriculture faster. Thus influence of each type of land use on soil erosion for each factor in the RUSLE model was studied. A map of the eight categories of agricultural lands of the investigated territory was created using the method of digital processing of space images in the ArcGIS 10.5.1 program (Figure 3). After analyzing the map, we determined that pastures occupy (38%), arable land (27%), forests (8%), meadow (4%), settlements (0.5%), garden (0.5%), deposit (0.5%) of the landscape of the Embulatovka River basin in Kazakhstan (Figure 4).
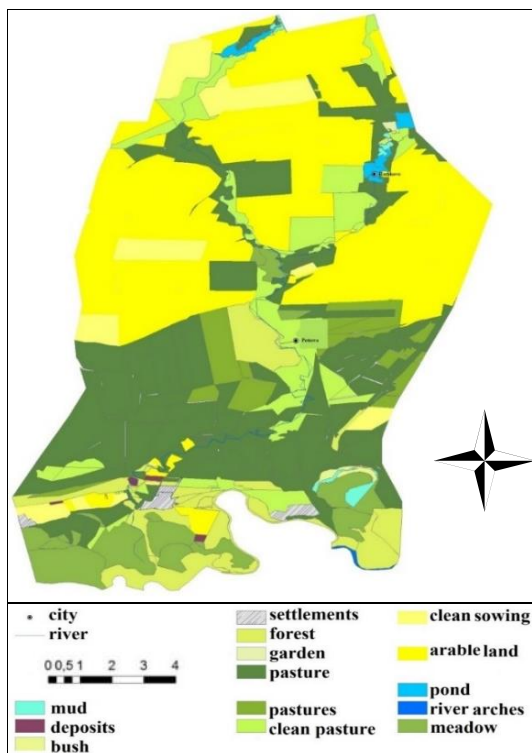
Figure 3. Map of agricultural land use in the Embulatovka river basin of the West Kazakhstan region (Source: Compiled by the authors, based on SRTM images from 2020)
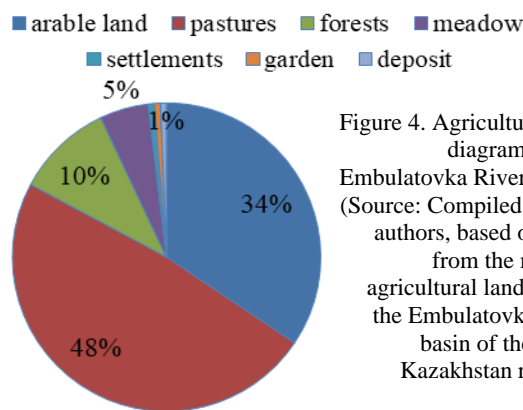
Figure 4. Agricultural use diagram of the Embulatovka River Basin (Source: Compiled by the authors, based on data from the map of agricultural land use in the Embulatovka river basin of the West Kazakhstan region)

Table 1. Characteristics of soil structure in the river basin of Embulatovka

Soil class	Mechanical composition of soil (%)	Factor of soil susceptibility to erosion (K)
Clay	10	0.26
Sand	14	0.02
Medium loam	13	0.28
Light loam	27	0.12
Heavy loam	36	0.37
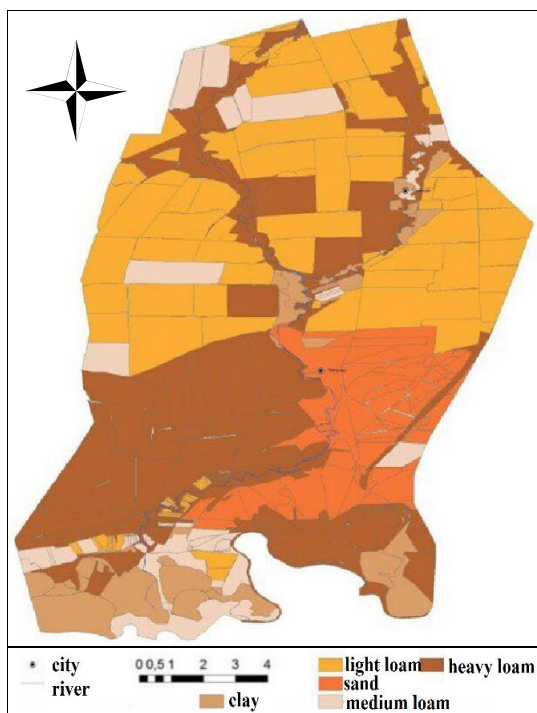
Coefficient of soil erosion (K)

The soil erosion factor of the Embulatovka River Basin was found for the five prevailing soil structures in the area. The values were K=0.26 for clay, K=0.02 for sandy soils, K=0.28 for medium loam, K=0.12 for light loam, K=0.37 for heavy loam (Bigaliev and Zhamalbekov, 1995; Bronguleyev, 1961). In the basin of the river Embulatovka on heavily loamy soils occupying 36% of the territory, the K factor is 0.37; For medium loam which occupies 13% of the territory the K factor is 0.28; Sands occupy 14% of the territory and the factor K is 0.02; Clay occupies 10% of the territory and the factor K is 0.26; For 27% of the territory that is light loam K is 0.12 (Figure 3 - the mechanical composition of the soils of the Embulatovka River basin), (Table 1- Characteristics of soil structure in the river basin of Embulatovka), (Habtamu Sewnet Gelagey, Amare Sewnet Minale, 2016).

Topographic factor. L is the coefficient of length; S is the slope coefficient.

For these calculations, we used ArcGis10.5.1 and the 2020 space image of the territories (DEM files), as well as a table for calculating the LS factor. For each segment, calculations were made according to the previously calculated parameter LS table. The highest mean LS factor values occur next to the river, and are mainly associated to great slopes (Figure 5, Picture B). Through the prediction LS factor maps it was identified sensitive areas for some land uses, because it has been demonstrated that increases in this factor can produce higher overland flow velocities and correspondingly higher erosion.

Land Use Rate (C)

Figure 4. Mechanical composition of a soils of the Embulatovka River basin of the West Kazakhstan region (Source: Compiled by the authors, based on satellite images and data from the Atlas of the Republic of Kazakhstan from 2020)

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The surface is very heterogeneous due to land degradation (Dzhanaleeva, 2003). In the study area, we identified such types of land use as: pastures, arable land, hayfields, gardens, deposits. To subtract Factor C, we used Cs factors for crop species such as cereals, maize silage, beans and canola, cereals (spring and winter), horticulture, fruit trees, hay and pasture. Also, the factor - methods of soil treatment: dump, waste-free, mulching, special and zero processing (Elias Rodrigues et al., 2016). In the investigated territory, we identified such types of land use as: pastures, arable land, hayfields, gardens, deposits.

Factor of anti-erosion measures (P) The next factor is the factor of anti-erosion measures - P. Anti-erosion measures or support practices against soil erosion include a complex of organizational-economic, agrotechnical and hydraulic engineering practices to reduce the degree of erosion of soils. Only with the combination of these major measures is it possible to prevent wind and water erosion of soils. Several types of anti-erosion measures are being carried out in the Embulatovka River basin: up and down the slope, transverse slope, contour farming, strip of crops, contour.

Figure 5. Soil washing map of the Embulatovka River basin of the West Kazakhstan region (C), map based on topographic factor (B), map based on mean annual precipitation (A) (Source: Compiled by the authors on the basis of the above calculations and maps)
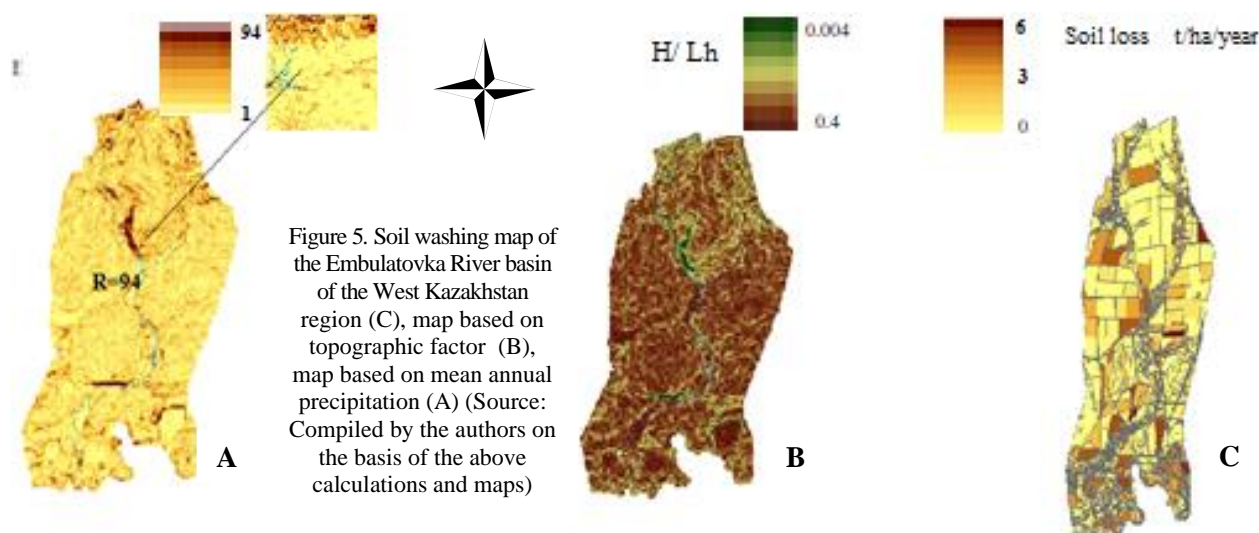
Soil loss

Calculating the coefficients of all five factors, using the RUSLE formula, we obtained a soil erosion map for the agricultural land of the study site. The observed variability of soil erosion reflects the importance of studying different land use scenarios. There were significant differences in the erosion reaction of soils under different types of land use. The erosion index in the southern part of the basin is 0.004-0.4 tons / year. These lands are mainly used for pasture, are located on dark chestnut and flood-meadow soils, in texture mainly medium and heavy loam soils. The level of erosion in the southeastern part of the basin is the lowest, 0.004-0.1 t / ha per year, while in the southwestern part the erosion is relatively high, 0.1-0.4 t / ha in year. The lowest level of erosion is mainly in land that is used for pasture. The relatively high level of soil erosion in the northern part of the study region, is 0.5-5 tons / ha per year because it is mainly used as arable land, in texture loamy soil. Analyzing the results of calculations, we can see that a high level of soil erosion is most in the treated areas. In order to reduce the erosion rates of soils, we will make the following changes.

Change in the method of soil cultivation with " Disenchanting - 0.9" for "Zero processing-0.25".

Thus, the factor C (revised) =0.50 * 0.25=0.12 The adjusted annual volume of soil loss: A = R * K * LS * C * P = 94 * 0.12 * 1.6 * 0.12 * 0.75=1.6 t / ha per year. Thus, by changing the method of soil cultivation, the average annual soil loss for this field is 6 t/ha/year, instead of 1.6 t/ha/year. The next example is the change in factor C from row-crops to growing fruit trees, factor C changes from 0.40 to 0.10. Thus, the factor C (revised) = 0.10 * 0.25=0.025

The adjusted annual volume of soil losses is found by the equation of Wischmeier and Smith. The authors of this equation were Wischmeier and Smith (Wischmeier and Smith,1978):

$$A = R * K * LS * C * P \qquad A = 94 * 0.12 * 1.6 * 0.025 * 0.75 = 0.3 \text{ t / ha per year.}$$

So, thanks to the change in factor C, we significantly reduced the rate of soil washout for this site.

CONCLUSIONS

This article demonstrates the application of the empirical model of soil erosion as RUSLE integrated with GIS for assessing soil erosion in the Embulatovka River Basin. In addition, the impact of changes in land use patterns on soil erosion were studied. Soil erosion of the Embulatovka River basin on the development of recreational conditions of the natural resource state of the West Kazakhstan region is also analyzed. Analysis of soil erosion in the Embulatovka River basin can serve as a basis for identifying and changing factors that negatively affect soil erosion, which will increase soil fertility and increase crop yields and the availability of livestock feed. The following data were used to determine soil erosion in the Embulatovka River basin: erosion potential of sediments, soil type, mechanical composition, slope steepness, vegetation, types of plowing. The territory of the basin is occupied by pastures (38%), arable land (27%), forests (8%), haymaking (4%), populated areas (0.5%), orchards (0.5%). Areas most susceptible to loss of soil are located next to the river, and are mainly associated to great slopes. The lowest level of soil washout in the region, where the land is mainly used for pasture. A high level of soil erosion in the northern part of the study region, 0.5-5 tons / ha per year, because this is mainly land used as arable land.

It can be said that the application of the RUSLE model is an effective method for estimating soil losses in catchments populated by rural settlements, that is, the same model for soil loss can be used for other river basins. The results of this study will help to better understand the current situation and the relationship of soil loss. The analysis of soil erosion in the Embulatovka River basin can serve as a basis for identifying and changing factors that negatively affect soil erosion, which will increase soil fertility and increase crop yields and the availability of livestock feed. Consequently, the natural resource conditions of the region allow us to repeatedly increase the production and processing of agricultural products. In the West Kazakhstan region, grain and its processed products are the main export products of the crop industry. These results are useful for complementing erosion control strategies, as well as for creating and implementing conservation programs in this area of the environment. Agriculture by its mission, economic and social significance for Kazakhstan is more important than the branch of the national economy. About 80% of the entire territory is occupied by farmland. Almost half of the population lives in rural areas and a third of them are employed in the economy, with all their social, economic and everyday values. Meanwhile, rural areas, just like the production of this specific industry, are lagging behind the general pace of economic development and the well-being of urban residents today. Unfortunately, this gap is not shrinking, but is growing alarmingly. Therefore, the improvement of land cultivation methods is the key to a productive agricultural sector. This will completely solve the issues of food security and sustainable competitiveness of the agro-industrial sector of the national economy. Appreciations to effective land management, it is possible to achieve the goal of increasing yields and guaranteed to receive high incomes in a particular area, including recreational land use.

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DERIVING CUSTOMERS PREFERENCES FOR HOTELS FROM UNSTRUCTURED DATA

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Abstract: Hotel management uses customers' online reviews to uncover the most essential criteria for hotel selection to support sustainable tourism development and strengthen their marketing strategy as well as decision-making. This study implemented the Multi-Criteria Decision-Making (MCDM) to identify customers' satisfaction and preferences. Data were collected from online reviews on eight hotels in Ubud, Bali Islands, submitted on TripAdvisor. The findings demonstrate that customers have varying levels of satisfaction when it comes to dissimilar preferences. Five major criteria influence their choices, namely price, cleanliness, location, facility, and food. The result of this study will help hotel management to set priority instructions for improving the corresponding hotel features.

Key words: customers' review, multi-criteria decision making, hotel selection, sustainable tourism development, sustainable tourism, tourism economics, tourism, and economic growth

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INTRODUCTION

Among all the diverse regions, Bali Island is one of the popular tourist attractions located at the center of Indonesia. This area is famous for its lush greenery, scenic lakes, gorgeous waterfalls, iconic rice fields, flower gardens, gushing sacred rivers, and secret canyons. Therefore, it plays an important role in providing tourism potential, and this has led to massive development such as hotels and villas to accommodate these tourists.

Hotel businesses are continuously trying to satisfy their clients by meeting their respective needs, and the valuable feedbacks serve as a measure of customers' satisfaction. Therefore, the management aims to identify these preferences, which are divided into several aspects such as price, cleanliness, location, facility, food, etc, by adopting a supportive marketing strategy. Presently, customers express their opinions through online reviews posted on the hotels' platforms such as Tripadvisor, Expedia, Agoda, which determines their satisfaction and preference rates. Herrera et al., 2014 used numerical ratings from each attribute of specific hotels on the website to calculate average scores.

This was realized using five-point or ten-point ratings on the website, and users made certain comparisons based on the ratings assigned to the specific attributes. Therefore, (Fan et al., 2018), converted this measure into a discrete percentage distribution and ranked these hotels using PROMETHEE-II. Zhao et al. (2021) integrated numerical ratings from multiple sources to help customers select suitable hotels using the Probabilistic Linguistic Term Set (PLTS). Customers turn used the information obtained from different sources to determine the PLTS similarities. Guo et al. (2017), stated that numerical rating cannot be used to determine customers' emotional preferences and user satisfaction. Dina (2020) developed a word cloud to illustrate the frequently used words, but they needed to be tagged part-of-speech and categorized as aspects. Subsequently, Dina et al. (2021) Stanford taggers to separate part-of-speech and calculated TF-IDF of each frequent word that appeared by constructing a matrix to measure preferences.

Both studies focused on extracting wording from the unstructured customers' reviews even though it was recommended to measure their satisfaction and not numerical rating. Ahani et al. (2019) used a soft-computing approach to categorize these travelers into 4 market segments, namely "highly satisfied", "satisfied", "moderately satisfied", and "unsatisfied" travelers based on previous reviews on TripAdvisor.

In the age of customer-based service, customer satisfaction boosts loyalty (Chou et al., 2008) and it serves as strategic importance for hotel management in the long run. Therefore, a method for identifying the most valued criteria is essential for hotel management to increase its competitive advantage, which led to the use of the VIKOR procedure. It is one of the multiple criteria decisions making (MCDM) algorithm to determine the preferred ranking from a set of alternatives (Huang et al., 2009). In addition, VIKOR is used to extract, analyze and rank reviews from different hotels. Kundakcı et al. (2015), studied location selection and its impact on business activities, income, and the number of customers. The MCDM method was employed based on 3 main criteria namely geographical condition, operation management, and transportation facilities. Meanwhile, Yadegaridehkordi et al. (2021) used these reviews to segment the customers that prioritized eco-friendly hotels. MCDM was used to make future predictions and determine important factors that affect its selection, however, it

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was proven that quality sleep is one of the major criteria. Both studies employed this approach to select and sort data, including overall assessment. Also, a variety of MCDM methods have been extensively used in diverse disciplines to solve complex problems. These versatile approaches are used for evaluation and selection processes. Based on these advantages, MCDM was employed to identify certain criteria and rank the hotel based on users' reviews.

In general, this study aims to evaluate the quality of hotel services by developing a decision-support framework. The output is based on key aspects such as customers' reviews and hotel ranking lists. Furthermore, the following objectives (1) to identify customers' preferences and segment the hotel based on online reviews and ratings on TripAdvisor, and (2) to rank this aspect using the MCDM approach were addressed. Consequently, the hotel's management tends to identify these preferences by adopting marketing strategies to meet the customers' needs.

MATERIALS AND METHODS

The proposed method is shown in Figure 1, in addition, data was collected from the TripAdvisor website. The reviews were extracted from 8 five-stars-hotels in Ubud, Bali. Then, the pre-processed data, experienced a series of phases to make them suitable for mining and analysis, with vectors as the keyword. In the subsequent phase, these are turned into a decision matrix, while in the final, the VIKOR approach as an aspect of MCDM is run through the data.
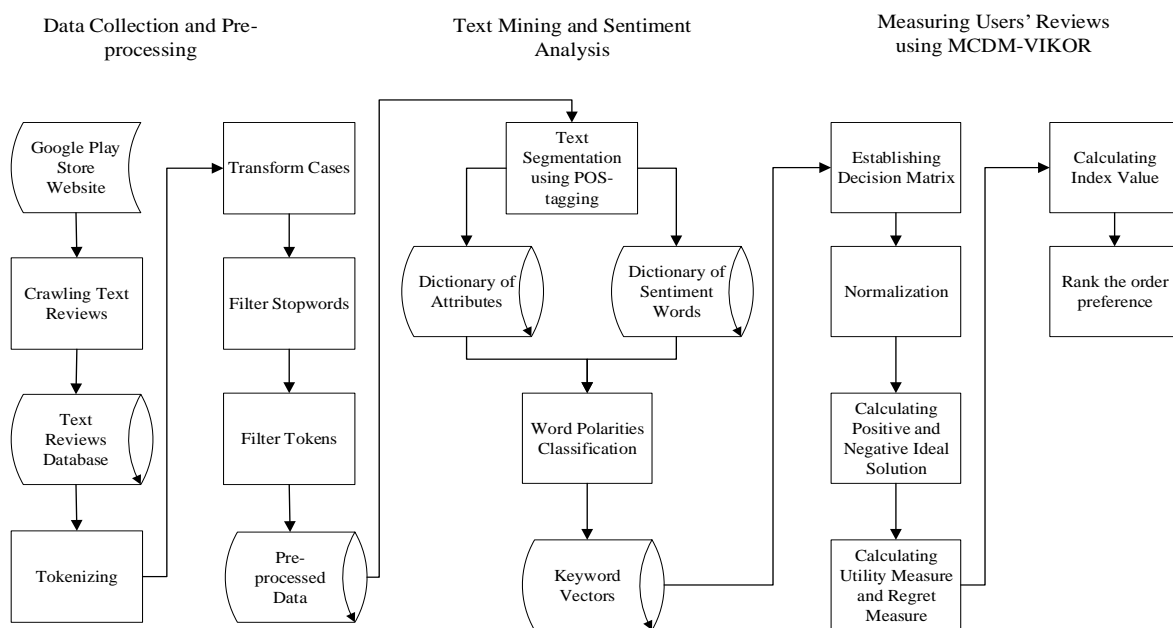
Figure 1. Proposed Method

Data collection

The data were collected by considering similar features. Common aspects were extracted from the 5413 reviews and used to measure and compare user satisfaction. An example is shown in Table 1, while Figure 2 is the interface from the TripAdvisor website. Each review comprises of date of stay, username, title, review, and star rating attributes.

Figure 2. Example of users' review from TripAdvisor

Data Pre-processing

The pre-processing phase involves the transformation of unformatted data into an understandable format, which is further analyzed in subsequent phases, starting from the elimination of irrelevant or noisy data. The second phase is data transformation which includes tokenizing, case folding, stop words filtering, and stemming. The result obtained from the pre-processing phase is a collection of stem words.

Text Mining

The text-mining process usually consists of segmentation, summary extraction, keyword identification, topic detection, term clustering, and document categorization. This aims to compile dictionaries that consist of attributes and sentiment-

related words, which differs from the method proposed by Dina et al. (2021). The feature-sentiment words were considered as pairs and the polarities are determined from the pairs. However, when there is a positive-sentiment word then its pair is also positive-labelled word, and vice versa. However, in this research, the words are not considered as a pair.

Table 1. Online review examples from 8 hotels

Hotels	Title	Review	Star
Hotel-A	Stunning Rooms and Fantastic Service	We stayed at Hotel-A for four nights in a One Bedroom River Front Pool Villa. We have traveled to many luxurious places and this may be the most amazing room we have ever stayed in, mind you it is certainly a splurge. The butler service and housekeeping was excellent. The food was good and we really enjoyed our dinner at Kubu in a Cocoon - next time I would opt to order a la crate rather than the tasting menu but otherwise a very special experience not to be missed. The lunch menu and other dinners were inconsistent and the room service was actually disappointing for a resort of this caliber. One of our best meals was taking the shuttle into town and dining at a local Mexican restaurant and we regretted not having thought of doing this earlier.	5
Hotel-B	Nothing Special	I had HUGE expectations for this property- and perhaps this is why it fell spectacularly short. Yes. The location is beautiful. The hotel itself is well designed. The rooms are spacious and well appointed. I'm not normally someone who often writes negative reviews. However being a frequent traveller- there are a few things you eventually grow accustomed to. The average price of the hotel from my experience as an industry professional is around the 350-400 mark/night. Occasionally you'll catch an earlybird or off peak deal which is by far more appropriate. Frankly you can get alot more bang for your buck at the average prices, especially in Bali. If you're paying peak period rates here- you're a fool. I found the recommendations of the local area by the staff to be poor.	3
Hotel-C	Peace and Quiet	The Hotel-C at Sayan was a perfect antidote to Jakarta's pandemic life - rural, clean air, and space to walk and relax. The hotel ticks all the boxes. It's an organic blend of luxury without pomp or showiness - they get it right down to turndown (i.e., a second full clean at night) the minute we left for dinner each evening. After 20 some odd years, the buildings are still stunning, blending with the jungle, and situated on a sprawling property unmatched for the area. We took a Sayan villa high on the ridge above the resort; the advantage, more space and a pool that pushes full size. The River Villas are equally lovely, with smaller plunge pools and a smaller living area but immediately on the Ayung River and deep in the valley. F&B in the pandemic was a good as ever.	5
Hotel-D	Unacco-mmodative treatment	Upon arrival I was shown around a small part of the hotel grounds by a very nice young employee. However he seemed embarrassed to tell me that I wasn't allowed to enjoy my coffee in the bar/restaurant area unless spending a minimum of 350,000 rupiah (!) I explained that I just had lunch in Ubud and, being on my own and expecting my driver within one hour, had no desire or occasion to spend this amount. Thus, the only option I was left with was to wait in the reception area - not a very accommodating treatment from a high-end hotel to say the least.	1
Hotel-E	Favorite place to stay in Bali	I don't even know where to begin with how awesome this place is. Everyone who works there is so authentically kind and work hard for the best costumer experience. If you want to stay in Ubud but be close to town, yet in the jungle (like Hanging Gardens) this is the place! We also stayed at Hanging Gardens after Kayon and Kayon is giving HG a run for its money (it's closer to UBUD and the service, offerings and pricing is better). HG has a slightly better view, but I heard Hotel-E is opening a second location in August deeper in the jungle/ more north with a three tier Hanging pool! The massage my new husband and I received from Kayons spa was the best we had on the trip and in general (I get a lot at home in NYC due to chronic back pain). I recommend the Balinese all the way!	5
Hotel-F	Both highlights and lowlights	We arrived at the Hotel-F Bali at 11.15 pm after 18 hours flight. Everything dark and everybody went to sleep already! The airport driver brought us with the luggage to our villa and told us we can do the check in tomorrow. This impression turns around by 180 degrees as soon as you are sitting on the next morning in the restaurant for breakfast in the middle of a rice field. Breathtaking! Everybody in the hotel offers very friendly and helpful service. The landscaping in the hotel area is just wonderful. Take the time for yoga in the morning or a walk through the rice fields with your butler. The villas, the fitness center and most of the hotel equipment has seen their best ages years and years ago. Very disappointing!	3
Hotel-G	Room smelt strongly of mold	Stayed here a couple of nights in the garden suite on the ground floor. The resort and room looked very nice but I could not get over the smell of mold in our room. I asked if we could swap rooms but the resort was booked out. The staff were apologetic and brought a dehumidifier but it did not get rid of the smell and I had a headache the entire time. My friend's room on the top floor also smelt strongly of mold. The staff informed me it rains a lot in Ubud, however, the way the resort is built allows no natural sunlight to filter into the rooms. Would not recommend this resort.	3
Hotel-H	Phenomenal Resort with great customer service!	My husband and I just stayed at the Hotel-H and had an incredible experience there. My husband mentioned that it was our honeymoon and that I was also celebrating my birthday during our stay. The staff went out of their way to make each day special by making me desserts, singing me happy birthday, and decorating our entire room. Each time we came back to the hotel we were greeted warmly by the staff and made to feel as though we were part of a family. The resort grounds are gorgeous and our room was stunning! The hotel also offers a free shuttle every hour to and from the downtown area - we used the shuttle every night and it was seamless! This was our favorite place to stay over our 5 week vacation.	5

Following the data pre-processing phase, the stem words are extracted. After that, Part-of-Speech (POS) tagging is conducted. It is a process that categorize word based on its parts. There are five parts of speech which are adjectives, adverbs, nouns, numerals, and verbs. Toutanova et al. (2003), developed the use of Stanford POS-tagger to identify those five parts of POS tagging. To measure user satisfaction, there are five categories selected, namely price, cleanliness, location, facilities, and food, besides, these were determined based on functionality, reliability, and usability (Djouab and Bari, 2016). Afterward, the five polarities were classified into five, they were strong positive, positive,

neutral, negative, and strong negative. Usually, there are only three types of polarities: positive, neutral, and negative. There were several studies which were used three polarities. For instance, Dina (2020) and Prastyo et al. (2020) used three mentioned polarities. They analyzed the sentiments to discover the experiences of hotel customers through the most frequent words. Different from previous studies, five polarities are used in this research in order to be more specific and accurate. Its values are between 2 and -2. Finally, assuming no sentimental words appeared, then the value is 0. The value is used to construct keyword vectors of the user reviews. The value will be obtained by multiplying the occurrence with the polarity value to construct keyword vectors (Dina et al., 2021).

Measuring user satisfaction using Vlsekriterijumska Optimizacija I Kompromisno resenje (VIKOR)

In the previous subchapter, the following categories price (C_1), cleanliness (C_2), location (C_3), facility (C_4), and food (C_5) were mentioned, and these are represented by C_1 to C_5. VIKOR stands for Visekriterijumska optimizacija I kompromisno resenje. It was initially established by Serbians (Dincer and Hacioglu, 2013), and is also perceived as one of the MCDM approaches. This method aids in the solution of an issue by taking into account the procedure created by Haleh and Hamidi (2011). It compares the proximity of each criterion using a multicriteria ranking index, resulting in an ideal alternative. According to Liou et al. (2011), a ranking index is obtained by calculating the maximum group utility (S_j) and minimum individual regret (R_j). Several steps are completed using VIKOR, and they are stated as follows:

Step 1: Establishing the decision matrix

The decision matrix is made up of keyword vectors, or it may be simply defined as the multiplication of the occurrence of attributes and their polarity values. The number of attribute instances for each category is then counted. The decision matrix's structure is shown below according to Liou et al. (2011).

$$X = \begin{matrix} A_1 \\ A_i \\ A_m \end{matrix} \begin{bmatrix} SN_{11} & SN_{1j} & SN_{1n} \\ SN_{i1} & SN_{ij} & SN_{in} \\ SN_{m1} & SN_{mj} & SN_{mn} \end{bmatrix}$$

Where A_i : i-th alternative,

SN_{ij} : the value of j-th aspect for i-th alternative.

Step 2: Calculating the normalized values and putting them into a decision matrix

In Step 1, the attribute occurrence (x) from each category is normalised to a value between 0 and 1. Equation (1) as mentioned by Liou et al. (2011) shows the stated normalisation, as well as the weighting technique that was used to the data to determine the weight of each category (w_k). Equation (2) was used to determine this, with $n_k(d)$ equaling the number of times the k-th category appears in document d ((Liou et al., 2011),

$$x^* = \frac{x - \min(x)}{\max(x) - \min(x)} \quad (1) \qquad w_k = \frac{n_k(d)}{\sum_{k=1}^{m} n_k(d)} \quad (2)$$

where: d = document; w_k = weight of each category; $n_k(d)$ = number of times the k-th category appears in document d.

Step 3: Calculating the best f_j^* and worst f_j^- of all criteria

Liou et al. (2011) compiled equation (3) that obtains the positive (f_j^*) and negative (f_j^-) ideal solution.

$$f_j^* = \max_i f_{i,j} \qquad \text{and} \qquad f_j^- = \min_i f_{i,j} \quad (3)$$

Step 4: Calculating new decision matrix with the weight (w_j)

Equation (4) assigns assign the weight (w_j) for a new decision matrix (Liou et al., 2011) as follows,

$$\frac{w_j(f_j^* - f_{ij})}{f_j^* - f_{ij}^-} \quad (4)$$

where: w_j = weight of the category; f_j^* = positive ideal solution, f_j^- = negative ideal solution.

Step 5: Calculating the values of the group utility (S_i) and individual regret (R_i)

Equation (5) and (6) according to (Liou et al., 2011) calculate the utility measure (S_i) and regret measure (R_i) as follows,

$$S_i = \sum_{i=1}^{n} \frac{w_j(f_j^* - f_{ij})}{f_j^* - f_{ij}^-} \quad (5) \qquad R_i = \max\left[\frac{w_j(f_j^* - f_{ij})}{f_j^* - f_{ij}^-}\right] \quad (6)$$

where: w_j = weight of the category; S_i = utility measure; R_i = regret measure; f_j^* = positive ideal solution; f_j^- = negative ideal solution.

Step 6: Calculating the index value (Q_i)

The following equation according to (Liou et al., 2011) obtains index value (Q_i), where S^* = maximum value of S_i, S^- = minimum value of S_i, R^* = maximum value of R_i; R^- = minimum value of R_i, v = index weight value

$$Q_i = v\left[\frac{S_i - S^*}{S^- - S^*}\right] + (1 - v)\left[\frac{R_i - R^*}{R^- - R^*}\right] \quad (7)$$

where: Q_i = index value; S^* = maximum value of S_i; S^- = minimum value of S_i, R^* = maximum value of R_i; R^- = minimum value of R_i; v = index weight value.

Step 7: Ranking the order preference of index value (Q_i)

The smaller the index value (Q_i), the better the solution, vice versa (Liou et al., 2011).

RESULTS AND DISCUSSION

Table 2 shows the calculated score for all categories (C_n), while the last row illustrates the number of term instances in each. Table 3 was generated from Table 2 with the normalized score obtained by applying the formula in equation (1) while the weight from the last row was calculated using (2).

Table 2. Calculated Scores

Hotels	C_1	C_2	C_3	C_4	C_5
Hotel-A	123	56	773	2109	537
Hotel-B	39	92	800	1526	435
Hotel-C	69	139	687	2065	596
Hotel-D	85	39	613	1994	558
Hotel-E	56	31	693	1898	618
Hotel-F	145	97	1604	3882	997
Hotel-G	74	49	966	2321	545
Hotel-H	80	112	974	2174	645
Term presence	274	435	7354	10658	3396

Table 3. Normalized Scores

Hotels	C_1	C_2	C_3	C_4	C_5
Hotel-A	0.024	0.006	0.193	0.540	0.131
Hotel-B	0.002	0.016	0.200	0.388	0.105
Hotel-C	0.010	0.028	0.170	0.528	0.147
Hotel-D	0.014	0.002	0.151	0.510	0.137
Hotel-E	0.006	0.000	0.172	0.485	0.152
Hotel-F	0.030	0.017	0.408	1.000	0.251
Hotel-G	0.011	0.005	0.243	0.595	0.133
Hotel-H	0.013	0.021	0.245	0.556	0.159
Weight	0.012	0.020	0.333	0.482	0.154

Table 4. Positive Ideal Solution

	C_1	C_2	C_3	C_4	C_5
f_i^*	0.030	0.028	0.408	1.000	0.251
f_i^-	0.002	0.000	0.151	0.388	0.105

Table 5. Normalized Decision Matrix with Weight

Hotels	C_1	C_2	C_3	C_4	C_5
Hotel-A	0.003	0.015	0.279	0.363	0.126
Hotel-B	0.012	0.009	0.270	0.482	0.154
Hotel-C	0.009	0.000	0.308	0.372	0.110
Hotel-D	0.007	0.018	0.333	0.386	0.120
Hotel-E	0.010	0.020	0.306	0.406	0.104
Hotel-F	0.000	0.008	0.000	0.000	0.000
Hotel-G	0.008	0.016	0.214	0.319	0.123
Hotel-H	0.008	0.005	0.211	0.349	0.096
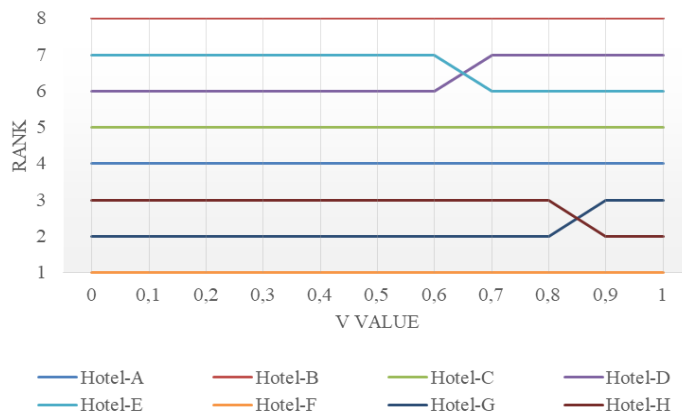
Figure 3. Sensitivity Analysis

Table 6. Q values

Hotels	S_i	R_i	Q_i										
			v=0	v=0.1	v=0.2	v=0.3	v=0.4	v=0.5	v=0.6	v=0.7	v=0.8	v=0.9	v=1
Hotel-A	0.785	0.363	0.749	0.758	0.768	0.778	0.788	0.797	0.807	0.817	0.827	0.836	0.846
Hotel-B	0.926	0.482	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Hotel-C	0.798	0.372	0.768	0.777	0.786	0.795	0.805	0.814	0.823	0.832	0.842	0.851	0.860
Hotel-D	0.864	0.386	0.798	0.812	0.825	0.838	0.852	0.865	0.879	0.892	0.905	0.919	0.932
Hotel-E	0.845	0.406	0.840	0.847	0.854	0.861	0.868	0.876	0.883	0.890	0.897	0.905	0.912
Hotel-F	0.008	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Hotel-G	0.682	0.319	0.657	0.665	0.672	0.680	0.688	0.695	0.703	0.711	0.718	0.726	0.734
Hotel-H	0.669	0.349	0.721	0.721	0.721	0.721	0.721	0.721	0.721	0.720	0.720	0.720	0.720

Equation (3) was used to find the optimum answers that are both positive (fj^*) and negative (fj) ideal solutions. Comparing the normalized value in Table 3 yielded the positive. Both values, including the outcomes of the new decision matrix after the normalized values have been multiplied by the weight, are shown in Table 5. Each app's rank is determined by its index value (Q_i) based on (7). The lowest index number indicates the highest level of user satisfaction across all categories. The Q_i value is based on the utility measure (S_i) and regret measure (R_i), calculated using equations (5) and (6). With reference to their R_i values in Table 6, it is clear that the specific criteria that need to be improved are location (C_3), facility (C_4), and food (C_5). Based on the appearance of the terms in the review, Table 2 shows that the order of the criteria frequently mentioned were facility, location, food, cleanliness, and price. The hotel's management has to pay more attention to customers' preferences to create market segments and adopt strategies to meet their clients' needs.

The sensitivity analysis was performed to rank the top and lowest index values of 8 hotels in Table 6, and the v-value ranged from 0 to 1. Figure 3 shows that Hotels F, A, C, and B rankings are not affected by the v-value. Hotel-A was named the best, while Hotel-B was named the worst. It means that Hotel-F has a high level of user satisfaction in terms of highest collective benefit and least individual regret, whereas Hotel-B has the inverse. The v-value is graded higher than the Hotel-G and Hotel-D. Furthermore, both Hotels-G and D are projected to have improved user satisfaction if they focus on minimizing individual regret. When the v-value is increased, however, Hotels-E and H rank higher. It simply indicates that as the maximum group utility is enhanced, their user satisfaction scores tend to rise. However, this study has several limitations such as only 8 hotels were used as case studies. Increasing this number tends to improve the robustness of this analysis. The total number of reviews crawled from the internet was only 5413, and given the enormous volume online, the number of texts needed to accurately capture the trends needs to be raised. Future research will undoubtedly benefit from

adopting the VIKOR technique to combine star ratings and text reviews to create a more holistic measurement system. To ensure that these findings are corroborated, a comparison analysis including additional approaches must be carried out.

CONCLUSION

The problem of selecting tourism product with online review has extensive practical application background. With respect to evaluating and selecting hotels, a decision support system is provided in this study based on data processing method and VIKOR. In the proposed method, the text is processed into data pre-processing, stem words extraction, word categorization based on its part-of-speech, word categorization and sentiment classification. Then, data is measured and obtain the ranking index for each hotel. This study utilized the user review from 8 hotels in Ubud, Bali.

The data used is the actual user reviews from TripAdvisor, and it was revealed that 5 major aspects influenced the customers' decisions in terms of selecting these hotels. These are price, cleanliness, location, facility, and food. It was concluded that Hotels F and B exhibited the highest and lowest satisfaction, respectively.

For future research, it is worth saying that the attainment for evaluation feature associated with alternatives could be further investigated from online reviews. The number of crawled data needs to be added to improve the attribute and sentimental directory; besides, the categories also need to be more than the five analyzed in this study.

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TEST OF THE NEW APPROACH OF TAXONOMIC OF TOURIST RESOURCES FOR DEVELOPMENT, CASE OF THE PROVINCE OF SETIF, ALGERIA

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Abstract: The objective of this paper is to proceed to the analysis and then to obtain a new classification and spatialization of the tourist potential of a specific territory, for the purpose of a tourism development of its resources. Besides, such analysis sheds light on the assets and constraints of the territory itself by using geographical and technical documents, in respect such as national, regional and local tourism development plans. More to the point, results show that the territory of the province of Setif is of specific aptitudes for a consequent attractiveness and a complementarity of interesting natural and cultural resources, as well. Nevertheless, the study reveals numerous limitations such as the inadequate classification of the tourist potential, which is confirmed by the vague and generalised vision of the State throughout the region. In virtue of which, based on the obtained results, a new taxonomy of the tourism potential has been proposed for the purpose of helping the operators and actors involved in a participatory approach for a wider tourism development of the province of Setif.

Key words: territory, attractiveness, taxonomy, tourism development, participatory approach, Province of Setif

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INTRODUCTION:

For lots of developing countries, tourism is considered as a vector of growth (Fabry and Zeghni, 2012). Indeed, it is a powerful lever for innovation and economic and social change that is likely to drive the entire local and regional economy of a territory (Mamdy and Marsat, 2004). Attractiveness, marketing and good tourism governance constitutes three key and complementary factors in the accomplishment of tourism development because of their role in promoting tourism in the regions. In addition, tourism marketing has then become a necessity to create and expand tourism demand (Benghadbane and Khreis, 2019). Nowadays, global tourism is suffering from an unusual constraint due to the global epidemic of Covid-19 which has caused a decrease in international travels. On the other hand, according to numerous researchers, tourism continues to be the most important sector of activity in the 21st century, for the reason that contemporary society represents a "society of mobile individuals" (Stock, 2001) in which tourism plays a powerful role. In fact, it is considered as a "constituent element of the economic power of any State and the foreign trade thereof, as well" (Wackermann, 1997).

Notwithstanding this aspect of crisis, this has shown to be an opportunity for a new reconstruction of the tourism sector on a local and international scale. In virtue of which, it is then a matter of asking in which places there is a question of re-composition and spatial restructuring of the tourist activity and potential (Cousin et al., 2021). Likewise, in the study of the tourist phenomenon, the tourist places are differentiated and well distinguished from other spaces. Therefore, various proposals for the tourism development of places and spaces have brought to light the role of multiple actors who act to qualify a place as of a touristic character (Miossec, 1977; Lozato-Giotard, 1985) or alike who make places evolve according to an assortment of experiences (Stock, 2001; Bourdeau, 2012; Vlès, 2015).

Consequently, the place constitutes a geographical referent that allows the analysis of spatial actions and practices. In addition, its characteristic has shown to be very specific for the reason that it is the place where something happens (Berque, 2003) Above and beyond, we find tourist places in permanent movement, subsequent to development projects and health events which act on the tourist frequentation of such places, unlike the ordinary place which has "simply remained since the beginnings of tourism, in the shadow of tourist centralities" (Gravari-Barbas, 2017: 404).

In fact, the development of tourism in a given place or territory consists of making it accessible, providing public services and controlling the load capacities such as wastes, and preserving its natural and cultural heritage, as well, in order

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to constitute a well hierarchical and locally integrated tourism system. Therefore, a territory must be able to benefit from the effects of its tourist resources (Vellas, 2011). For the case of Algeria, the country remains a pristine tourist destination, unlike the countries on the southern shore of the Mediterranean: "The country is timidly involved in international tourism and gives up occupying the last ranks of tourist destinations in the Mediterranean basin" (Kherrour et al., 2018: 456). Hence, Algeria is the country with the lowest tourism receipts (0.14% of foreign currency receipts) (Collombon, 2002).

In reality, Algeria has enormous tourist resources which can develop a promising tourist industry (Herouat, 2012). As a fact of matter, the country's geographical position at the crossroads of airlines, the wealth of tourist resources and cultural diversity symbolize major assets which signify that the country has enormous advantages on both the regional and international markets. In addition, the socio-political environment is favourable, unlike in neighbouring countries (Frochot and Legohérel, 2007). In contrast, the various policies of the Algerian State since independence have shown their limits with insufficient revenues. Likewise, the retrospective study of these policies clearly shows the negligible position assigned to tourism, although official speeches attribute ambitious objectives to the same in terms of foreign currency contribution and job creation (Baouali and Baziz, 2020). In reality, it is difficult for Algeria to build international tourist attractiveness in the immediate prospect due to the risks of Covid, visa restrictions, inadequate air connectivity and/or insufficient infrastructures, so thought should be given to encouraging the development of domestic tourism, whose economic contribution is no less significant (Gálvez et al., 2014; Adeloye et al., 2019).

For long time, the tourism sector has been neglected or even underestimated. In this respect, a difficult economic and financial crisis, that has affected Algeria since June 2014 (the drastic drop in the price of oil from 120 dollars a barrel to 26 dollars with the appearance of Covid-19), has led decision-makers to consider a new alternative for the purpose of promoting the tourism sector by use of the appropriate tools available (Fertas et al., 2022). The most delicate problem remains the one pertaining to the development of tourism in a given region or a specific area. Thus, it is not just a matter of the natural or cultural potential of a territory, but a whole symbiosis related to the management and qualification of the territories and tourist sites concerned. In virtue of which, "Any tourist area has to be organised around attractive sites whose characteristics must be identified and whose dynamics must be understood" (Gagnon, 2007).

In light of the facts set out above, our study area, namely the province of Setif, has a rich and varied tourist potential (thermal, cultural, mountainous and urban) but the attractiveness thereof remains rather weak, due to the lack of selectivity of the tourist places which fail to manage to distinguish themselves so far. Hence, this Paper endeavours to provide response elements to the following question:

- How can the territory of the province of Setif be developed for tourism according to its resources?
- Why does the province of Setif fail to build specific destinations on its territory? Does the adoption of a new spatial classification that is more coherent and complementary to the tourism potential strengthen the development of tourism in the province?

Subsequent to which, we believe that tourism in the province of Setif, and Algeria in general, is facing many institutional difficulties and development strategy constraints which means that its market share in global tourism has remained insignificant for some time, in view of the fact that in 2017, tourism-related revenues in Algeria did not exceed $300 million, i.e. 1.4% of Gross Domestic Product, whilst the number of tourists has not exceeded 3,000 per year over the past twenty years (Guenanfa, 2022). From the time of its independence, Algeria has not given a significant role for the tourism sector in its various development policies, unlike other Maghreb countries, in respect such as Tunisia, Morocco and Egypt. Nevertheless, it has shown to be understandable that if the existence of assets and potentialities is a necessary condition, it is far from being sufficient to initiate the development of tourism and to raise the same to such a level of competition that would allow it to conquer significant market shares in the southern shore of the Mediterranean. The purpose of this paper is to present a diagnosis of the pre-existing tourist resources in the province of Setif so as to help the decision-makers to have a clear vision on the tourist resources of the region and its limits and to propose, subsequent to which, a new approach of classification of the tourist potential which will help the local actors to project a plan of development of tourism of the province without neglecting the micro-spatial specificities.

ANALYSIS METHODOLOGY
1. Location of the study area
The province of Setif is located in eastern Algeria. It represents a geostrategic crossroads, surrounded by 06 provinces. At the northern side, it is bordered by the provinces of Bejaïa and Jijel, to the eastern side by the province of Mila, to the southern side by the provinces of Batna and M'silla and to the western side by the province of Bordj Bou-Arreridj. More to the point, the covered surface by which is assessed to 6,549.64 km², with altitudes ranging from 900 m in the centre to 2,000 m in the north of the province, (Development Plan of the Province of Setif, 2009) with a population of around 1,909,916 people in 2018 (Setif monograph, 2018). Moreover, the geography of the provincial territory allows us to observe three main sets of landscapes: mountains, high plains and highlands, bearing in mind that each space is characterized by its own geographical and natural specificities (Figure1).

2. Analysis method
In geography, the case study refers to a method of investigation and analysis that consists in studying in details every bit of the characteristics of a problem or a phenomenon in a particular situation (Albero, 2010). Besides, the case study takes on the meaning of an example that allows showing and making understand the dysfunction of a particular territory (Leininger et al., 2016). One of the key factors of territorial analysis is to identify the problematic of the subject and the stakes thereof, along with putting the resources into perspective (Van-Laethem and Durand-Mégret, 2019). Firstly, proceed to conducting a fairly

global inventory of the territory of the province so as to identify the problems, strengths, weaknesses, alongside the economic and social issues, as well. For the purpose of answering our research problem, our work went through three main stages:

First stage: The establishment of a bibliographical research, with regards to the theme by way of consulting various sources (thesis and Papers, technical documents, namely: The National Plan of the Territorial Development, the Master Plan of the Tourist Development (DTWS, 2018), the Master Plan of Tourist Development of the Province (DTWS, 2013), the Development Plan of the Province.

Second stage: It was devoted to fieldwork, by contacting the different actors in tourism in order to collect the various statistical data and regulatory documents.

Third step: It was devoted to the processing and interpretation of the different technical documents and, in closing, the dissemination of the results by proposing a new spatial classification of the tourism strata for the province of Setif.

Figure 1. Location of Municipality of Hammam Guergour, Setif, Algeria (Source: Authors, 2021)
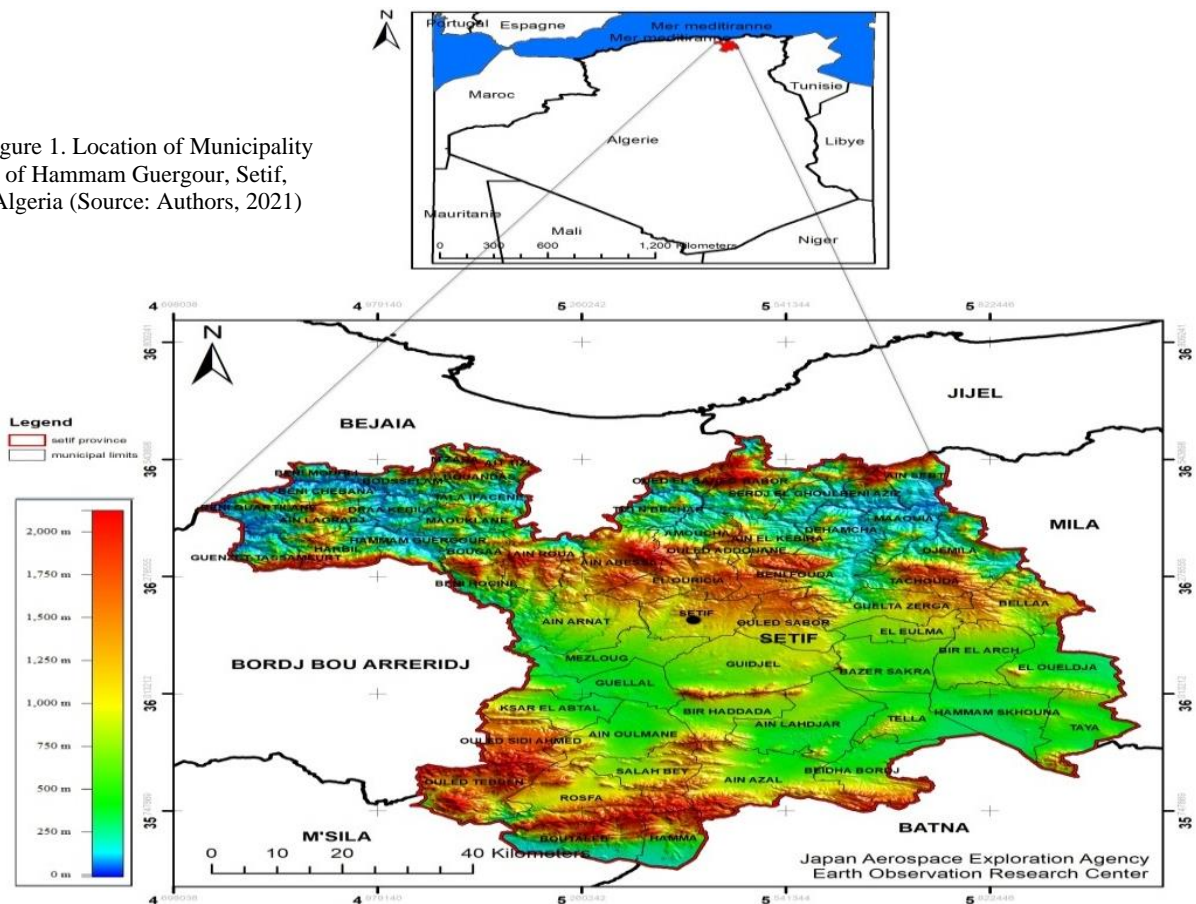
RESULTS AND DISCUSSION
1 Diagnosis of tourism in the province of Setif

The territorial analysis (the diagnosis, which is not an objective in itself) has made it possible to take stock of the assets and constraints which characterize the tourism resources of the province of Setif, and then to make the interference between its different elements of the territorial dynamics of the province.

1.1. Assets of tourism in the province of Setif

- Geographical position of regional crossroads: The province of Setif and its main town have become a hub of the main flows, thanks to the important communication network, in particular the national roads, coming from the South towards the North (the ports of Jijel and Bejaia), and the traffic from the East towards the West (from Constantine towards Algiers), as well. In this respect, the East-West highway crosses the territory of the province on 86 km, in addition to the national roads: the NR05 to Algiers, the NR28 to M'sila, the NR 09 to Bejaïa, the NR78 to Biskra and the NR75 to Batna, along with the main railway line from the East to the West of the country (Province Development Plan, 2009).

- Diversity of the morphological framework: The province of Setif is geographically distinguished by 03 geographically diverse zones:

The mountainous zone: located in the north, it corresponds to the southern side of the Tell where the altitudes vary from 700 to 2,004 metres, made up of three mountainous masses, the Babor and Biban Mountains in the north and the Hodna Mountains in the south (province development plan 2009).

The zone of the high plains: located between the interior chains of the Tellian Atlas and the Atlas of Sahara. Besides, it represents an immense area and occupies the central region of the province; likewise, it is a relatively flat zone whose altitude varies from 750m in the East to 950m in the West. In closing, this area is characterized by the dominance of cereals and market garden crops.

The steppe zone (South and South-East): it represents the flat zone which covers 10% of the provincial surface, which is characterized by the presence of "chotts" or salty depressions whose relative depth is assessed at 10 to 20 meters in relation to the surrounding relief (DTWS, 2013).

1.2. Richness of the tourist potential:

The province of Setif has a multitude of tourist potential (urban, thermal, cultural and mountain) throughout its territory. Thus, these types can be cited as follows (Figure 4):

- Business and urban tourism (town of Setif and El Eulma): The town of Setif, main town of the province, is considered as the capital of the highlands. The town is equipped with accommodation infrastructures of more than 40 hotels, 17 of which are classified, with a total capacity of 3257 beds and 100 beds for youth hostels (any accommodation structure).

The town of El Eulma, the second most populated city in the province of Setif, is a commercial city par excellence thanks to its commercial zone named "Dubai". Besides, this city is equipped with 13 hotels, 06 of which are classified, with an accommodation capacity of 857 beds (Directorate of Budgetary Planning and Monitoring, 2020).

- Thermal tourism is the type of tourism which has the greatest potential in the province of Setif. In reality, it counts nine (09) thermal springs distributed on the whole territory as follows:

- Thermal spring "Hammam Guergour" with 02 thermal stations offering several types of care: Crenotherapy, Kinesitherapy and Functional Rehabilitation, four (04) stations in the Commune of Hammam Soukhna, two stations in the commune of Ouled-Tebane and a station in Ouled-yeles (Master Plan of Tourist Development of the Province "MPTD", 2015).

- An archaeological and cultural world-famous heritage:

The archaeological site of Djemila, "CUICUL" with an area of 42 ha represents a UNESCO World Heritage Site (Figures 2 and 3). It has a universal heritage and cultural value, with an archaeological museum. In addition, it has a hotel with a capacity of 34 beds and a youth hostel with a capacity of 70 beds. Hence, this site hosts 30,000 visitors per year (Master Plan of the Tourist Development "MPTD" 2015).

- Mountain tourism in its raw state: The province of Setif hosts two leading destinations for this type of tourism: the first is the Site of Djebel Babor, which is located in the northern side of the province in the commune of Babor. Further, this site hosts the Babor forest reserve, which is rich in plant diversity, whereat we find species of Aleppo, cedar, Numidian fir tree and cypress. More to the point, it even represents a research area that can initiate scientific tourism in the province (Figure 6). As for the second destination, it is towards the site of Djebel Megres, which is located in the northern side of the town of Setif; it offers an exceptional landscape with its pure air, a place of recreation thanks to the panoramic sight thereof on the town of Setif.

Figure 2. Roman theater of Djemila (North of Algeria) classified as a World Heritage Site (Authors, 2020)

Figure 3. The Cuicul : Roman city theater (Authors, 2020)

2. The tourism opportunities in the province of Setif:

- Potential customers coming from the demographic basin of neighboring provinces

The province of Setif occupies a central position and constitutes a crossroads surrounded by 6 provinces. Besides, it is bordered from the northern side, by the provinces of Bejaïa and Jijel, to the east by the province of Mila, to the south by the provinces of Batna and M'silla and to the west by the province of Bordj Bou-Arreridj. However, this positioning allows the province to enjoy potential tourists who are the populations of the previously mentioned neighbouring provinces, compared to total number of these populations is 6,653,723 inhabitants (Atlas of World Populations and Countries, 2015).

- The proximity of the Mediterranean coastline and beaches

As this province shares borders with the provinces of Jijel and Bejaïa, this provides the province of Setif with many opportunities that advantages can be taken from the same by this province. In this respect, the distance in question is around 90 km from the main town and no more than 50 km from the border communes; the province of Setif has easy access to the beaches, which presents an opportunity, particularly for the communes in the northern side of the province.

- Construction of the El Eulma/Jijel highway penetration which links the province with the sea

The highway penetration of Djen-Djen must connect the East-West Highway from the town of El Eulma to the port of Djen-Djen in the province of Jijel. Nonetheless, the construction thereof began in 2013; this 110 km long highway will help facilitating the mobility and flows from the country's inland provinces (Figure 5).

Table1. Accommodation capacity in the province of Setif (Source: Master Plan of Tourist Development of the Province of Setif, 2030. National Centre for Applied Urban Studies and Research "CNERU" / MAY, 2015)

Type of accommodation	Number	Number of beds
Hotels	30	1634
Hostels	02	140
Complex	/	/
Camping	/	/
Total	32	1774
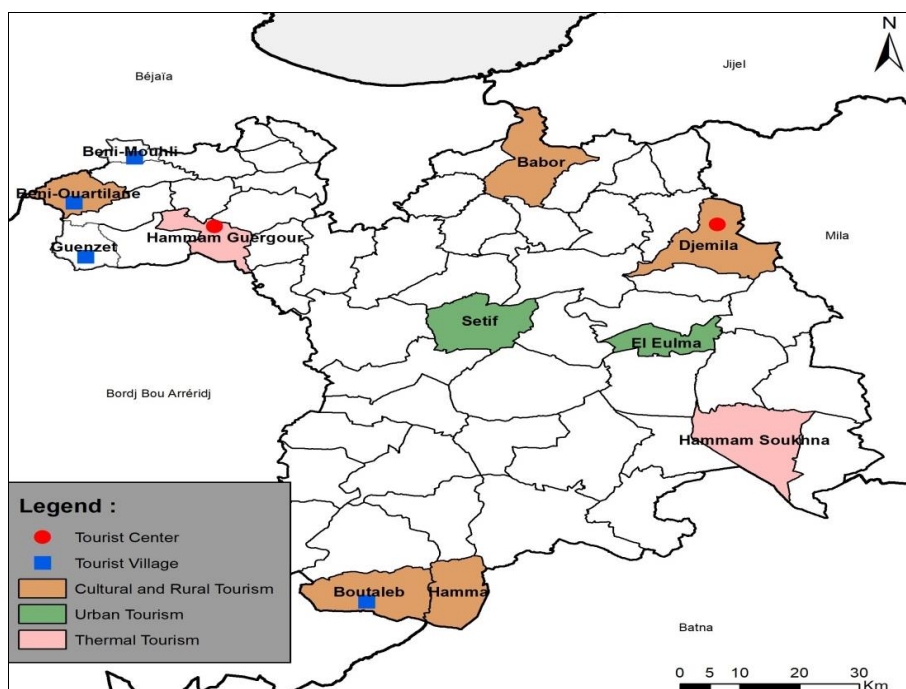
Figure 4. Typology of tourism in the province of Setif (Source: Authors, 2021)

Figure 5. Motorway: Setif – Jijel (Source: Authors, 2021)

Figure 6. Forest of Babor (Source: Authors, 2021)

- The State's awareness of the importance of the tourism sector:

The State's new tourist policy is based above all on the promotion of the regions and territories by relying on their assets alongside their attractiveness whilst mobilising the actors who live there. In fact, it affirms its will to preserve the environment, improve the living environment, to develop and especially to perpetuate the natural and cultural capital.

- The new tourism policy has three foremost objectives:

Improve the macroeconomic balances: Employment, growth, commercial and financial balance and investment;

Activate the knock-on effects on other sectors (Agriculture, Handicrafts, Culture, Transport, Services, Industry, and Employment). Help in socializing exchanges and openness at both national and international levels (Master Plan of Tourist Development "MPTD" 2030).

3. The constraints of tourism in the province of Setif

Tourism has clearly defined primary needs: It is indispensable to be able to transport tourists, to accommodate them as far as possible in accordance with world standards, to make them travel quickly and comfortably; it is alike indispensable to offer them a service of high quality; amongst the major problems of the province, we notice: lack of accommodation infrastructure to host tourists in certain stations, which reduces the accommodation capacity to 1774 beds, apart from the main town of the province; whilst the offer of para-hotel accommodation is inexistent (Table1).

- Lack of qualified accommodation and service staff:

The training of managers and agents is not a widespread practice. However, this situation does not favour the quality of the provided services; in particular as the operators fail to complain of recruitment difficulties in the accommodation and catering fields.

- Considerable lack of tourism marketing:

The majority of tourism agencies at the local level represent transmitting agencies and not receiving agencies. In this respect, the proposed products are rather oriented towards: Pilgrimage and OMRA, and trips abroad (Turkey, Egypt, Tunisia, and Greece) the initiatives that turn towards local tourist destinations have shown to be rare.

- Threats to tourism in the provincial territory of Setif:

The provincial territory of Setif remains an area exposed to numerous natural risks. Thus, the most vulnerable area is the one located in the northern side of the province. However, this is due to several factors, in respect such as the mountainous nature and the relief characterized by steep slopes combined with high rainfall and the lithological nature of the land. Such risks may include:

- Threat of Earthquakes

The North Tellian region of Algeria has a concentration of earthquakes; in other words, the region where the highest seismicity occurs due to a higher crustal deformation compared to other regions of the country (Abacha, 2015). The province of Setif, particularly in its northern part, is known for the frequent occurrence of natural earth movements. The nature of the relief and the particular topography of this area combined with its geology is the main cause of these earth movements. However, they affect the structures and the surroundings: houses, road networks, infrastructure, causing significant damage. The seismic activity occurs regularly in the Kherrata region, located in northern Setif. It is often generated by the active Kherrata fault, which corresponds to a NE–SW trending anticline (Chaouchea et al., 2006). The last earthquake occurred on November 10, 2000; shallow moderate (M s=5.7) but damaging earthquake shook the region of Beni-Ourtilane located about 50 km NW of Setif and 390 km NE of Algiers (Central Eastern Algeria). The main shock caused the death of 2 people, injured 50, and caused sustainable damage to about 3000 housing units (Bouhadad et al., 2003).

- Threat of landslides and earth movements:

The space Sétif's province is subject to different modes of ground movement such as landslides and rockfalls. The three factors responsible for such phenomena, such as the rugged topography, the dominant marl or clay lithology and the more or less abundant rainfall are much more closely related to these phenomena in the North. These forms of instability take place in the natural slopes, they will be qualified as hazards, and their intersection with the stakes allows them to be classified as natural risks (Djenba, 2015:168). More than a dozen communities and their populations are threatened, like those of Ait Mazala, Om Lalou of Bougaa, the Zerzou region of Ait Tizi complained about cracks and the risk of collapse of their homes. The risks are not only limited to houses, but also to roads, such as NR 78 and NR9 (see figures 7 and 8) of which a very large part of their respective sections was destroyed. The fact that disrupted road traffic in several places in the region, which already suffers from isolation (Tiouri, 2014).

Figure 7. National Road 78 (Setif – Bougaa), section abandoned at Takoka, due to landslide (Source: Authors, 2021)
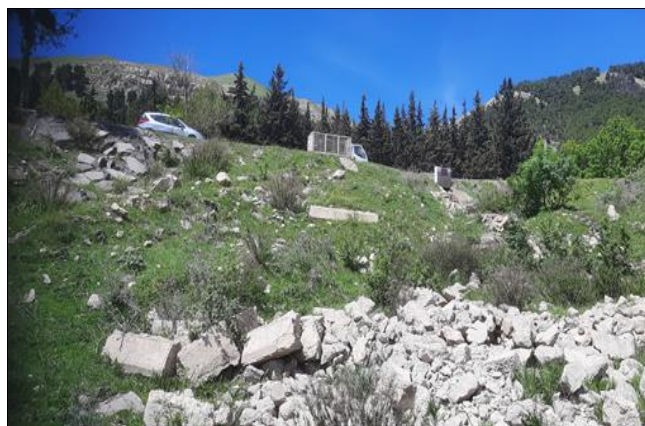
Figure 8 . National road 9 (Setif- Bejaia): threat of landslide at Dhiafet (Source: Authors, 2021)

-Threat of flooding during the rainy season:

The risk exists in the province, particularly in the mountainous area on the northern side of the province, due to their relief and the hydrographic network are particularly vulnerable to flooding. More to the point, the high variability of rainfall and its exceptional strength causes a rapid concentration of water and runoff. The risk of flooding in several cities of the province of Sétif is caused by the rivers: Djihadi (El Eulma), Naâmoune (Ain Lahdjar), Zaârouria, Ouarmi (Ain Oulmene), R'Mada (Ain Lahdjar) and Adouane (amoucha). These rivers represent a real danger for the inhabitants. In addition to the rapid rise of waters in the wad products, torrential rains cannot escape on the boulevards and streets of cities because of the dimensioning and the low maintenance of the sanitation networks (Francis, 2020).

- Threat of forest fires:

The forest fires that spread in the forests in the northern side of the province during dry periods, which generally get out of control, threaten biodiversity and the ecosystem of such fragile mountain areas.

- Unfavourable competition with neighbouring countries (North Africa):

Algeria remains well behind in terms of tourist attractiveness at the back of its South Mediterranean neighbours, with

2,371,000 visitors in 2019 (National Statistics Office "NSO", 2019). According to the World Tourism Organization, the Mediterranean region is the leading tourist destination, accounting for 32.50% of the entire global tourists in 2019. Moreover, in accordance with the tourism balance sheet published by (UNWTO) in 2019, the countries with the largest shares of tourists are Morocco with 13 million and Tunisia 9.4 million, whilst Algeria is ranked 186th out of 186 countries, far behind Morocco (28th) and Tunisia (49th) in terms of tourist numbers (Chemma et al., 2021). The reasons for such a delay are, as mentioned above, the consequences of the black decade, but alike the perpetuated neglect of the tourism sector and the lack or absence of efforts to revitalize such sector compared to competing neighbouring countries.

4. Classification test (taxonomy) of the tourist potential in the province of Setif

Taxonomy stands for the classification of tourist sites and territories according to various criteria. However, this represents an important step in understanding the functioning, identification and improvement of the economic and tourist yield of the territories, for the reason that a site is not born tourist, it becomes so (Hoerner, 2008).Our vision of classification of the tourist resources of the provincial territory of Setif is inspired by the documents of the World Tourism Organisation and the French Ministry of Ecological Transition (UNWTO, 2021), whilst the documents of spatial classification of the Algerian State are inexistent. Based on the local tourist resources of the province of Setif, our approach consists of a tourist center, a tourist village and a tourist commune. In virtue of which, these three elements form a tourist region, as shown in (Figure 9) and (Table 2). Thus, the interest of this selection can give certain advantages according to the classification category.

Table 2. The criteria of the Taxonomy of Tourist Areas (Source: Authors 2021)

Tourist centre A	Tourist village B	Tourist commune C	Tourist region D
- Classified tourist hotel; - Tourist activity and entertainment; -Permanent population; - Enhancement of the local landscape; - Organized visits.	- Natural resources; - Accommodation capacity that reflects local values; - local gastronomy and traditional culinary culture; - Encourages the production and promotion of local crafts; - Has transport infrastructure to facilitate connectivity; - Has health care services. - Has civil protection services	- Well-distinguished tourist resources; - Access to the main tourist sites by public transport; - Permanent access to the Wifi network; - Provision of distinct public spaces and cultural and artistic activities; - Tourist hosting; - Tourist information service and presence of guides; - Availability of general food shops and weekly market; - Availability of a banking service; - Availability of a health care centre or polyclinic and a pharmacy; - Wastes treatment centre and department.	A tourist region has at least the following criteria: A+B+C

4.1. Selection criteria for a tourist center:

The tourist center is defined by the presence of tourist activity and animation, a place inhabited by a permanent population with an accommodation capacity for a non-resident population. Likewise, ensuring the structuring of the center towards a vital space that focuses social life with the possibility to enhance the local landscape thereof. Moreover, a classified tourist hotel structuring the center which fulfils this role as a prestigious infrastructure. In addition to organised and guided visits to tourist sites by agents according to the visitors' demand.

4.2. Selection criteria for a tourist village:

The landscape and tourism values of the village environment are paramount. Besides, the tourist activity must respect the commitments of environmental protection and the notion of sustainable development. Likewise, which type of village is in relation with, or corresponds to what type of tourism? Hence, criteria for a typology are suggested (Rambaud, 1980): we can quote the criteria listed hereinafter:
- A distinguished geographical location: Be within 05 or 10 kilometers of a national highway with a permanent population.
- Propose a traditional restaurant;
- Offer at least one hotel accommodation;
- Ensure the existence of shops such as a grocery shop, a butcher's shop, a pharmacy and a vending machine;
- Access to parking spaces; - Provision of a playground and picnic area;
- The village must ensure the beautification of its living environment.
- Benefit from hiking trails and/or historical monuments;
- Provision of a waste treatment center.

4.3. Selection criteria for a tourist commune:
- Well distinguished tourist resources, such as forests, thermal springs, heritage etc;
- Access to the main tourist sites by adapted public transport;
- Access to a permanently accessible public Wifi network;
- Provision of distinct public spaces with cultural and artistic activities;
- Tourist hosting in the commune;
- Tourist accommodation and information in the commune;
- Variety of local and national gastronomy;
- Availability of general food shops and a weekly market; - Availability of a banking service;
- Availability of a health care centre or polyclinic and a pharmacy;
- Availability of a waste treatment centre and department.
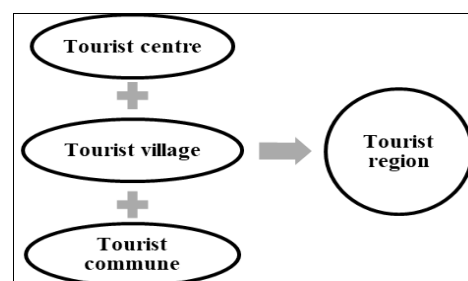
Figure 9. The components of a tourist region (Source: Authors, 2021)

5. Application of the new tourism taxonomy in the province of Setif:

Through the application of the previously mentioned criteria to the provincial tourist poles mentioned in our trilogy,

and following the diagnosis prepared according to the tourist resources of the province of Setif, the corresponding results are illustrated in (Figure 10) and they are scrolled as follows:

The three well distinguished tourist regions for the province emerge whereat each region enjoys its own identity and specificity in the domain of tourism.

Region (R 1): It is located in the northern side of the province which has a varied tourist potential, with the presence of the thermal site of Hammam-Guergour, mountain tourism, and specifically the great reserve of the Babor Mountains and the historical and cultural site of Djemila.

Region (R 2): It extends over the median area of the province, with the presence of the two large towns of the province (Setif and El Eulma), as having a vocation towards business and urban tourism which polarise the commercial dynamics of the province and even in the east of the country where the two towns form a strategic axis on a national scale.

Figure 10. The tourist region proposed in the province of Setif (Source: Authors, 2021)

Region (R 3): It covers the southern region of the province. Hence, it has a double potential: thermalism on the site of Hammam-Soukhona and Ouled-Tebane and mountain tourism at the level of Djebel-Boutaleb and El Hama.

CONCLUSIONS

Tourism remains a means of economic and social development, which is often representing a sector for reducing regional disparities, but alike a source of socio-cultural emancipation for the populations. Indeed, the positive effects of tourism are accompanied by others that can be harmful due to the heavy exploitation of natural resources or the absence of a strategy that fails to adapt to the realities of the territory; besides, it refers to the bad governance that takes place. Nonetheless, analysing and distinguishing the places that have a tourist value for visitors from the ordinary places, participates strongly in orienting the local decision makers who must act in the socio-economic balance of such places (Piriou, 2020). In Algeria, the tourism sector has experienced a considerable delay, which undoubtedly represents an asset for a policy favouring a micro-spatial vision and the encouragement of local resources to be implemented for the purpose of promoting the tourism potential of the regions. On the other hand, the traditional conception of the power of the "Top down" approach seems to be outdated, given its needy capacity to understand the realities and ambitions of the local population. More to the point, an objective combination with the "bottom up" approach could lead to a participatory approach that would allow for financial support for the initiatives of citizens and families. In virtue of which, this stands for a way of shifting to individuals responsibilities that have usually been the duty of public service (Knuth et al., 2018).

After our criticism of the State's adopted policy, we come to deduce that the delay in tourist development in the province is due to generalized planning throughout the space which does not obey the classification and regionalization of the territorial tourist resources. Thus, the purpose of this Paper is to provide a new vision and conception of the development of tourist resources in a particular region. In closing, the province of Setif, with its thermal springs and its few villages which have kept their identity and their patrimonial and cultural values, represent an added value for the local population. Similarly, the towns of Setif and El Eulma are real poles of support for national and even international tourist attractiveness. In virtue of which, attaining this goal requires a selective analysis of the assortment of local tourist resources, in accordance with a participatory approach that responds to the dominant characteristics of each region.

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STRATEGIES FOR VILLAGE TOURISM DEVELOPMENT IN COASTAL DURING COVID-19: CHALLENGES AND OPPORTUNITIES

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Abstract: The Covid-19 outbreak has had a negative impact on the decline in the number of visits in the tourism sector, one of which is the tourist village. The recovery of tourist villages during Covid-19 relies heavily on the role of the Tourism Awareness Community (Pokdarwis). However, the role of the Tourism Awareness Community in the development of tourist villages during Covid-19 is still not clearly discussed. Therefore, this study aims to analyze the tourism village development strategy during COVID-19 by the Tourism Awareness Community in the Teritip Village, Balikpapan-Indonesia. This study uses the QSPM (Quantitative Strategic Planning Matrix) method, which is a method for determining the priority of alternative strategies obtained from a SWOT analysis (Strengths, Weaknesses, Opportunities and Threats). The results showed that the position of the Tourism Awareness Community was in quadrant V (Hold and Maintain), namely market penetration and product development strategies. That is, the professional management of tourist villages is crucial to increasing the number of tourist visits. The management of the tourist village must be able to optimize the resources they have to develop a tourist village in the Teritip Village. In addition, the development of attractive tour packages is also the key to attracting tourists. Therefore, strengthening human resources related to the professionalism of tourism village management is very necessary in order to advance tourism villages.

Key words: village tourism, rural tourism, coastal, SWOT, QSPM

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INTRODUCTION

Tourism has the potential for visits by 2030 to reach 1.8 billion people. This increase is in line with the absorption of labour in the world, which is one in eleven (1:11) workers in this world whose lives depend directly or indirectly on tourism. The tourism industry also created a Gross Domestic Product (GDP) of US$3.3 trillion. This figure, according to calculations by the United Nations Environment Program (UNEP), represents almost 9% of the world's total GDP. According to the Ministry of Tourism and Creative Economy (2014), the contribution of the tourism sector to the national Gross Domestic Product (GDP) in 2014 has reached 9% or Rp. 946.09 trillion. Meanwhile, foreign exchange from the tourism sector in 2014 reached Rp 120 trillion and contributed to employment opportunities of 11 million people.

However, since the emergence of the COVID-19 pandemic, tourism activities in Indonesia have decreased (Gössling et al., 2021; Uğur and Akbıyık, 2020; UNWTO, 2020). This is due to various government policies that aim to limit human interaction activities during COVID-19. However, since the implementation of the new normal after COVID-19, economic activities including tourism activities have started slowly towards normalization. The packaging of tourism activities in the new normal encourages the development of a vision of tourism activities by considering important aspects during the new normal such as aspects of sustainability, technology, and health and safety (World Travel and Tourism Council (WTTC), 2020). Recently, there is a change in the trend of tourism activities from mass tourism to alternative tourism, this trend provides advantages for tourist villages to be an option in tourism development. Many studies have highlighted the importance of village development to support tourism development (Gao and Wu, 2017; Huang et al., 2021; Sesotyaningtyas and Manaf, 2015; Situmorang et al., 2019; Xu et al., 2018; Zhou et al., 2021). In particular, the Indonesian government has a focus on developing tourist villages and digital villages in the national development plan (Kemenkopmk,

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2020). Because tourist villages generally have a variety of products that can be offered to tourists, the main product is the daily life of the people in the village (Ariani et al., 2020). The experiences given to tourists are in the form of cultural diversity, unique nature, and creative work in the village. Therefore, the development of tourist villages in various regions is important to restore the economy of people in rural areas. The issuance of the Decree of the Head of the Youth, Sports, and Tourism Office of Balikpapan City Number 188.46/047/DPOP concerning the Inauguration of the Community "Travel Awareness Community of the Teritip Village" in the Teritip Village, East Balikpapan District is proof of the seriousness of the Balikpapan local government to participate in developing alternative tourism in the form of a village. tourism in the Balikpapan area. As the gateway to Balikpapan City in the East, Teritip has very promising tourism potential. Some of the tourism potentials in the barnacle area include mangrove forests, plantations, animal husbandry, religion, yellow bamboo fishing and the famous crocodile breeding tourism. There is a lot of potential in the Teritip Village, it is proper for barnacles to seriously develop a tourist village as an alternative tourist destination for tourists.

Geographically, the Teritip Village is one of the villages in the East Balikpapan sub-district, Balikpapan City, East Kalimantan Province. Teritip Village is a coastal area to the east of Balikpapan. The Teritip Village has 33 Neighborhoods. As the gateway to Balikpapan City in the East, Teritip Village has very promising tourism potential. Some of the tourism potentials in the barnacle area include mangrove forests, plantations, animal husbandry, religion, yellow bamboo fishing and the famous crocodile breeding tourism. The large potential in the Teritip Village is appropriate in this area to seriously develop a tourist village as an alternative tourist destination for tourists. Most of the Teritip sub-districts are coastal areas that have various tourism potentials. Based on the results of field observations carried out on October 23, 2021, to map the tourism potential of the Teritip Village, eight tourism potentials were found consisting of mangrove forests, barnacle dams/reservoirs, crocodile breeding, barnacle beaches (Tanjung Bayur and Madani), Ashoka crabs (Madani) and fishing, farming at Mount Bubuk, livestock at Mount Binjai, and several natural attractions such as rubber plantations, fruit plantations, and rice fields). Referring to the criteria of a tourist village, the Teritip Village has met as a tourist village. This is because the tourist village is an area that has the potential and uniqueness of a distinctive tourist attraction, namely to experience the unique life and traditions of rural communities with all their potential. These criteria include: a. has the potential for tourist attractions (natural, cultural, and artificial/creative work attractions); b. have a community of people; c. have the potential of local human resources who can be involved in tourism village development activities; d. have management institutions; e. have opportunities and support for the availability of basic facilities and infrastructure to support tourism activities; and f. has the potential and opportunities for the development of the tourist market (Ariani et al., 2020).

The varied tourism potential in several neighbourhoods in the Teritip Village is an advantage in developing tourist villages. The concept of an integrated tourist village between neighbourhoods with various tourist destinations can attract tourists to visit. But unfortunately, the large amount of tourism potential is still not managed properly by tourism managers. Even some tourist destinations are still managed individually and have not involved many local communities as the basis for managing tourist villages. In fact, the issue of community-based tourism development can encourage the creation of sustainable tourism. Many scholars have highlighted the importance of community involvement in the sustainable tourism development (Junaid et al., 2021; Moayerian et al., 2022). One model of tourism development that empowers communities with Community Based Tourism (CBT) is the development of tourist villages (Gabriel-Campos et al., 2021; Komariah et al., 2020; Mahfud et al., 2018; Wu et al., 2022). Community-based tourism (CBT) has been adopted in developing countries as a way for sustainable tourism development that ensures the achievement and distribution of tourism benefits to all, through community empowerment and tourism participation (Junaid et al., 2021; Noorashid and Chin, 2021; Nugroho and Numata, 2020; Walsh and Zin, 2019). The concept of community participation in tourism still raises various problems, for example, not all communities have benefited from the existence of the tourism industry. This is due to a lack of public understanding and awareness about the importance of tourism benefits for the community. CBT encourages empowered local communities to expand their member participation as well as their tourism benefits. In addition, the Government of Indonesia, for example, has the mandate to use resources sustainably for the benefit of the community, including tourism. Therefore, CBT is very important in the Indonesian context as a tool to achieve sustainable tourism goals, as mandated by Indonesian law.

Most of the tourist destinations in the barnacle tourism village have the status of individual ownership. This condition raises a number of problems in the tourism village management process. In this context, the management of the tourist village and the Tourism Awareness Community (Pokdarwis) in the Teritip Village play an important role in advancing the tourism village in the Teritip Village. Therefore, it is necessary to analyze the strategic role of the Teritip Tourism Awareness Community in Balikpapan in an effort to develop a tourist village in the Teritip-Balikpapan Village. Some steps that can be taken are to create an internal matrix and an external matrix from the strategy for the role of the Tourism Awareness Community in Teritip Village. Specifically, this study aims to: (1) determine the SWOT (strengths, weaknesses, opportunities, and threats) of the Tourism Awareness Community, (2) analyze the internal and external key factors of the Tourism Awareness Community, (3) analyze the strategic position of the Tourism Awareness Community, and (4) analyze the Tourism Awareness Community development strategy to developing a tourist village.

MATERIAL AND METHODS

This study uses the QSPM (Quantitative Strategic Planning Matrix) method. QSPM is a method for determining the priority of alternative strategies obtained from a SWOT analysis (strengths, weaknesses, opportunities and threats). The selection of the QSPM method aims to analyze the strategy of the community role "Tourism Awareness Community (Pokdarwis)" to develop a tourist village in the coastal area of Teritip Village. The data needed in this study are primary and secondary. Primary data is data obtained through direct observation, interviews, and questionnaires. Secondary data is

data collected using a literature study. The method of collecting data or information is done through several techniques including observation, interviews, expert opinions, and literature studies.

The selection of respondents is adjusted to environmental conditions and the number of respondents to be taken, namely respondents who are considered to be able to represent and understand the problems studied. Determination of respondents was carried out using an expert survey method with purposive random sampling type consisting of the head of the Tourism Awareness Community (Pokdarwis) (1 respondent), member of the Tourism Awareness Community (Pokdarwis) (3 respondent), the Balikpapan Tourism Office (3 respondent), and tourism academics (3 respondent).

Quantitative analysis is used in the assessment of the formulation of strategies for the development of tourism villages in the coastal area of the Teritip Village. Strategy formulation using SWOT and QSPM methods. SWOT analysis is a qualitative analysis tool to generate alternative strategies by considering external and internal factors of the organization. QSPM is used to determine alternative strategies that are generated in the SWOT matrix (David et al., 2009). Stages of analysis with SWOT and QSPM are as follows (David et al., 2009; Taslimi and Omeyr, 2014), see Figure 1:

1. Determine EFEM (The External Factor Evaluation Matrix). At this stage, the determination and evaluation of external factors are carried out.

2. Determine IFEM (The Internal Factor Evaluation Matrix). At this stage, the determination and evaluation of internal factors are carried out.

3. Determine the SWOT Matrix. At this stage, an analysis of the strengths, weaknesses, opportunities, and threats is carried out for alternative strategies.

4. Determine alternative strategies that have been generated from SWOT analysis with QSPM analysis.
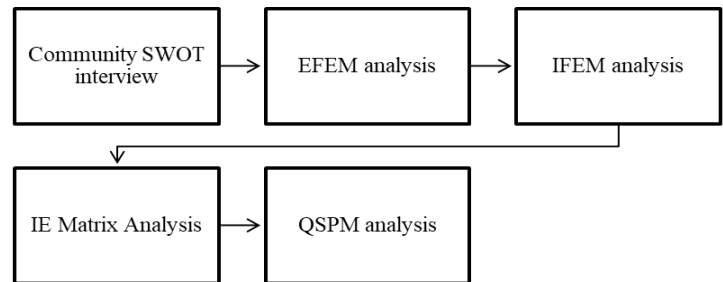
Figure 1. Research Procedure

RESULTS AND DISCUSSION
Analysis of Environmental Factors Tourism Awareness Community in Teritip Village

The results of the identification of the external and internal environment are used to compile the External Factor Evaluation (EFE) and Internal Factor Evaluation (IFE) matrices. After identifying the internal and external factors, then an analysis of the strengths and weaknesses, as well as opportunities and threats that can affect the strategy carried out by the Teritip Village Tourism Awareness Community is carried out in developing a tourist village in the Teritip-Balikpapan Village.

External Factor Analysis (Opportunities and Threats)

Based on the results of the analysis of the external environment of the Teritip Tourism Awareness Community, several external factors were obtained in the form of opportunities and threats to the Teritip Tourism Awareness Community. The external factors that are opportunities and threats for the Teritip Tourism Awareness Community are shown in Table 1.

Table 1. Identification of Community External Factors Tourism Awareness Community in Teritip Village (Data source: The processed primary data)

External Factors	Opportunity	Threat
Economy	Policy on the new capital city of Indonesia in East Kalimantan	The Covid-19 pandemic has weakened tourism activities.
Socio-cultural	-	The dynamics of changing tourist behavior.
Politics and Law	The tourism sector as one of the national development priorities	-
Industrial Environment	Corporate Social Responsibility (CSR) grant for industry in Balikpapan	-
Science and technology	-	Disruption of new technologies in the tourism sector.

Internal Factor Analysis (Strengths and Weaknesses)

Based on the results of the analysis of the internal environment of the Teritip Tourism Awareness Community, several internal factors were obtained in the form of strengths and weaknesses for the Teritip Tourism Awareness Community. The internal factors which are strengths and weaknesses for the Teritip Tourism Awareness Community are shown in Table 2.

Table 2. Identification of Community Internal Factors Tourism Awareness Community in Teritip Village (Data source: The processed primary data)

Internal factors	Strength	Weakness
Human Resources	-	The management of the Tourism Awareness Community in Teritip Village does not yet have a good tourism awareness for tourism village management
Management	The Tourism Awareness Community has legal legality as a community managing the tourism village in Teritip Village.	Don't have a good Tourism Awareness Community organizational management yet
	-	There are no binding regulations for the management of the Tourism Awareness Community
Facilities and infrastructure /natural resources	Has the potential of a tourist attraction (Natural, cultural, and artificial/creative work attractions)	There is no permanent community office yet
Finance	-	There is no fixed funding for community activities
Program	-	The Tourism Awareness Community does not yet have a program related to the management of tourism villages

EFEM and IFEM Matrix

The calculation of EFEM (The External Factor Evaluation Matrix) and IFEM (The Internal Factor Evaluation Matrix) involves an assessment carried out by five respondents, namely the head of the Teritip Tourism Awareness Community, 5 board members, and 3 academics. The selection of external respondents was based on the fact that these parties knew the internal and external conditions of the Teritip Tourism Awareness Community. The involvement of external parties in this study is expected to produce a more objective alternative strategy.

EFEM (The External Factor Evaluation Matrix)

After obtaining the external strategic factors of the Teritip Tourism Awareness Community which includes opportunities and threats, then a questionnaire is given about giving weights and ratings to the opportunities and threats variables. Furthermore, the weighting uses the paired comparison matrix method. The results of the ranking and weighting can be seen in Table 3.

Table 3. EFEM Matrix of Tourism Awareness Community in Teritip Village (Data source: The processed primary data)

	A. OPPORTUNITY	WEIGHT	RATING	WEIGHT SCORE
1	Policy on the new capital city of Indonesia in East Kalimantan	0.190	3.200	0.608
2	The tourism sector as one of the national development priorities	0.213	3.200	0.683
3	Corporate Social Responsibility (CSR) grant for industry in Balikpapan	0.173	3.200	0.555
	B. THREAT			
1	The Covid-19 pandemic has weakened tourism activities	0.143	3.400	0.487
2	The dynamics of changing tourist behavior	0.140	2.200	0.308
3	Disruption of new technologies in the tourism sector	0.140	1.600	0.224
	TOTAL	1		2.865

Based on the calculation of the EFEM matrix in Table 3, the strategic factor which is the biggest and most influential opportunity for the Tourism Awareness Community in the development of the Teritip Tourism Village is the tourism sector as one of the national development priorities (0.683). The tourism sector is considered as one of the prima donnas in industrial development to increase the pace of national development.

The tourism sector is proven to be able to support the people's economy and now its existence is very necessary and is one of the important sectors to earn foreign exchange and increase government revenues outside of oil and gas. Meanwhile, the external factor that became the main threat that the Teritip Tourism Awareness Community could avoid in the development of the Teritip Tourism Village was the Covid-19 pandemic which weakened tourism activities (0.487). This condition makes sense because the current COVID-19 pandemic outbreak has caused a decrease in tourist activity in all countries and has caused a decrease in the number of tourist visits to tourist destinations, including tourist villages. The results of the EFEM matrix analysis for opportunities and threats obtained a total score of 2.865, this indicates that the Teritip Tourism Awareness Community is above the average (2.5).

The total score of 2.865 indicates that the Teritip Tourism Awareness Community responds well to the opportunities and threats that exist in its management. In other words, the Community Strategy Travel Awareness Community effectively takes advantage of existing opportunities and minimizes the effects that may arise from external threats.

IFEM (The Internal Factor Evaluation Matrix)

The IFEM matrix is used to determine the internal organizational factors related to strengths and weaknesses that are considered important. After obtaining the internal strategy factors which include strengths and weaknesses, the next stage is like the stages in the IFEM analysis. The results of the ranking and weighting can be seen in Table 4 below.

Table 4. Matrix IFEM the Tourism Awareness Community in Teritip Village (Data source: The processed primary data)

	A. STRENGTH	WEIGHT	RATING	WEIGHT SCORE
1	The Tourism Awareness Community has legal legality as a community managing the tourism village in Teritip Village.	0.164	3.6	0.589
2	Has the potential of a tourist attraction (Natural, cultural, and artificial/creative work attractions)	0.169	4	0.676
	B. WEAKNESS			
1	The management of the Tourism Awareness Community in Teritip Village does not yet have a good tourism awareness for tourism village management	0.101	1.200	0.122
2	Don't have a good Tourism Awareness Community organizational management yet	0.128	1.600	0.205
3	There are no binding regulations for the management of the Tourism Awareness Community	0.117	1.600	0.188
4	There is no permanent community office yet	0.069	1.800	0.125
5	There is no fixed funding for community activities	0.091	1.400	0.127
6	The Tourism Awareness Community does not yet have a program related to the management of tourism villages	0.139	1.200	0.167
	TOTAL	**1**		**2.198**

The strengths and weaknesses of the Teritip Tourism Awareness Community are shown in Table 4. Based on the table, the internal strategic factors that are the strengths of the Teritip Tourism Awareness Community in developing a tourist village in the Teritip-Balikpapan Village, namely having the potential for a tourist attraction natural, cultural, and

artificial/creative works) (0.676). This variable is the main strength because the variety of Tourism Attractions in the Barnacle Village has a role to attract tourist visitors in the Teritip Tourism Village.

Meanwhile, the internal factor that became the biggest weakness of the Teritip Tourism Awareness Community was that they did not have good organizational governance of Tourism Awareness Community and Tourism Village Management (0.205). Weak governance is the main factor hindering the running of an organization. The availability of clear governance will make the operational direction of the management of the tourism village in the Teritip Village. Therefore, it is appropriate for the Teritip Tourism Awareness Community to organize its management according to the needs of the organization in the context of developing tourist villages.

The results of the IFEM matrix analysis for strengths and weaknesses obtained an average total score of 2.198, this means that the Teritip Tourism Awareness Community is below the average (2.5) of all its internal strengths. So, it can be concluded that the Teritip Tourism Awareness Community has a weak internal position and requires strengthening of governance and institutional management of tourism villages.

IE Matrix Analysis

After going through the EFEM external factor analysis stage and IFEM internal factor analysis, the next stage in the strategy formulation process is the matching stage. The method used for this stage is through mapping using the Internal-External (IE) matrix. This mapping process is carried out to make it easier to determine alternative strategies. The preparation of the IE matrix is done by combining the values obtained in the EFEM matrix and the IFEM matrix. The results of the two matrices will be the input for the IE matrix in determining the position of the Teritip Tourism Awareness Community in its role in developing a tourist village in the Teritip-Balikpapan Village.

Based on the analysis of the EFEM matrix, the total score for the external critical factor of the management is 2.865 and the score from the IFEM matrix is 2.198, the results of this score can indicate the position of the Teritip Tourism Awareness Community through the IE matrix with coordinates (2.198; 2.865). The IE matrix for the Teritip Tourism Awareness Community is shown in Figure 2. The figure shows that the position of the Teritip Tourism Awareness Community is in Quadrant V (Hold and Maintain), namely the market penetration strategy and product development. That is, the professional management of tourist villages is crucial to increasing the number of tourist visits.

The management of the tourist village must be able to optimize the resources they have to develop a tourist village in the Teritip Village. In addition, the development of attractive tour packages is also the key to attracting tourists. Therefore, strengthening human resources related to the professionalism of tourism village management is very necessary in order to advance tourism villages.

SWOT Matrix

The SWOT matrix analyzes the strengths, weaknesses, opportunities and threats to produce alternative strategies that will be carried out by the Teritip Tourism Awareness Community. SWOT analysis is the formulation of conventional strategies that underlie the formation of strategies that can be adapted to the position of the Teritip Tourism Awareness Community. Based on the IE matrix analysis of the Teritip Tourism Awareness Community, it can be determined that the Teritip Tourism Awareness Community is in the Quadrant V (Hold and Maintain) position. So, a suitable strategy is applied to increase the role of the Teritip Tourism Awareness Community in the development of tourist villages in the Teritip-Balikpapan Village as shown in Table 5. The strategies in Table 5 were

Figure 2. IE Matrix Analysis
(Note: vertical axes= EFE index; horizontal axes= IFE index)

obtained by interviewing respondents about the strategies of SO (Strength and Opportunity), WO (Weakness and Opportunity), ST (Strength and Threat), and WT (Weakness and Threat).
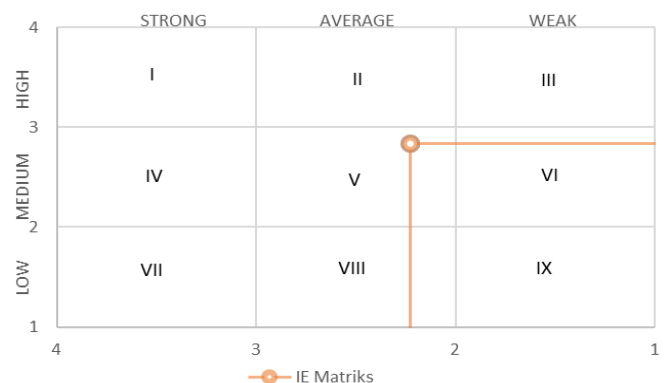
SO Strategy (Strength and Opportunities)

SO strategy is a strategy that utilizes the strengths of the Teritip Tourism Awareness Group Community to take advantage of existing opportunities. One of the strategies that can be offered for the development of the Teritip Tourism Village is the development of a tourism village based on sustainable tourism. Previous studies have discussed the importance of paying attention to sustainability aspects in tourism development (Mwesiumo et al., 2022; Ristić et al., 2019). The development of sustainable tourism in rural areas will contribute to increasing resilience in local communities (Amir et al., 2015). Therefore, several strategies are needed to ensure sustainable development or rural tourism and to maintain the resilience of local communities.

WO Strategy (Weakness and Opportunities)

WO strategy is a strategy that aims to improve weaknesses by taking advantage of external opportunities. The strategies that can be offered in the development of the Teritip Tourism Village are training on strengthening human resources for tourism village managers, compiling and carrying out the functions of the tourism village management

organization, and applying for CSR (corporate social responsibility) grants from industry. The contribution of CSR funds plays an important role in tourism development and is even believed to be able to improve performance and accelerate tourism development (Koseoglu et al., 2021; Kuzey et al., 2021; Wong et al., 2021).

Table 5. Results of SWOT Matrix Analysis (Data source: The processed primary data)

Internal factors / External Factors	Strength (S) 1. The Tourism Awareness Community has legal legality as a group managing the barnacle tourism village. 2. Has the potential for tourist attraction (natural, cultural, and artificial/ creative work attractions).	Weakness (W) 1. The management of the Tourism Awareness Community does not yet have a good tourism awareness for the management of tourism villages. 2. Do not have good organizational governance for Tourism Awareness Community. 3. There is no binding regulation for the management of the Tourism Awareness Community. 4. There is no permanent community office yet. 5. There is no permanent funding for the activities of the Tourism Awareness Community. 6. The Tourism Awareness Community does not yet have a program related to the management of tourism villages.
Opportunity (O) 1. Policy on the new capital city of Indonesia in East Kalimantan. 2. The tourism sector as one of the national development priorities. 3. Corporate Social Responsibility (CSR) grant for industry in Balikpapan.	SO 1. Development of tourism villages based on sustainable tourism (S1, S2, O1, O2, O3)	WO 1. Training on strengthening human resources for tourism village managers (W1, W2, O1, O2); 2. Develop and carry out the functions of the tourism village management organization (W2, W3, W6, O1, O2); 3. Application of CSR grants from industry (S1, O2, O3).
Threat (T) 1. The Covid-19 pandemic has weakened tourism activities 2. The dynamics of changing tourist behavior 3. Disruption of new technologies in the tourism sector	ST 1. Application for CHSE (Cleanliness, Health, Safety & Environment Sustainability) certification for tourist villages (S1, S2, T1, T2). 2. Development of tourism village digitization (S1, S2, T2, T3).	WT 1. Institutional strengthening of tourism village administrators and program development (W1, W2, W3, W5, W6, O1, O2, O3)

ST Strategy (Strength and Treat)

The ST strategy is a strategy that uses the strength of the Teritip Tourism Awareness Community to avoid or reduce the impact of external threats. Strategies that can be offered for the development of the Teritip Tourism Village are the submission of CHSE certification for tourist villages and the development of digitizing tourist villages. CHSE certification is the process of granting certificates to Tourism Businesses, Tourism Destinations, and other Tourism Products to provide guarantees to tourists for the implementation of Hygiene, Health, Safety, and Environmental Sustainability (Kemenparekraf, 2020). Obtaining the CHSE certification aims to provide certainty and guarantee of cleanliness and safety for tourists during their activities in tourist destinations during the Covid-19 pandemic.

WT Strategy (Weakness and Treat)

WT strategy is a strategy that is directed to reduce internal weaknesses and avoid external threats. The main weakness in the development of the Teritip Tourism Village is that it does not yet have good Pokdarwis organizational governance. This is certainly an obstacle in the process of optimizing the role of the Teritip Tourism Awareness Community in the development of tourism villages in the Teritip-Balikpapan Village. The strategies that can be offered for the development of the Teritip Tourism Village are strengthening the tourism village management institutions and program development. This strategy is important to do to deal with the impact of the Covid-19 pandemic on the tourism industry (Gabriel-Campos et al., 2021). The importance of strengthening communities and social networks for the development of tourist villages during the pandemic has also been discussed in previous studies (Gabriel-Campos et al., 2021).

Strategy Priority Analysis (Quantitative Strategic Planning Matrix)

After doing the input stage of the analysis of the internal and external environment through the EFEM and IFEM matrices. As well as the matching stage with the IE and SWOT matrices, the next stage is the decision stage using QSPM. This technique objectively indicates which alternative strategy is the best. QSPM uses input from the first stage and the match from the second stage to objectively determine among alternative strategies.

The QSPM determines the relative attractiveness of various strategies based on the extent to which internal and external strategic factors are utilized or improved. The AS (Attractiveness Score) shows the attractiveness of each strategy to the community's internal and external key factors. AS scores were obtained through a questionnaire addressed to the five expert respondents. The TAS (Total Attractiveness Score) value of each respondent is obtained from the result of multiplying the average weight with the AS value of each strategic key factor. Then proceed with the calculation of the STAS value (Sum Total Attractiveness Scores) of each respondent by adding up the entire TAS value of each internal and external factor.

Several alternative strategies analyzed by using QSPM are as follows: (1) development of tourism villages based on sustainable tourism; (2) training on strengthening human resources for tourism village managers; (3) develop and carry out the functions of the tourism village management organization; (4) application of CSR grants from industry; (5) submission of the tourist village CHSE certification; (6) development of digitalization of tourist villages; (7) institutional strengthening of tourism village management and program development. Based on the results of the QSPM assessment, it is obtained in order from the highest to the lowest TAS value. From this sequence, priority strategies can be generated that can be implemented by the Teritip Tourism Awareness Community in the development of tourism villages in the Teritip-Balikpapan Village, namely as follows: (1) training on strengthening human resources for tourism village managers (17.74); (2) institutional strengthening of tourism village management and program development (16.94); (3) development of tourism villages based on sustainable tourism (16.22); (4) development of tourism village digitization (15.74); (5) application of CSR grants from industry (14.83); (6) develop and carry out the functions of the tourism village management organization (15.09); (7) submission of tourism village CHSE certification (14.25).

CONCLUSION

Based on the results of the IE analysis, it can be seen that the position of the Tourism Awareness Ccommunity is in quadrant V (Hold and Maintain), namely the market penetration strategy and product development. This finding means that professional tourism village management is very important to increase the number of tourist visits. The tourism village manager must be able to optimize the resources they have to develop a tourist village in the Teritip Village. In addition, the development of attractive tour packages is also the key to attracting tourists. Therefore, strengthening human resources related to the professionalism of tourism village management is very necessary in order to advance tourist villages, especially in the context of restoring tourist villages after the Covid-19 pandemic.

Alternative strategies for the development of tourism villages in the Teritip-Indonesia sub-district carried out by the Tourism Awareness Community in succession are (1) training to strengthen human resources for tourism village managers; (2) strengthening of tourism village management institutions and program development; (3) development of tourism village based on sustainable tourism; (4) development of digitalization of tourist villages; (5) application of CSR grants from industry; (6) formulating and carrying out the functions of the tourism village management organization; and (7) application for CHSE tourism village certification. The results of this study have important implications for the development of tourist villages in other areas after the Covid-19 pandemic.

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KEDAH TUA KINGDOM ANCIENT RIVER JETTY ARCHITECTURE AS AN ICONIC TOURISM PRODUCT OF KUALA MUDA DISTRICT, KEDAH, MALAYSIA

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Abstract: Archaeological studies conducted at one of the sites located on the river banks of the Sungai Batu aim to reveal the architecture of the ancient river jetty structure. In order to obtain primary data related to the architectural appearance of this jetty, field research consisting of survey, mapping, excavation and analysis of artifacts was conducted to enable the final interpretation to be submitted. Based on the study has revealed the discovery of a monumental structure built entirely of brick directed and sloping towards the ancient river clearly suggests its function as a ancient jetty. The chronometric dating of the jetty was determined using the OSL method which was built since 582 BCE. Based on Outstanding Universal Value (OUV) data revealed by the world-impact jet site, it allows iconic travel packages to be created and offered to tourists in the district.

Key words: river jetty, chronometric dating, iconic product, archaeotourism

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INTRODUCTION

Archaeological research in the Sungai Batu Archaeological Complex with an area of about 4 sq km (Figure 1) have enabled primary data related to iron smelting industry workshops, river jetties, jetty administrative and ritual monument to be recorded (Table 1). This is because the results of the survey and mapping have recorded a total of 97 mound which are expected to have evidence embedded beneath them based on surface findings such as bricks, iron ore, iron slag and tuyere. This shows that the mound has the potential to conduct a comprehensive archaeological study to complement the results of the survey. Archaeological survey and mapping has provided positive data related to the potential of the site, the excavation process was carried out from 2009 to 2022. The excavation results in this complex until 2022 have revealed 17 iron smelting workshops (Mokhtar, 2012; 2019), 11 river jetties (Halim, 2014; 2019; Zakaria, 2014), 17 jetty administrative (Aminuddin, 2015; Ahmad, 2016; Yusof, 2016) and six ritual monuments (Hassan, 2018). Iron smelting sites are classified based on the findings ruins of furnaces, iron ore, iron slag, tuyere and iron ingots (Mokhtar, 2019). The jetty structure is classified based on the construction of buildings that are directed and sloping to the river which is built of bricks (Halim, 2019) while the administrative is built horizontally with the presence of small rooms (Ahmad, 2016).

(a)

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(b)

Source:
1) Google Earth   2) Field Documentation   3) Field Coordinate Ploting
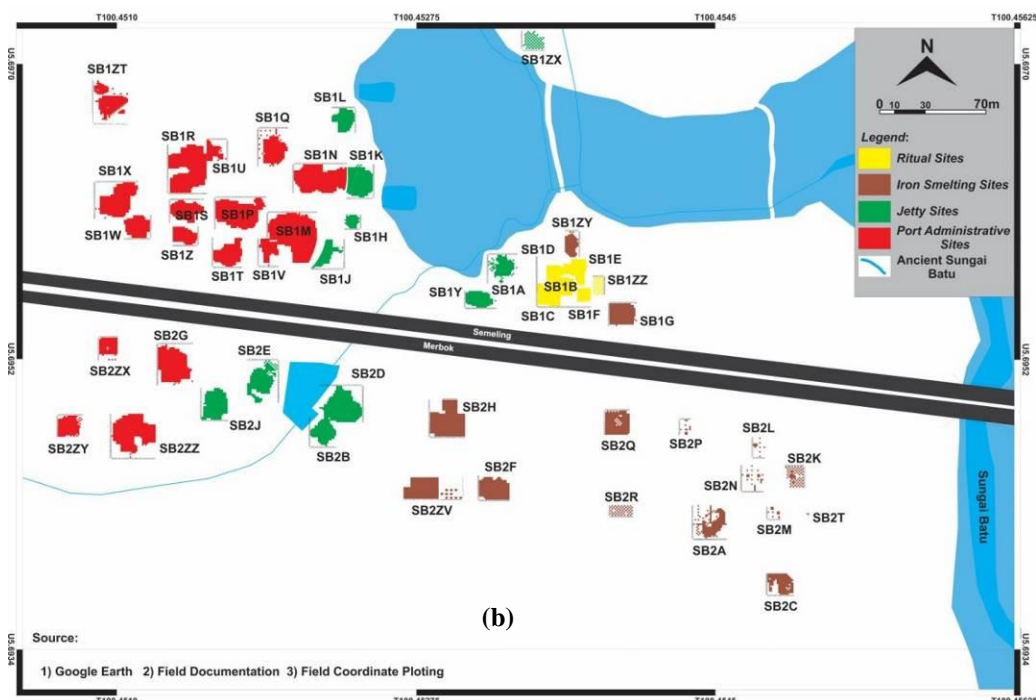
Figure 1. Sungai Batu Archaeological Complex location in Southeast Asia region (a) and site mapping
(b) based on archaeological research (Source: Google Map, 2022; Field Documentation, 2022; Field Coordinate Ploting, 2022)

Table 1. Archeological findings at Sungai Batu Archaeological Complex (Source: Research data analysis, 2022)

No.	SITES	COORDINATE	UNIQUENESS
1	SB1A	05 41 73.3 U; 100 27 19.7 T	1. Jetty structure; 2. 3rd Century AD; 3. The architecture is directed and slopes towards the river
2	SB1B	05 41 73.3 U; 100 27 19.7 T	1. Aminisme and Buddha temple; 2. 2nd Century AD; 3. The structure is a circle at the base, a rectangle in the middle and a small circle at the top
3	SB1C	50'41.5' U; 100'27.03' T	1. SB1B supporting building; 2. 3rd Century AD; 3. Ruins building of brick
4	SB1D	50'41.5' U; 100'27.03' T	1. SB1B supporting building; 2.1st Century BCE; 3. Ruins building of brick
5	SB1E	50'41.5' U; 100'27.03' T	1. SB1B supporting building; 2. 3rd Century AD; 3. Ruins building of brick
6	SB1F	05º41'43.89" U; 100º27'12.26" T	1. SB1B supporting building; 2. 12-13th Century AD; 3. Ruins building of brick
7	SB1G	5º41'43.61" U; 100º27'11.55" T	1. Iron Smelting Site; 2. 4-18th Century AD; 3. Find base of the furnace, tuyure, iron ore, iron ingots and iron slag
8	SB1H	05°41.45.8' U; 100°27.08.4' T	1. Iron Smelting Site; 2. 4-18th Century AD; 3. Find base of the furnace, tuyure, iron ore, iron ingots and iron slag
9	SB1J	05°41.45.2' U; 100°27.08.3' T	1. Jetty structure; 2. 1st Century BCE; 3. The architecture is directed and slopes towards the river
10	SB1K	05°41.46.3' U; 100°27.08.7' T	1. Jetty structure; 2. 1st Century BCE; 3. The architecture is directed and slopes towards the river
11	SB1L	05°41.47.5' U; 100°27.08.6' T	1. Jetty structure; 2. 1st Century AD; 3. The architecture is directed and slopes towards the river
12	SB1M	5°41.753' U; 100°27.115' T	1. Administrative Structure; 2. 1st Century BCE; 3. Small room and horizontal monument
13	SB1N	5°41.781' U ; 100°27.128' T	1. Administrative Structure; 2. 1st Century BCE; 3. Small room and horizontal monument
14	SB1P	05°41.764' U; 100°27.092' T	1. Administrative Structure; 2. 2nd Century BCE; 3. Small room and horizontal monument
15	SB1Q	05°41.779' U; 100°27.103' T	1. Administrative Structure; 2. 2nd Century BCE; 3. Small room and horizontal monument
16	SB1R	05°41.779' U; 100°27.077' T	1. Administrative Structure; 2. 5th Century BCE; 3. Small room and horizontal monument
17	SB1S	05°41.766:" U; 100°27.069" T	1. Administrative Structure; 2. 5th Century BCE ; 3. Small room and horizontal monument
18	SB1T	05°41.747" U; 100°27.094" T	1. Administrative Structure; 2. 2nd Century BCE; 3. Small room and horizontal monument
19	SB1U	05°41.787" U; 100°27.081" T	1. Administrative Structure; 2. 2nd Century AD; 3. Small room and horizontal monument
20	SB1V	05°41.743" U; 100°27.112" T	1. Administrative Structure; 2. 3rd Century AD; 3. Small room and horizontal monument
21	SB1W	05°41.765' U ; 100°27.052' T	1. Administrative Structure; 2. 7th Century AD; 3. Small room and horizontal monument
22	SB1X	05°41.754' U ; 100°27.130' T	1. Administrative Structure; 2. 2nd Century AD; 3. Small room and horizontal monument
23	SB1Y	5°41' 43.38" U; 100° 27' 10.95' T	1. Jetty structure; 2. 2nd Century AD; 3. The architecture is directed and slopes towards the river
24	SB1Z	05°41.750" U; 100°27.103" T	1. Administrative Structure; 2. 3rd Century BCE; 3. Small room and horizontal monument
25	SB1ZZ	05°41'43.89" U; 100°27'12.26" T	1. SB1B supporting building; 2. 12 Century AD; 3. Ruins building of brick
26	SB1ZY	5°41'45.13" U; 100°27'12.72" T	1. Iron Smelting Site; 2. 4th Century BCE; 3. Find base of the furnace, tuyure, iron ore, iron ingots and iron slag
27	SB1ZX	05° 41' 49.520" U 100° 27' 12.060" T	1. Jetty structure; 2. Dating has not been obtanied; 3. The architecture is directed and slopes towards the river
28	SB1ZT	5°47.29" U; 100°27'01.72" T	1. Jetty structure; 2. Dating has not been obtanied; 3. The architecture is directed and slopes towards the river
29	SB2A	5°41.651' U; 100°27.277' T	1. Iron Smelting Site; 2. 1st Century AD; 3. Find base of the furnace, tuyure, iron ore, iron ingots and iron slag
30	SB2B	05º41'43" U; 100º27'59" T	1. Jetty structure; 2. 4th Century AD; 3. The architecture is directed and slopes towards the river
31	SB2C	5°41'38.05" U; 100º27'17.04" T	1. Iron Smelting Site; 2. 8th Century AD; 3. Find base of the furnace, tuyure, iron ore, iron ingots and iron slag
32	SB2D	05º41'64" U; 100º27'08.35" T	1. Jetty structure; 2. 6th Century BCE; 3. The architecture is directed and slopes towards the river

33	SB2E	05°41.42.9' U; 100°27.06.2' T	1. Jetty structure; 2. 3rd Century BCE; 3. The architecture is directed and slopes towards the river
34	SB2F	5°41'40.20" U; 100°27'11.55" T	1. Iron Smelting Site; 2. 1st Century BCE; 3. Find base of the furnace, tuyure, iron ore, iron ingots and iron slag
35	SB2G	05°41'42.2" U; 100°27.04.4 T	1. Administrative Structure; 2. 5th Century BCE; 3. Small room and horizontal monument
36	SB2H	05°41'41.42" U; 100°27'10.68" T	1. Iron Smelting Site; 2. 8th Century BCE; 3. Find base of the furnace, tuyure, iron ore, iron ingots and iron slag
37	SB2J	05°41'42.0" U; 100°27'05.2" T	1. Jetty structure; 2. 4rd Century Century; 3. The architecture is directed and slopes towards the river
38	SB2K	05° 41' 40.18" U 100° 27' 16.11" T	1. Iron Smelting Site; 2. 4th Century AD; 3. Find tuyure, iron ore, iron ingots, iron slag, shells and animal bones
39	SB2L	05°41'40.42" U; 100°27'16.01" T	1. Iron Smelting Site; 2. 5th Century AD; 3. Find tuyure, iron ore, iron ingot, iron slag and shells
40	SB2M	05°41'39.59" U; 100°27'16.01" T	1. Iron Smelting Site; 2. 3rd Century AD; 3.Find tuyere, iron ore and iron slag
41	SB2N	05°41'40.09" U; 100°27'14.85" T	1. Iron Smelting Site; 2. 3rd Century AD; 3.Find tuyere, iron ore and iron slag
42	SB2P	05°41'39.43" U; 100°27'16.70" T	1. Iron Smelting Site; 2. 3rd Century AD; 3.Find tuyere, iron ore and iron slag
43	SB2Q	05°41'41.48" U; 100°27'13.41" T	1. Iron Smelting Site; 2. 6th Century AD; 3.Find base furnace, tuyere, iron ore and iron slag
44	SB2R	05° 41' 39.69" U; 100° 27' 16.13.73" T	1. Iron Smelting Site; 2. 6th Century AD ; 3.Find tuyere, iron ore and iron slag
45	SB2T	05° 41' 39.43" U; 100° 27' 16.70" T	1. Iron Smelting Site; 2. Dating has not been obtanied ; 3.Find iron ore and iron slag
46	SB2W	05° 41' 39.30"U; 100° 27' 13.72" T	1. Iron Smelting Site; 2. Dating has not been obtanied; 3.Find laterite
47	SB2Y	05° 41' 40.36" U 100° 27' 12.83" T	1. Iron Smelting Site; 2. Dating has not been obtanied; 3.Find base furnace, tuyere, iron ore,iron slag and brick
48	SB2ZZ	05°41'41.4" U; 100°27'03.8" T	1. Port Administrative; 2. 2nd century Ad; 3. Small room and horizontal monument
49	SB2ZY	05°41'40.57" U; 100°27'2.18" T	1. Port Adminstrative; 2. 5th Century BCE; 3. Small room and horizontal monument
50	SB2ZX	05°41'43"; 100°27'01" T	1. Port Adminstrative; 2. Dating has not been obtanied; 3. Small room and horizontal monument
51	SB2ZV	U 5°41.39; T 100°27'09"	1. Iron Smelting Site; 2. Dating has not been obtanied ; 3.Find base furnace, tuyere, iron ore,iron slag and brick

In order to obtain primary data related to monument architecture technology and the use of local raw materials in the construction process of river jetty in this area, contour mapping, sketching, stratigraphy and scientific analysis involving Petrography, XRD, XRF and SEM were conducted. This was done to prove the hypothesis related to the construction technology of the jetty structure in the Sungai Batu Archaeological Complex is to use local materials obtained in the area of the complex.

OBJECTIVES OF THE STUDY

This study was conducted with the main purpose to find out the architecture and function of each site on the left and right river banks of Sungai Batu in particular. The architectural appearance obtained during the excavation will determine the actual function of the monument. To determine the absolute age of the river jetty, some brick samples were also taken and sent to Korea Basic Science Lab, Korea to undergo Optical Stimulated Luminescence (OSL) method for the purpose of obtaining absolute chronometric dating data.

RESEARCH METHODOLOGY

To complete the primary data of this study, survey (potential and alluvial sediment using a core drilling technique) and mapping (geophysics, contour and cross section) activities on the river banks of the Sungai Batu were carried out comprehensively. After the potential of the site was identified, the process of cleaning and installation of the excavation grid measuring 1x1 square meters was done before the contour and geophysical mapping was carried out. After that, an excavation process was done to reveal the architectural form of the monument that is still in-situ at the site. During the excavation activities, any findings of artifacts, ecofacts, features (architecture) and studies on stratigraphic layers were conducted to determine which sites studied were in-situ were carefully recorded to enable a final interpretation to be submitted. Artifacts found will also undergo quantitative

Figure 2. Field study methodology chart at Sungai Batu Archaeological Complex (Source: illustrated by author, 2022)

and qualitative analysis methods for the purpose of measurement and aggregation of artifacts during the field study. After that, selected artifacts that are still in-situ with the monumental architecture will be sent to obtain chronometric dating data at Korea Basic Sains Lab, Korea and XRD, XRF and SEM scientific analysis at the Earth Material Characterisation Laboratory, Center for Global Archaeological Research (CGAR), University Sains Malaysia, Pulau Pinang, Malaysia (Figure 2). All these data will help in the interpretation of the actual function of the site for which the study has been conducted.

Survey

Survey activities conducted at the site near the river banks of Sungai Batu have recorded the discovery of bricks and roof tiled on the ground surface (Figure 3) which revealed the potential of the site in archaeological studies such as the interpretation of Hester et al., (1975), Wilkinson (2007) and Sobotkova and Ross (2018). Furthermore, the location of the study site is also close to alluvial sediment deposits as recorded by the Geological Map of Malaysia (Geological Map, Sheets 2-1/2 & 2-1/6, Years 1972) (Figure 4) and on the river banks of the Sungai Batu based on the Topographic Map

(Topographic Map, No. Sheets 16, Years 1970) (Figure 5). This provides preliminary information related to the facility to obtain clay to be used as a raw material for the manufacture of bricks and roof tiled (Halim, 2019) for the construction of monumental structures in this area in particular. The results of core drilling conducted on 11 drilling localities suggest that the Sungai Batu Complex area consists of several alluvial sediments, soil layers and sedimentary rocks that have been fully weathered and highly weathered. The alluvial sediment is about 3 meters thick except in the locality of ADH 9 which reaches a thickness of 4.5 meters. Fully weathered to highly weathered sedimentary rocks are characterized by clay or silt rocks that have characteristics similar to the argillite facies of the Sungai Petani Formation and have a high iron oxide content (Bradford, 1972). Based on the drilling logs ADH3, ADH5, ADH6, ADH7, ADH 9 and ADH 10 (Figure 6) suggest the deposition of the alluvial layer was between 0.5 meters to 4.5 meters and the lake level at that time was 14 meters above sea level. Survey activities were also conducted around the Sungai Batu Archaeological Complex to see the raw materials for burning and smelting iron. The results of the survey clearly show that the abundant raw material recorded its findings around one kilometer from this complex which shows its potential as an industrial area (Figure 7). Even with

Figure 3. Surface findings of roof tiled and bricks suggesting that site had a potential for archaeological studies (Source: Result survey by the author, 2022)

the presence of Sungai Merbok which is also within one kilometer from this complex which is able to supply fuel from mangrove wood for the smelting process (Figure 8) is also one of the triggering factors to the suitability of the surrounding area of this complex developed as a large-scale industrial area.
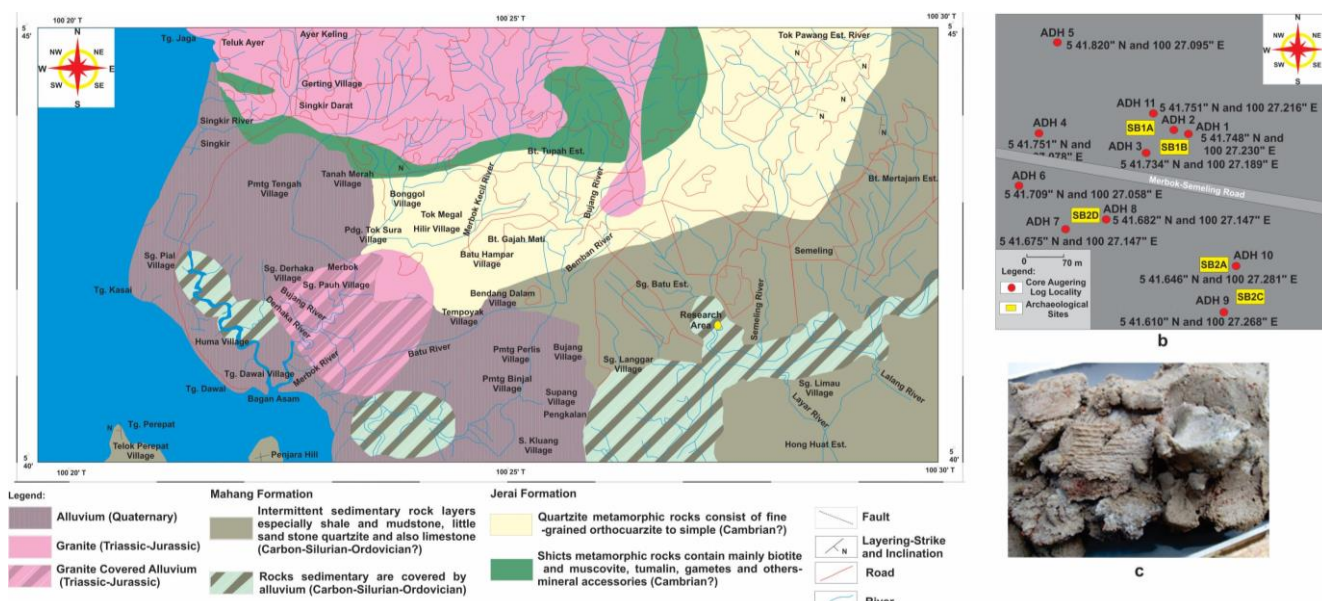
Figure 4. Geological map (a) shows the location of the log augering at Sungai Batu Archaeological Complex (b) which is close to the alluvial sediment (c) that allows it to be used as a raw material for bricks making (Source: Geological Map, Sheets 2-1/2 & 2-1/6, Years 1972)
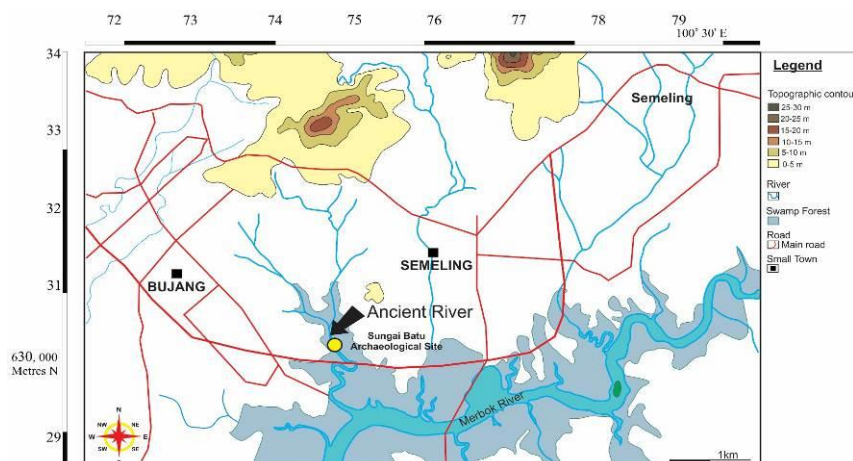
Figure 5. Topographic map of Sungai Petani area shows the existence of the Sungai Batu Archaeological Complex near the ancient river which provides an abundance of clay (swamp forest area) for the purpose of bricks making (Source: Topographic Map, No. Sheets 16, Years 1970)
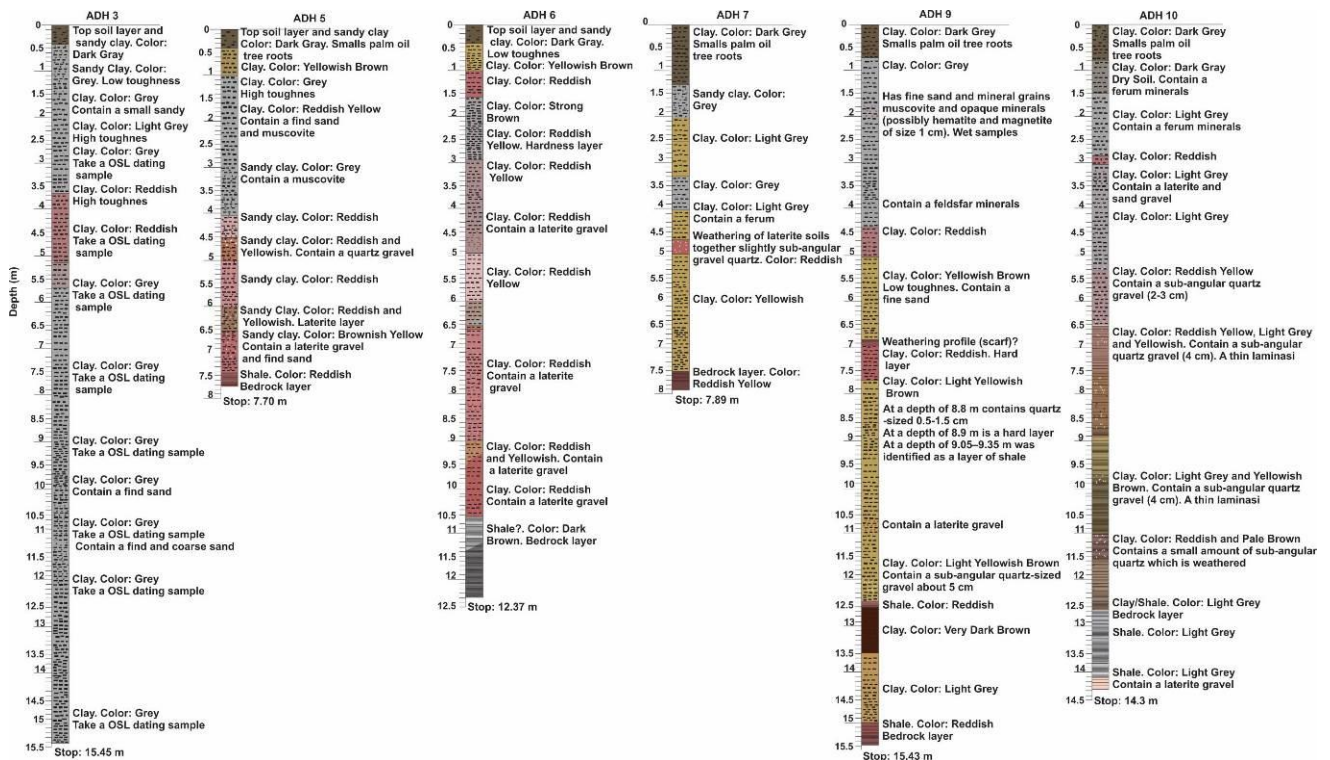
Figure 6. Stratigraphic log sequence of core drilling locality ADH3, ADH5, ADH6, ADH7, ADH 9
and ADH 10 at Sungai Batu Archaeological Complex revealing alluvial deposition (Source: Research data analysis, 2022)
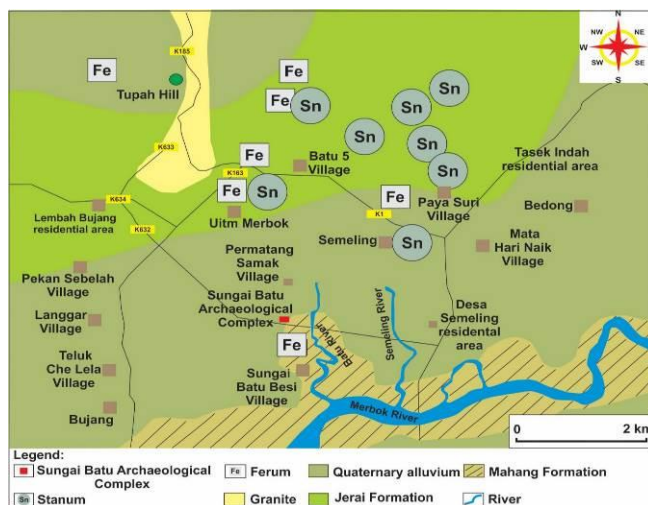
Figure 7. Location of the iron smelting raw material survey which showed an abundance of iron ore found around one kilometer from the Sungai Batu Archaeological Complex (Source: Jones, 1972 and illustrated by author, 2022)
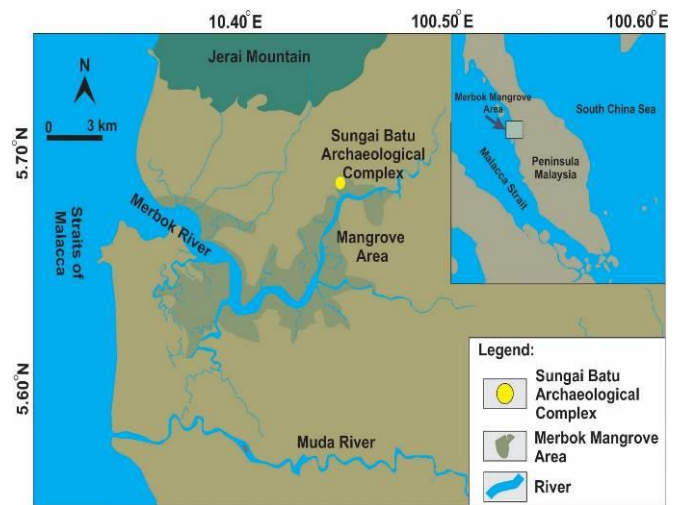
Figure 8. The abundance of mangrove trees along the Merbok River has been used as fuel for iron smelting at Sungai Batu Archaeological Complex (Source: Abidin et al., 2021 and illustrated by author, 2022)

SEM-EDX analysis was also conducted on charcoal samples found in the iron smelting workshop at the Sungai Batu Archaeological Complex to prove the results of the survey conducted. The results of the analysis have revealed a carbon element around 50.51-68.81% which shows the use of high quality mangrove fuel (Mokhtar, 2019). The interpretation of the use of mangroves as a fuel is also strengthened by photomicrographic analysis which shows that the charcoal has a dense and hollow structure (porosity) that almost matches the characteristics of mangrove wood (Mokhtar, 2019; Saidin, 2022).

Archaeological Excavations at the Ancient River Jetty

Archaeological excavations conducted at the SB2D river jetty site at the Sungai Batu Archaeological Complex were alternately in the dam technique (Figure 9). In addition, geophysical mapping using Ground Penetrating Radar (GPR) method is also applied to obtain magnetic anomaly data (Figure 10) which allows to suggest areas to be excavated in advance to be determined (Halim, 2019). The Mala Geoscience ProEx GPR equipment set using a 500MHz shielded antenna and an XV monitor display was used during the geophysical mapping. The determination of such excavation procedures allows the stratigraphic layer and the actual area of the site to be determined (Halim, 2019). The excavation process carried out especially at the SB2D site has been able to explain the structure of the monument which consists of

floors, walls, corridors and roof tiled as evidence that it is roofed structure. The architectural structure of this monument is still in-situ as it was originally which can illustrate the actual function inside the Sungai Batu Archaeological Complex. After the excavation was completed, the process of record a pictures of the site from a side view was carried out for the purpose of recording field data. After that, the process of producing the floor map plan, contour mapping and site cross section was also done which showed that the jetty site was built sloping towards the ancient river (Figure 11).
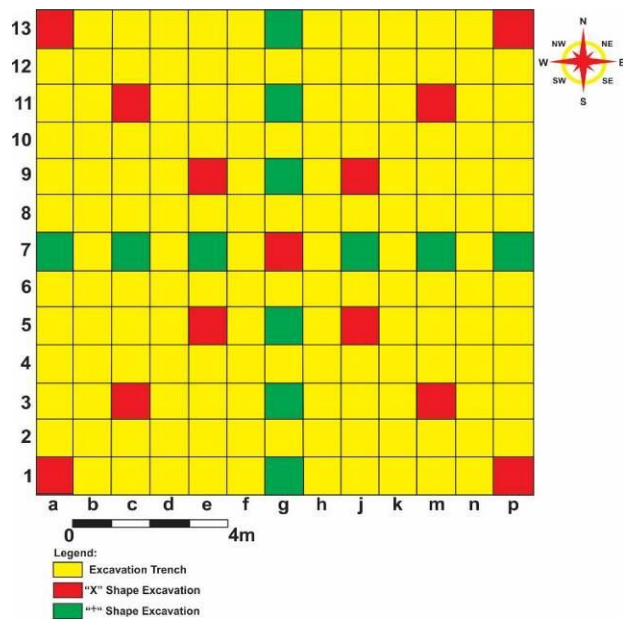
Figure 9. Excavations carried out alternately in the form of checkers either in the form of "X" or "+" for the purpose of data collection (Source: Research data analysis, 2022)

Figure 10. The results of geophysical anomaly analysis using GPR technique have revealed anomaly readings (red rectangles) which suggest the possibility of building structures buried below the ground surface (Source: Research data analysis, 2022)

Figure 12. Stratigraphy of the SB2D site showing the structure of the monument is still in-situ embedded to a depth of 75 cm (Source: Research data analysis, 2022)

Figure 11. The architectural appearance of the SB2D site from a side view that allows the floor plan (a) of the site to be submitted. Cross-section (b) also show that monument was built sloping westward on an ancient river confirming its function as a jetty (Source: Research data analysis, 2022)

This shows that the site more clearly serves as a river jetty in the Sungai Batu Archaeological Complex. In addition, studies on stratigraphic layers also revealed that the site has four soil layers that are still in-situ (Figure 12). Layers one to three are layers that are on top of the culture layer that has a thickness of up to 75 cm. No artifact finds were recorded on this layer. The fourth layer is the cultural layer that has recorded the discovery of floors, corridors, walls and tiled roofs. This layer is expected to have a thickness of up to 10 cm.

Ancient River Jetty Architecture at SB2D Site

Excavations at the SB2D site revealed evidence of floors, walls, corridors and roof tiled (Figure 13) that proved the monumental structure at the site was roofed. The roof tiled were found in a scattered in the northern and southern parts of the SB2D site. In addition, a pillar base structure was found at the end of the main floor structure of the SB2D building which strengthened the use of the roofed structure at the site.

The main floor structure of the site was constructed north-south oriented and was built on clay with brick fragments and a roof tiled used as a foundation stabilizer. The floor structure of the main building is classified based on the remnants of 42 rows of in-situ brick stacks built measuring 20.6 meters long and 4.7 meters wide. The average brick size used for the floor structure at the SB2D site was 26x17x5 cm and between each stack of floor bricks is spaced about 15 cm per floor row with

an estimated length of each floor row around 4.10-4.15 cm. A floor architecture that has a distance between each floor row is proposed to function as one of the means of water outflow from the main building especially when the water level rises. In fact, bricks are also placed in the space of each row of bricks to prevent them from being eroded when the water level rises.
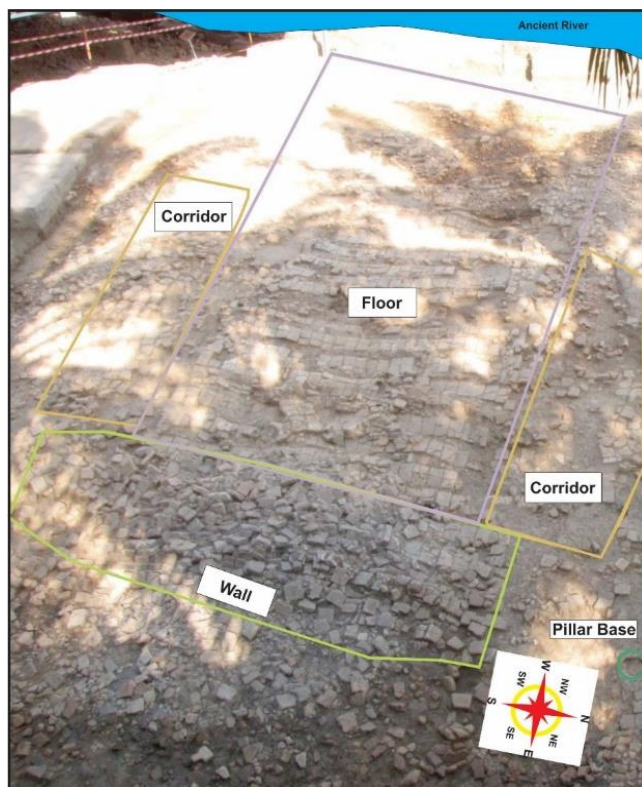
Figure 13. Architectural of the SB2D site
(Source: Research data analysis, 2022)

Figure 14. A mooring mast structure found near the river banks of ancient Sungai Batu (Source: Research data analysis, 2022)

Figure 15. SB2D river jetty site reconstruction plan
(Source: Research data analysis, 2022)

Excavation of the SB2D site found a wall structure that is on the east side. The wall structure was built with a width of 4.7 meters and arranged with 12 rows of bricks that form a wall structure that is about one meter high. This wall structure serves as a space divider between the floor structure and the corridor at this site. The average brick size used to represent the wall structure was 17x14x5 cm. The corridor structure has been classified architecturally based on the arrangement of bricks arranged non-uniformly and has an estimated distance of 10 cm between each brick that exhibits differences in architectural appearance with the floor. The corridor structure is 14 meters long and four meters wide on the side of the main building while the corridor structure on the east side of the site is four meters long and three meters wide. Archaeological studies at the site also recorded the discovery of pillar base that were still in-situ at the end of the corridor structure. The discovery of the pillar base structure illustrates that the jetty monument at the SB2D site has a roofed structure. The base structure of the pillar is round in shape with an average size of about 15 cm. The discovery of the pillar base was also reinforced by the discovery of a dominant roof tiled distribution in the eastern and northern parts of the SB2D site. Furthermore, the findings of wooden structures (Figure 14) that are expected to be used as ship mooring mast (Zakaria, 2014) clearly strengthen the interpretation the existence of river jetty architecture at this site. The wooden structure is found in trench am21, an21 and ap21, which is on the river banks of the ancient Sungai Batu.

In addition, in the northern part of the SB2D site there is a horizontal structure was built in the rectangle shape. The structure is eight meters long and six meters wide. The structure was built with a single layer of brick arrangement without any reclamation with brick gravel or roof tiled. The average size of the bricks used to erect this structure has similarities with the main floor bricks which is 26x17x5 cm. Based on the appearance of this monument it is likely that this structure serves as a supporting monument to the jetty structure at the SB2D site. Based on the findings of floor, walls, corridors, pillar base structure and roof tiled that are still in-situ at the SB2D site, Figure 15 is a plan for the reconstruction of the river jetty structure at the site. The river jetty structure was built with an area of 28x27 square meters and slopes about 20º towards the ancient river. However, the shape of the roof structure at this site could not be determined accurately due to the lack of evidence related to the location and the actual number of pillar base at this site. A comparative study conducted on the architecture of administrative (Figure 16) and rituals monument (Figure 17) clearly shows architectural differences that suggest their functions are not the same. This is because the architecture of the administrative monument is built horizontally with the presence of small room space (Ahmad, 2016 and Yusof, 2016) while the ritual monument is built with a circle structure at the base, a square in the middle and a small circle on it (Hassan, 2018). To determine when the SB2D jetty site was built exactly then some brick samples were taken and sent to the dating laboratory to get the absolute dating of
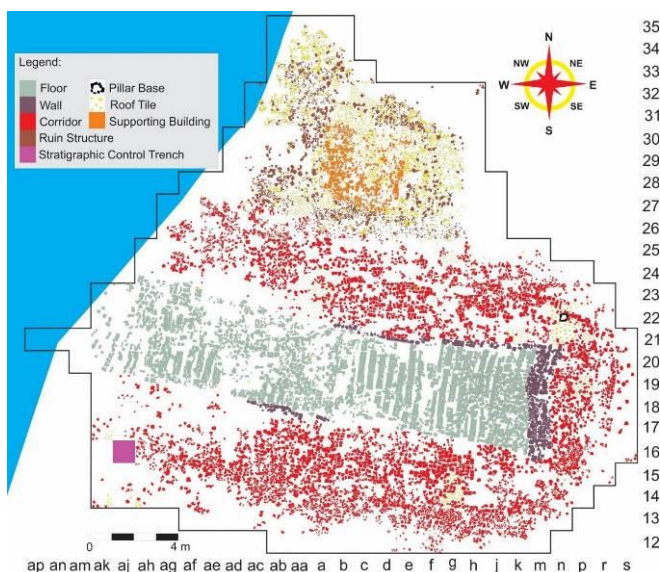
this site. Brick samples from floor and corridor structures were used to undergo the Optically Stimulated Luminescence (OSL) dating method at Korea Basic Science Lab, Korea to determine the absolute age of the site. The results of the dating have suggested that the SB2D site was built and used from 582 BCE to 420 AD at the Sungai Batu Archaeological Complex. This indicates that the SB2D jetty site has been used as an aid for the export of iron ingots in this area starting from 788 BCE.
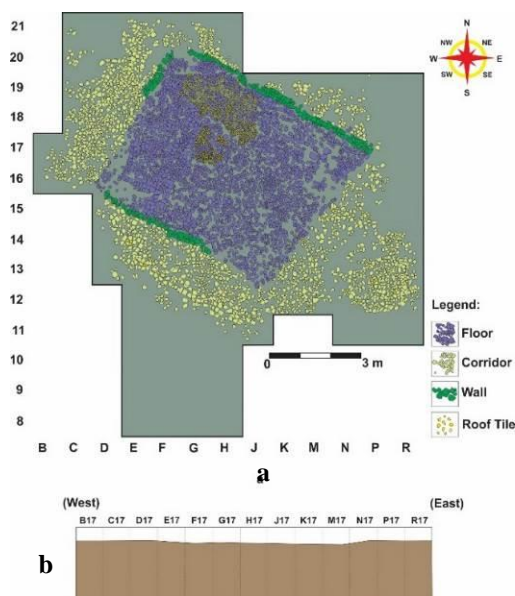
Figure 16. Architecture of river jetty administrative monument (a) built horizontally based on cross section mapping (b) (Source: Research data analysis, 2022)
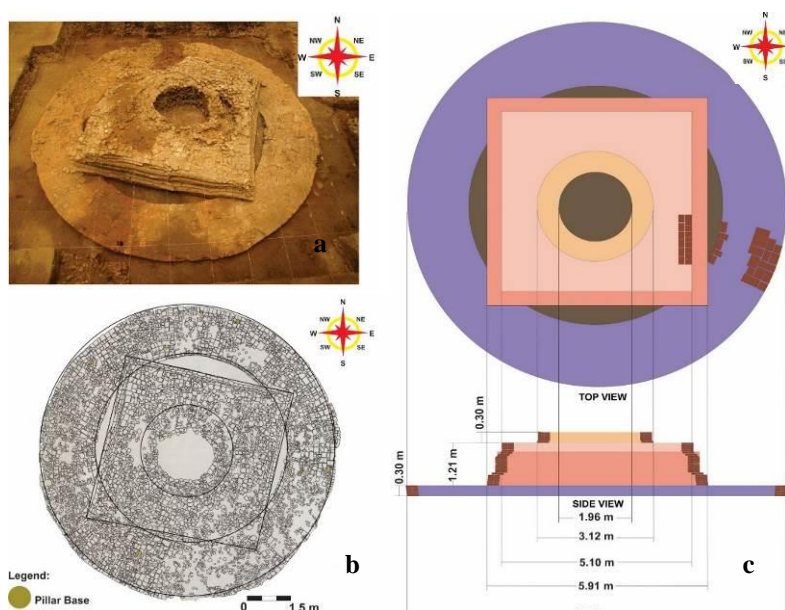
Figure 17. SB1B ritual site architecture (a), sketch (b) and reconstruction plan (c) showing architectural differences with SB2D ancient river jetty site (Source: Research data analysis, 2022)

Outstanding Universal Value (OUV) of Ancient River Jetty Site

To date, archaeological research at the ancient river jetty, administrative, ritual sites and iron smelting workshop at Sungai Batu Archaeological Complex have been able to reveal the Outstanding Universal Value (OUV) by the site which qualifies it to be nominated as a World Heritage Site (WHS) category. Among the Outstanding Universal Value (OUV) found at the ancient river jetty structure at the Sungai Batu Archaeological Complex are (1) for the first time found the most complete jetty architectural in the world, (2) reveals evidence of a river jetty built since the sixth century BCE representing the world iron trade and (3) the only area in the world that reveals the most jetties close to each other in the vicinity of a river. The Outstanding Universal Value (OUV) data for the river jetty site in the ancient port of Kedah Tua which qualifies it to be developed as a UNESCO world heritage site and as an iconic tourism product.

The Most Complete Ancient River Jetty Architecture

In general, the academic study conducted at the Sungai Batu Archaeological Complex has been able to record the discovery of a complete river jetty structure. The structure of the river jetty is classified by the presence of floor structures, walls, corridors, pillar base and roof tiled that are built sloping towards the ancient river. Current archaeological studies clearly reveal evidence of early world jetties and ports recorded only based on the discovery of ruins of rig structures (Tripati and Gaur, 2009), wooden poles (Lobell and Merola, 2008), walls (Guderjan, 1988: 2012) and breakwaters (Graauw, 2016) embedded in the bottom of a river or sea.

The architectural structure is not clear and most of the jetty and port sites could not be included in the reconstruction plan of the appearance of the building because it has been destroyed. Therefore, only the findings at the Sungai Batu Archaeological Complex to date are able to reveal the most complete architectural form of the river jetty for the early world civilization that can be accompanied by a plan to rebuild the evidence of the port as shown in Figure 18.

Early Iron Ingot Export River Jetty

The chronometric dating of OSL performed on brick samples of river jetty structures is also reinforced by radiocarbon dating of the iron smelting site which gives it its involvement in iron smelting activities since 788 BCE. Based on the chronometric dating data, it is clear that the structure of the Sungai Batu jetty was built for the purpose of exporting Kedah Tua iron ingots, especially since the sixth century AD. In addition, a comparative study of world iron smelting sites also did not reveal the existence of evidence of river jetty sites, jetty administration and rituals in the same area which shows the uniqueness and importance of findings in the Sungai Batu Archaeological Complex in the development of early world civilization. Archaeological studies at iron smelting sites in Southeast Asia by Pryce (2014) at Khao Sam Kaeo sites and Phu Khao Thong (Biggs et al., 2013), Thailand, Preah Khan (Angkor) (Hendrickson et al., 2013), in East Asia at the sites of Hongfengshuiku, Maochengnao, Mianyangdi, Wangyuecun, Xiyuqiao, Cangxiawu, Lidegui and Yanwopu (Garcia, 2017) also did not find jetty architectural structures built specifically for the purpose of exporting iron ingots. Archaeological studies in South Asia such as at the Dhatwa site (Hegde, 1973) and Khasi Hills

(Prokop and Suliga, 2013), West Asia such as at the Ed Dur site (Delrue, 2008), Salut, Oman (Esposti et al., 2016) and Europeans such as the Lecci site, Italy (Giardino and Quercia, 2008) also did not find finds as recorded in the Sungai Batu Archaeological Complex. This suggests that until 2022, only archaeological studies at the Sungai Batu Archaeological Complex will be able to reveal the architecture of the iron ingot export jetty for early world civilizations.

Port Complex

Based on the survey and mapping carried out on the sites located on the left and right river banks of Sungai Batu revealed at least 11 sites that have the potential to reveal the jetty monument that has been buried. It is proposed based on the discovery fragments of brick and roof tiled on the ground surface. To confirm the potential of the site, archaeological studies were conducted at the site. Excavations carried out at the site found that all the main building structures were constructed directed and sloping towards the ancient river which suggested its function as a river jetty. Due to the number of close sites which is between three

Figure 18. Evidence of floor, wall and corridor structures classified at one of the river jetty sites other than the SB2D site at the Sungai Batu Archaeological Complex (Source: Research data analysis, 2022)

to 15 meters each jetty site suggests it as a port complex in this area. Archaeological studies of river jetty and port sites until 2022 did not reveal areas with so many jetties and ports in a river and sea environment (Table 2). To date, only the findings at the Sungai Batu archeological site are the only ones in the world that can reveal 11 evidence of river jetties, 17 jetty administrative, 17 iron smelting sites and six ritual monument that represent the high civilization of the Old Kedah Kingdom.

Table 2. Evidence of structures and constructions at ancient jetty and port sites
exceeding one structure at each location for early world civilizations (Source: Compiled by Authors, 2022)

CIVILIZATION	LOCATION	COUNTRY	CLASSIFICATION	REFERENCE
Southeast Asia	Yarang	Thailand	30 moat structures, canals and temple buildings	Linehan, 1948 & Sidhu, 2021
	Karang Anyar	Indonesia	Seven canal structures, three ponds and a shipwreck	Manguin, 1992 & Wiyanarti, 2018
South Asia	Porbandar	India	Reveals four jetty structures built using limestone blocks	Gaur et al., 2004 & Tripati, 2015
East Asia	Naniwa	Japan	Platform and warehouse structure	Sakaehara, 2009 & Pearson, 2016a
	Sakai	Japan	Platform and warehouse structure	Pearson, 2016b; 2020
West Asia	Pharos (Alexandria)	Egypt	Breakwater and lighthouse structures	Jondet, 1912; 1921: Salem, 1991: Doris, 2006: Vrettos, 2010 & Amr, 2021
	Marea/Philoxenite	Egypt	Four platform from brick structures	Emad Khalil, 2010 & Derda et al., 2021
	Magdala	Israel	Two platform-shaped structures were built on the north and south sides	Sarti et al., 2013 & Galili et al., 2018
Europe	Marseille	France	Wooden pillar structure, building walls of stone blocks	Morhange et al., 1996; 2001
	Narbonne	France	Building structures of stone blocks and warehouses	Kyprouli, 2012
	Pisa	Italy	Two jetty structures of pine wood, stone blocks	Graauw, 2016
	Vounari Tou Kambiou	United Kingdom	Building and warehouse wall structures	Leidwanger, 2005
	Elaia	Turkey	Reveals three ancient port that it closed port, open port and breakwater structure	Seeliger et al., 2013

SB2D Ancient River Jetty Site as a Iconic Tourism Product

Once the archaeological study at the Sungai Batu Archaeological Complex especially at the river jetty site is able to reveal the most complete jetty architecture in the world, then it should be developed as an iconic tourism product. To achieve this goal, several tour packages have been designed and offered to interested tourists. Among the tour packages offered include a guided tour package that will expose tourists to information and evidence of river jetty sites, jetty administrative, rituals and iron smelting workshops available in the area. In addition, for tourists who are interested in taking the full tour package then the tourists will be exposed to a tour of the entire archeological site in this complex as well as exposed to the experience of iron smelting experiments, brick making and simulation of archaeological excavations (Figure 19). Apart from that, to centralize tourism activities at the Kuala Muda district level, an area has been gazetted as the Kuala Muda Tourism Interpretation Center (Figure 20) to manage large-scale tourism packages at the district level. To attract tourists, several tourism products such as geosite Jerai Geopark, Sungai Merbok mangrove biology and Sungai Batu Archaeological Complex have been made the district's iconic tourism products to maximize the offer of global tourism packages to tourists.

Figure 19. Full tour package offered at Sungai Batu Archaeological Complex consisting of site visit
(a), excavation (b), iron smelting (c) and brick making (d) experiment (Source: Research data analysis, 2022)

Figure 20. Kuala Muda Tourism Interpretation Center (PIPKM) which is used
as a one stop center for tourism in Kuala Muda district (Source: Drone Mapping, 2022)

Therefore, seven tourism packages at the district level (Table 3) have been created with a combination of several iconic and byproduct tourism (history, agro, recreation and eco, culture and heritage) that clearly highlight the identity of Kuala Muda district in the tourism sector. The scope of tourism offered to tourists is a package of day trips to tourist sites.

This allows tourists to minimize tourism time as well as to maximize the experience with the beauty of the natural panorama and the validity of the research facts of the tourism product. The unique experience gained through the visit session is expected to generate identity building related to nation building through historical values adapted from the experience of the visit.

CONCLUSION

Archaeological research that has been conducted at the river jetty site has been able to reveal the most complete architectural of the river jetty for the early world civilization built using bricks since 582 BCE. As the archaeological study revealed world-impact OUV data such as 1) the most complete architectural evidence of the river jetty built since 582 BCE, 2) the earliest Kedah Tua iron ingot export jetty and 3) the only area in the world to reveal a total of 11 river jetty sites in the vicinity of the river allows it to be an iconic tourism product in the Kuala Muda district. Based on the privileges that have been recorded, seven tour packages have been offered in the Kuala Muda district to introduce the iconic tourism product to the general public. This allows all the findings that have been recorded during the archaeological study to be interpreted and disseminated to tourists through the available tour packages.

Table 3. Kuala Muda dustrict tourism packages combining iconic tourism products and byproduct tourism (Source: Research data analysis, 2022)

No.	Package	Product
1	Package 1: Kuala Muda Tourism Interpretation Center (PIPKM)	Visit around PIPKM to see the scenery of various species of mangrove forest, Sungai Merbok and the distant view of Mount Jerai. After that, a visit to the PIPKM gallery and batik Merbok kiosk was also held to complete this package.
2	Package 2: Jerai Peak	Visit around PIPKM, former Gurun quarry, Sungai Layar fort, Wan Mat Saman Canal, Forestry Museum, see beautiful scenery of four types of Gunung Jerai forest, Padang Tok Syeikh, Padang Tok Syeikh tower, Tok Syeikh well and Batu Kapal. While on top of Gunung Jerai tourists have the opportunity to enjoy the beautiful scenery with cool temperatures around the hotel The Jerai Hill Resort, beautiful views of Yan and the Botanical Park.
3	Package 3: Kuala Muda Waterfall Recreation	Visit around PIPKM and after that the tour continued by visiting Sungai Batu Archaeological Complex, Semeling historical building, Sungai Layar fort, former Gurun quarry, see the beautiful scenery of lowland tropical forests before reaching Sungai Badak or Sungai Kunyit for recreation.
4	Package 4: Kuala Muda Minerals	Visiting around PIPKM and after that the tour continued by visiting Semeling and Tok Pawang mines, Sungai Batu Archaeological Complex, Sultan Muzaffar Shah 1 Tomb, Besta Gold mine mineralization zone, Tupah, Bukit Batu Pahat Archaeological Complex and Merbok town.
5	Package 5: Kedah Tua	Visit around PIPKM and after that visit Sungai Batu Archaeological Complex, Tomb of Sultan Muzaffar Shah 1, Semeling mangrove charcoal manufacturing center, Pengkalan Bujang Archaeological Complex, Pengkalan Kakap Mosque, Bukit Batu Pahat Archaeological Complex, kelulut honey farm, nira nipah Merbok and enjoy the panorama of the Tanjung Dawai.
6	Package 6: Sungai Merbok Mangrove	Visit around PIPKM and after that see the beautiful scenery of Merbok mangroves, Pulau Tiga palace, Semeling charcoal manufacturing center, Lubuk Pusing palace, Sungai Merbok oyster breeding center, Pantai Merdeka, Pulau Sayak and enjoy the panoramic beauty of Tanjung Dawai .
7	Package 7: Tsunami Gallery and Whisper Market	Visit around PIPKM and after that see the beautiful scenery around Sungai Petani town, Merdeka Bridge, Guar Kepah Neolithic site, Kuala Muda fort, Sungai Muda fort, whisper market, Tsunami gallery, Sayak Island, Mahang Formation red mudstone, Bukit Penjara fort and beautiful views of Merdeka Beach.

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NATURAL AND RECREATIONAL POTENTIAL OF LANDSCAPES
OF THE TOBOL RIVER BASIN WITHIN THE KOSTANAY REGION

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Abstract: This article proposes criteria for a component comprehensive assessment of the recreational attractiveness of the landscapes of the Tobol River basin within the Kostanay region. It is proposed to apply the balance method to calculate the potential, which provides a basis for a comparative analysis of natural and recreational resources and the prospective possibilities of the territory, which has not previously been evaluated by natural and recreational resources. The method allows to get an idea of the availability and volume of natural and recreational resources and to determine the priority areas of recreational activity in the studied region. According to the results of the study, the districts of the region were ranked according to the degree of natural and recreational attractiveness and landscapes with high, medium and low natural and recreational potential were identified.

Key words: recreation, tourism, landscape, natural and recreational potential, landscapes of the Tobol River basin

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INTRODUCTION

In recent years, due to changes in the overall socio-economic situation in Kazakhstan, interest in developing strategies for the sustainable development of regions with recreational resources has increased dramatically. In recent years, the landscape approach has been applied in the research of recreational systems, the essence of which is that the studied territory is considered as a set of interconnected and interdependent geosystems of various hierarchical levels. The final recreational assessment of the territory for each type of recreation is calculated by summing up the partial estimates multiplied by the significance of the characteristic. It should be emphasized here that the critical or close to it state of at least one particular assessment, in essence, reduces to zero the total recreational potential of the territory, which makes it impossible to «total» the methodology of its determination (Berdenov et al., 2021). Geographically, the territory of the Tobol River basin within the Kostanay region is located in the northwestern part of the Republic of Kazakhstan. The landscape of the basin territory is a plain of the West Siberian Lowland in the north and the Turgai tableland in the south, which differs from the northern and central ones in its dryness and diversity of vegetation cover. The territory covers different types of landscapes: forest-steppe, steppe, semi-desert. 14 deposits of therapeutic mud and 4 sources of mineral waters have been identified in this area. The forest-steppe on the territory of the region occupies small areas where birch and aspen-birch spikes alternate with meadow and rich grass-grass steppes. Large forests of the region – Borovskaya, Arakaragai, Kazanbasy forest, a small protected ribbon forest (Naurzum reserve) (Kazakh Soviet Encyclopedia, 1975; Medeu, 2010). The territory of the Tobol River basin within the Kostanay region has a huge potential for the development of ecological, cultural, adventure, and health tourism. Recreation and tourism play an important role in the use of natural resources, since recreational work does not cover individual parts of nature, but the entire landscape as a whole (Smith and Puczky, 2008). There are a number of methods for assessing the tourist attractiveness of the territory, which are discussed in the scientific paper (Orlova, 2006; Lisiak et al., 2016; Baryshnikova, 2016; Ziernicka-Wojtaszek and Lisiak, 2020; Kuchumov, 2020; Kerimbay et al., 2020). The purpose of this study is to assess the state and degree of the natural and recreational potential of the landscapes of the Tobol River basin within the Kostanay region for further use of the results obtained in determining the priority areas of recreational activity of the studied region.

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MATERIALS AND METHODS

Based on the methods proposed by (Popov and Gulyaeva, 2003; Gudkovskikh, 2017), we have proposed criteria for a component-by-component integral assessment of the natural and recreational potential of landscapes. In the natural and recreational assessment of natural geosystems, it is important to take into account the indicators characterizing natural components (relief, climate, water bodies, vegetation cover and specially protected natural areas). Calculations of all indicators were carried out using standard tools of the geoinformation program ArcGIS 10.2. The operating system for assessing the natural and recreational potential is a previously compiled medium-scale landscape map of the Tobol River basin within the Kostanay region (Isachenko, 1991; Gvozdetsky, 1978; Tretiak and Marchenkova, 2020). The structural scheme of the study of the landscape and recreational potential of territories is presented in Figure 1. The main evaluation criteria are the degree of favorability of landscape components and their functional suitability (Mukayev et al., 2022). Most scientists believe that the morpho lithogenic basis is the leading component of the landscape. The relief, along with other natural components, determines the possibilities of tourist and recreational development of the region, increases or limits the variety of possible tourist and recreational activities, affects the aesthetics of the landscape. Relief is the totality of all the irregularities of the earth's surface, which are called «relief forms». They are distinguished by size, structure, origin, etc. Their involvement in the process of recreational activities may be different: landscapes can be perceived visually as an element of attractiveness; as a base for the placement of recreational facilities, they can be used without their direct expenditure, as a result of which geomorphological recreational resources are exposed, modified and degraded. The conditions of recreational activity are largely determined by the peculiarities of spelling. The nature of the relief (the degree of its vertical and horizontal dissection, the steepness and exposure of the slopes, the intensity of the manifestation of modern relief-forming processes) affects many types of recreational activities, determining the aesthetic properties of landscapes, conditions of sunlight, construction opportunities. Relief and its properties can act as both an indirect and direct recreational resource. As an indirect recreational resource, relief contributes to the formation of specific features of climate, soils, water bodies, fauna and flora. Direct recreational properties are manifested directly through the impact of relief on recreational activities.

Formation of a landscape map of the territory under study

⇓

Determination and mapping of landscape and recreational potential indicators

⇓

Development of a score scale taking into account the maximum and minimum values

⇓

Differentiation of research objects according to each individual indicator of landscape and recreational potential

⇓

Formation of integral values for each landscape separately using the developed scale of assessment of landscape and recreational potential

Figure 1. Block diagram of the study landscape and recreational potential of territories

Table 1. Scale of assessment of favorability by geomorphological indicators (Gudkovskikh, 2017)

№	Indicators	Score scale				
		1 p.	2 p.	3 p.	4 p.	5 p.
1	Absolute height, m	<160	180	200	230	250>
2	The angle of inclination of the surface, degrees	1	3	5	7	9

Scientists such as Nefedova et al. (1973) and Bredikhin (2004) assessed the favorability of the relief for recreation. The geomorphological indicators we have adopted to assess the natural and recreational potential are reflected in Table 1. The indicators are ranked by score relative to the maximum and minimum indicators. The absolute height and angle of inclination of the surface of the study region were determined using the SRTM digital Earth model. The relationship between types of recreation and geomorphological indicators manifests itself in different ways. For example, the presence of mountain systems of different heights with sufficiently high angles of inclination of the surface makes it possible to conduct tourist routes of various categories, and for the organization of medical and recreational tourism, the terrain with minor exceedances is most suitable (Weiermair et al., 2015). However, for both types of recreation, the rough terrain is aesthetically most favorable. Thus, the scales by which the relief is estimated, depending on the type of recreation, have different values.

One of the most important factors determining the spatial organization of recreation is the climate. Its impact on a person, his health is manifested through the latter's reaction to the weather, that is, a complex of geophysical (illumination, the arrival of total solar and ultraviolet radiation, air transparency, etc.) and meteorological (air temperature and humidity, wind speed, cloud cover, etc.) elements that either favor or hinder the implementation of various types of recreational activities. The climatic indicators we have adopted to assess the natural and recreational potential are reflected in Table 2. In the first case, climatic recreational resources act as therapeutic resources and in this form can be fundamentals for resorts. At the same time, special attention is paid to the quality of climatic medical resources, since the positive effect of

their use is manifested only in the case of their high quality. Unfavorable climatic medical resources will not only not contribute to the treatment process, but may also harm the health of weakened people. The therapeutic resources of the climate are manifested, first of all, in the possibility of heliotherapy. The latter is based on the physics biological effects of sunlight on humans, which is caused by ultraviolet, visible, and infrared components.

Table 2. Scale of assessment of favorability by climatic indicators (Gudkovskikh, 2017)

№	Indicators	Score scale				
		1 p.	2 p.	3 p.	4 p.	5 p.
1	Duration of sunshine h/year	2000	2200	2300	2400	2500
2	The average annual precipitation, mm per year	250	280	300	320	350
3	The average annual wind speed, m/s	3	-	4	-	5
4	The duration of the summer comfortable period from t .15°C, days.	130	-	140	-	150
5	The average long-term number of days with favorable weather in summer	16	17	18	19	20
6	The average long-term number of days with favorable weather in winter	5	-	6	-	7
7	The average height of snow cover, cm	18	20	23	25	28
8	The average duration of days with stable snow cover	130	-	140	-	160

The most important factor for the implementation of various types of recreational activities is water resources. Rivers, lakes, and reservoirs are widely used. Their recreational value is determined by a whole group of heterogeneous factors: coastal landscape, shape, depth, the slope of the shores, water temperature, distance from major cities, availability of access roads. In tourist and recreational activities, they provide great opportunities: swimming, kayaking, fishing, many people are attracted to just relaxing by the water from an aesthetic point of view. Mineral waters are essential for the organization of therapeutic and recreational recreation. These include «natural waters that have a therapeutic effect on the human body, due to either the basic ion-salt composition, or an increased content of biologically active elements and gases, and sometimes the presence of radioactive elements or high temperature, differing from freshwater by mineralization of more than 1 g/l» (Ovchinnikov, 1963, p. 242). Therapeutic mud is also used for therapeutic and recreational purposes. These resources are divided into 4 groups: peat, sapropel, silt, and hill. All therapeutic muds have a pronounced therapeutic effect and are used as prescribed by a doctor in the form of various procedures, as well as in the form of various mud preparations (Dirin and Madry, 2019; Gurova, 2018). We took into account the quantitative indicator of therapeutic mud for the assessment. All indicators for assessing the favorability of water resources are presented in Table 3.

Table 3. Scale of assessment of favorability for water resources (Gudkovskikh, 2017)

№	Indicators	Score scale				
		1 p.	2 p.	3 p.	4 p.	5 p.
1	The density of the river network km/km^2	<10 000	30 000	50 000	60 000	80 000>
2	Average water temperature in July, °C	16	17	18	19	20
3	Availability of mineral springs, number of wells	1	-	2	-	3
4	The presence of deposits of therapeutic mud, units	1	-	2	-	3

Vegetation cover performs environmental and environmental protection functions, enhances the recreational, aesthetic significance of landscapes, is a direct source of food, a «supplier» of phytoncides, contributes to an increase in the oxygen content in the air and its ionization. The importance of vegetation cover as a recreational resource is great since forests enrich the air with oxygen and absorb carbon dioxide. In addition, they purify the air from various types of pollution and have a sterilizing effect on certain microorganisms due to volatile substances released by woody vegetation. The greatest attraction for tourists is dry light forests with a wide variety of species compositions.

When characterizing and evaluating vegetation cover, the following elements are analyzed: forest cover, %, and NDVI. The vegetation index is an indicator calculated as a result of operations with various spectral ranges of remote sensing data and related to plant parameters in a given pixel. All indicators for assessing the favorability of vegetation cover are shown in Table 4. We determined the indicator of the normal vegetation index using the ArcGIS 10.2 program using the 4th and 5th channels from the multispectral wood of the Landsat-8 satellite, an artificial Earth satellite.

Vegetation, especially woody, has health and healing properties. Botanical recreational resources can be used in tourist products both independently and in combination with other objects. They represent a living world, easily accessible for visual observation, photo, and video shooting. Recreational properties of vegetation are characterized by the following parameters: vegetation type, coloristic structure, patency, illumination, etc. Forest vegetation has the greatest recreational attractiveness and therapeutic value, in connection with which, in the thematic literature from the whole variety of botanical resources, the main attention is paid to forests. It is forests that contribute to improving the quality of the air environment through its ionization and phytoncidal properties. Coniferous forests (cedar, pine, fir) have the greatest recreational impact, lower indicators of recreational activity are characteristic of deciduous forests (birch, aspen) (Shalmina, 2006). The system of specially protected natural territories is a combination of functionally and geographically mutually complementary protected areas organized taking into account the natural physical and geographical structure of the region and interactions with various forms of economic activity. Their ultimate goal is to ensure conditions for sustainable socio-economic development based on the preservation and improvement of environmental conditions, conservation of biological diversity. As R.V. Bobrov notes, specially protected natural territories enable residents of the urbanized areas to relax in an undisturbed or slightly disturbed by anthropogenic influences natural environment (Bobrov,

1989). They perform, in addition to restorative - ecological, recreational, educational, and other functions. The indicator of specially protected natural territories is ranked by score relative to the maximum and minimum indicators, Table 5.

Table 4. Vegetation favorability rating scale (Gudkovskikh, 2017)

№	Indicators	Score scale				
		1 p.	2 p.	3 p.	4 p.	5 p.
1	Woodiness, %	<20	50	70	100	140>
2	NDVI	<0.10	0.20	0.30	0.40	0.50>

Table 5. Scale of assessment of favorability for protected areas (Gudkovskikh, 2017)

№	Indicators	Score scale				
		1 p.	2 p.	3 p.	4 p.	5 p.
1	Occupied area of protected areas, %	1	-	2	-	3

The integral assessment of the natural and recreational potential is the sum of the scores of those indicators that were used for its assessment, which was calculated according to the following formula. The present formula has been adapted according to Orlova's formula (Orlova, 2006):

$$LRP = Is * 100 / Bmax \quad (1)$$

Where: LRP is landscape and recreational potential,

Is - score of indicators,

Bmax is the maximum possible score.

In our studies, the maximum possible score is 85, since we have 17 indicators, where the highest score is 5. Then the values of the value of recreational attractiveness for each landscape were found.

Figure 2. Zoning of the territories of the Tobol River basin within the Kostanay region according to the degree of natural and recreational potential (compiled by the authors in the ArcGIS program)

Based on the data obtained, a corresponding map was compiled. According to the results of the assessment of the value, three types of territories with different degrees of recreational attractiveness were identified.

RESULTS DISCUSSIONS

To determine the indicators of the natural and recreational potential of the territory of the Tobol River basin within the Kostanay region, we studied stock materials, weather service data, and cartographic material. Based on the results obtained, we have compiled a map of the natural and recreational potential of the landscapes of the Tobol River basin within the Kostanay region (Figure 2). Landscapes of 18, 24, 42, 50, and others with a *low* degree of natural and recreational potential within the study region include landscapes that are more represented by slightly undulating ancient lake-alluvial and hilly-undulating plains with rich grass-red grass and sandy grass-grass vegetation on ordinary saline chernozems with salt. These areas include forest-steppe and steppe landscapes of the Tobol River basin. The least natural and recreational attractiveness of these landscapes is characterized by the absence of many indicators selected for evaluation (for example, the presence of deposits of therapeutic mud, mineral springs, etc.).

The areas with an *average* degree of landscape and recreational potential include landscapes No. 1, 2, 4, 6, 10, 30, 31, 72, 78, and others. The average annual precipitation is 310 mm. The duration of sunlight is 2245 hours per year. The average annual wind speed is 3 meters/sec. Unique natural objects are represented by state botanical monuments of nature: «Planting of birch and pine forest near Lake Borovskoye», «Planting of pine forests near the village. Borki», «Birch-aspen stake near the Brine lake», «Krivulin tract», «Relict larch-birch grove with Sukachev larch», «Aspen-birch spikes with viburnum vulgaris». A distinctive feature of this group of landscapes is woodland (Korytny, 2001). As a result of the assessment of the landscape and recreational potential of the territories of the Kostanay region landscapes № 3, 5, 7, 9, 11, 20, 54, 55, 69, 74, and others have a high natural and recreational potential. The average amount of precipitation shows 315 mm. The average height of the snow cover is 23-24 cm. Of the unique natural objects in landscapes with high indicators: the Naurzum State Nature Reserve, the state botanical nature monument of regional significance «Kamenny Lake tract», the modern climatic and balneological sanatorium «Sosnovy Bor», located on the shore of the mineral lake, surrounded by magnificent coniferous forest, etc. The pearl of the Kostanay region is considered to be the Naurzum Reserve with its unique island pine forests and reference steppe ecosystems. Created to preserve the steppe landscapes of Northern Kazakhstan, it also included large lake systems and island pine and small-leaved forests with all the diversity of the animal and plant world. On July 7, 2008, at the 32nd session of UNESCO in Quebec City (Canada), the Naurzum Reserve was included in the UNESCO World Cultural and Natural Heritage Lists in the nomination «Sary-Arka - Steppes and Lakes of Northern Kazakhstan».
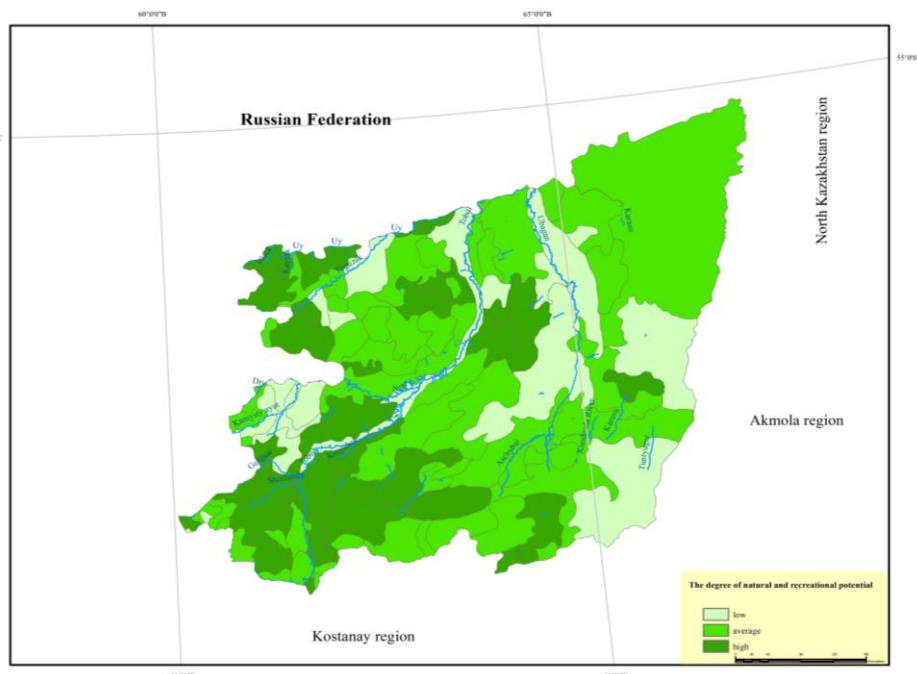
CONCLUSION

The data obtained allowed us to draw the following conclusions:

According to the results of the study, the districts of the region were ranked according to the degree of natural and recreational attractiveness and landscapes with high, medium, and low natural and recreational potential were identified.

The natural conditions of the research region create the possibility of developing various forms of nature-oriented, rural, sports, and balneological tourism on its territory. The presence of a specially protected natural area is of scientific, cognitive interest and represents a resource base for ecological tourism. The chemical composition of mineral water deposits common in the rain makes the region promising for therapeutic recreation.

According to the study, landscapes that are represented by hilly-hollow, hummocky-wavy, and abrasive-accumulative plains with rich-grazed-red-and-white vegetation on ordinary saline chernozems have a high degree of natural and recreational potential, and on the contrary, landscapes that are represented by hummocky-ridge, hilly-wavy and ancient lake-alluvial plains with rich-grained- red-and-white vegetation on chernozems, ordinary, carbonate, saline with salt. Today, in landscapes with a high potential of natural and recreational resources, along with recreational resources, the technogenic type of nature management prevails, which is the most negative type of anthropogenic impact on the natural environment. For example, asbestos is being mixed in Kostanay Minerals JSC in Landscape number 13, which critically affects the natural and recreational resources of the landscape under consideration. The results of the assessment of the natural and recreational potential of the Tobol River basin within the Kostanay region can be used to determine the priority areas of recreational activity in the studied region.

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THE INTEGRATED MODEL DEVELOPMENT FOR ASSESSING URBAN GREEN SPACE QUALITY. A CASE STUDY IN HANOI INNER CITY, VIETNAM

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Abstract: Urban Green Space (UGS) is considered fundamental for the sustainable development of the urban economy. The purpose of this study is to assess the quality of urban green space in the Hanoi inner city using the integration of GIS technology, remote sensing, and AHP model. Sentinel 2-MSI data taken in 2020 were utilized to identify three criteria, namely percentage of green, type of green types, and proximity to green. AHP was used to determine the weighted correlation among parameters based on their importance to this phenomenon. As the result, the quality of UGS was classified into four classes, namely very high-quality green, high-quality green, moderate quality green, and low-quality green. The results showed an imbalance in the quality of green space in the study area. In which, areas with high and very high-quality green were distributed mainly on the edge of the city center, accounting for 41% while low quality urban green space was found in the center with 22.4 %.

Key words: urban green space, quality of urban green space, Hanoi Inner City, AHP, Sentinel-2MSI

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INTRODUCTION

Urbanization is an inevitable development trend in most countries in the world. This process contributes to economic growth, creates employment opportunities, develops the infrastructure, and improves standards of living (David, 2008; Nghia et al., 2021). However, besides these positives, urbanization also creates many challenges for the development of cities, such as uneven demographic densities, traffic congestion, and environmental pollution (Davies et al., 2008; Saulle and La, 2011; Nghia et al., 2021). Urbanization has also led to a significant change in the structure of land use, with an increase in built-up land and a decrease in the vegetative cover which poses a great challenge to balanced and sustainable urban planning (Shruti et al., 2019). UGS is defined as urban land, partly or completely covered with grass, trees, shrubs, or other vegetation. It also includes blue-green zone such as ditches, canals, inland waterways, and rivers and riverbanks (De et al., 2021). UGS plays an extremely important role in the sustainable development of the city. It brings numerous valuable benefits e.g improving air and water quality, mitigating noise pollution, and reducing environmental health risks associated with urban living (Thompson, 2002; Gupta et al., 2012; Liu et al., 2014). In addition, it helps stress alleviation and relaxation, physical activity, improved social interaction, and community cohesiveness (Saulle and La, 2011; Maryanti et al., 2016; De, 2021). Although UGS is considered an indispensable factor for the sustainable development of urban areas, a serious decline in the area and quality of urban green space has been taking place in many cities in the world, especially in developing countries (Liou et al., 2021). Therefore, the assessment of the quality of urban green space is considered one of the top concerns of managers and planners in the urban development strategy.

The case study is Hanoi inner city located in the north of Vietnam (Figure 1). It covers an area of 25840 hectares, and the population reaches 3.27 million people (as of the 2020 census). It is known as the second most populous administrative unit in Vietnam. Hanoi is featured by a humid tropical monsoon climate with plentiful precipitation. Because of the recent socio-economic changes, population growth, and urbanization, Hanoi city is witnessing spatial expansion in administrative boundaries and a significant change in the urban landscape. The area of green space is significantly reduced and replaced by residential and construction land (Nong et al., 2018). Owing to urban sprawl with subsequent land-use changes, Hanoi inner city is facing increased environmental pollution, increased floods due to decreased green space, and the emergence of the urban heat islands effect (Uy and Nakagoshi, 2007). Meanwhile, the area of UGS is too small, with only 1 square meter of urban green space for each person, much lower than the WHO standard (9 square meters for each person) (Maryanti et al., 2016). This poses a big warning, threatening the future sustainable development of the city. However, there is too little thorough research on UGS in Hanoi so far. Therefore, assessing the current status of urban green space quality in Hanoi inner city is very necessary, making an important contribution to the planning and development of the city in a sustainable way. Based on these findings, the key objective of this study is to develop a simple model to quantify the quality of urban green space in the study area. Satellite data combined with spatial analysis tools in GIS are

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used to determine three criteria in green space quality assessment including the percentage of green, weighted type of green, and proximity to green. The multi-criteria analysis method is used to determine the correlation between the above criteria, from which an integrated model was built to calculate the quality of green space in the study area.
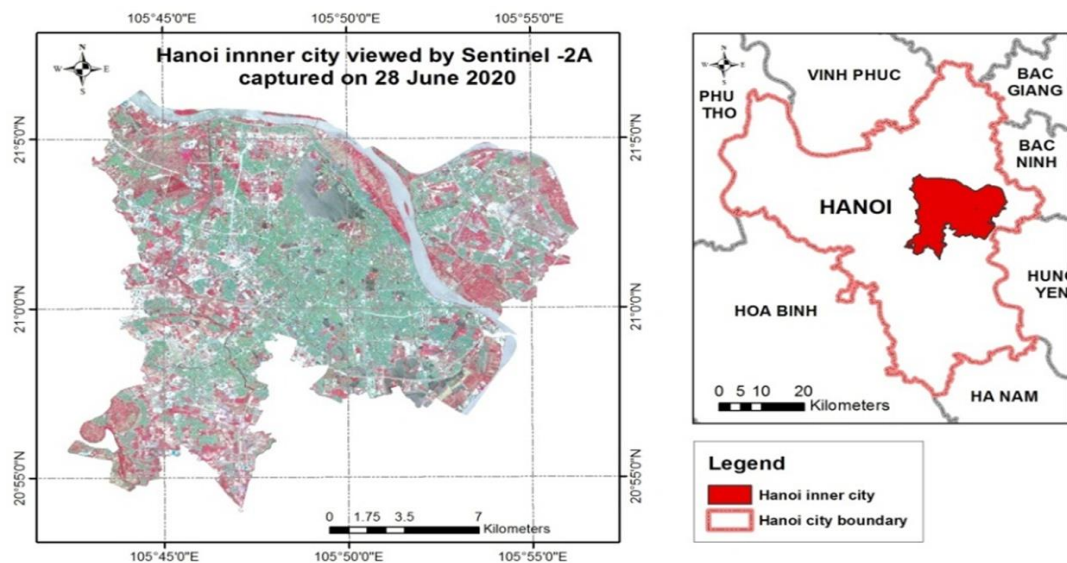
Figure 1. Location of the study area (Source: Author)

MATERIALS AND METHODS
1. Materials
Various criteria in this study are computed by using Sentinel 2A level 1C image. This image was taken on 28 June 2020 and freely downloaded from the website of the European Space Agency (https://scihub.copernicus.eu/). Sentinel 2A satellite was launched in 2015 and carried a single multi-spectral instrument (MSI) with 13 spectral bands in the visible/near-infrared (VNIR) and short wave infrared spectral range (SWIR) at high spatial resolution (10 m to 60 m). To avoid cloud and unwanted shade-free imagery, the images are selected at times with the cleanest sky in June.

The second data is the administrative map at a 1:550,000 scale provided by the Ministry of Natural Resources and Environment. The map is used to define the scope of the study territory and administrative units. Moreover, the map is considered as the background data to determine the location for fieldwork.

2. Methods
The methodology is illustrated in the flowchart, as shown in Figure 2.

2.1. Pre-processing
After downloading Sentinel 2A-MSI, the image was preprocessed with geometric correction and atmospheric corrections using SNAP software.

Geometric correction: Because the spectral bands are stored as jpg-files in three different geometric resolutions (10 m, 20 m, and 60 m), the images were stacked into a single Geo-tiff file of a uniform pixel size of 10 m by using resample tool in SNAP software. The image projection was kept projection at Universal Transverse Mercator (UTM) WGS- 84 Datum, Zone 48.

Atmospheric correction: It is an essential step to eliminate negative effects on the accuracy of results caused by the atmosphere. Sen2Cor (http://step.esa.int/main/third-party-plugins-2/sen2cor/), was used to convert the Top-Of-Atmosphere (TOA) reflectance to Bottom of Atmosphere (BOA) reflectance. The subset steps were also carried out to reduce the size of the scene to include only the study area and speed up processing.

Figure 2. Flowchart of methodology (Source: Authors)

2.2. Identify criteria for UGS
a) Identify the percentage of green

Normalized Difference Vegetation Index (NDVI) was used to identify the percentage of green. This is one of the most popular indices to quickly identify vegetated areas and the health of vegetation with the value from -1 to +1 (Tung and Wai-Lok, 2010). NDVI was determined based on the difference between the Red band and Near-Infrared as equation 1. In the next step, a threshold of NDVI was identified to create a binary classification map including two classes, namely green and non-green classes. The 100m × 100m grid was overlaid on the binary map, and the percentage of green in each cell was calculated
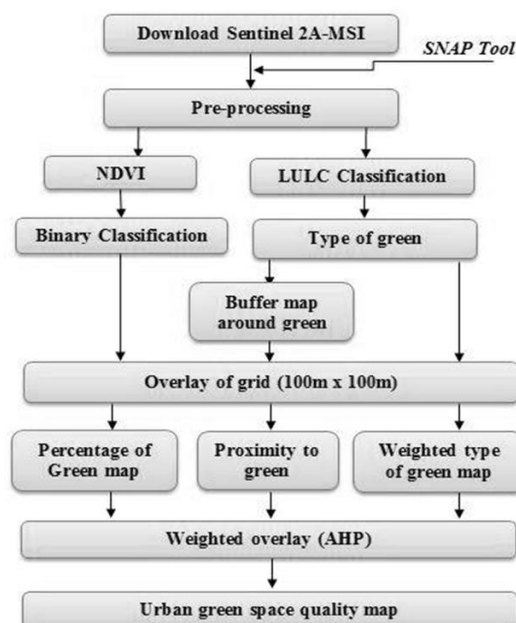
using ArcGIS software version 10.8. Based on the percentage of green in each cell, the percentage of green map was classified into four classes, namely low, moderate, high, and very high green quality. In which, the percentage of green in each cell less than 25% was assigned at a low level. In the same manner, moderate green quality, high green quality, and very high green quality values were given to cells where the percentage of green is 25–50%, 50–75%, and more than 75%, respectively (Table 1).

NDVI = (NIR – Red) / (NIR + Red) (1)

Where: NIR: Reflection in the near-infrared spectrum (Band 8)

Red: Reflection in the red range of the spectrum (Band 4)

b) Identify the weighted type of green

The basic types of urban green classes (dense urban vegetation, agricultural land, low/grass vegetation land, open space land, water, and built-up areas) were identified as target classes in SNAP software. Characteristic of features on the ground was identified by interpretation key and the Maximum likelihood method was utilized to classify the urban green space. The field survey was carried out to verify the accuracy of the classification results. The overall accuracy for the classified image was found to be 90.7%, which was more than the minimum accuracy criteria of 85% (Anderson et al., 1976). A 100 m x100 m grid was overlaid on the type of green map. The criteria for defining the green quality classes in the type of green map were identified based on tree canopy density (Gupta et al., 2012) and shown in Table 1. The cells which have an area of dense urban vegetation of equal to or more than 50% were assigned as very high quality (1). The cells which have an area of low/grass vegetation land of equal to or more than 50% were given as high quality (0.75). The cells which have an area of open space or water of equal or more than 50% were given as moderate green quality. The low green quality corresponds to cells with a built-up area of over 50% (0.25).

c) Identify proximity to green

Based on the type of green map, the multi-ring buffers were created with buffer distances of 100m, 200m, and above 300m for each type of green using ArcGIS software. Similar to the two above criteria, a grid of 100 m × 100 m size was overlaid on the type of green buffer map and proximity to green map generated using ArcGIS software. The criteria for defining the green quality classes in proximity to green map are classified into four classes as Table 1. In which, the cells located in a radius of less than 100m around dense urban vegetation were given as very high quality (1). The cells located in a radius of 100 - 200 m around dense urban vegetation or less than 100m around low/grass vegetation were assigned as high green quality (0.75). The cells located in a radius of less than 300 m around low/grass vegetation, open spaces, and water were given as moderate green quality (0.5). The cells located in a radius less than 100 m around built-up were assigned low green quality (0.25). The methodology is illustrated in the flowchart, as shown in Figure 2.

Table 1. Criteria and their scaling to measure the quality of urban green space (Source: Authors)

No	Criteria	Description	Value	Quality classes
1	Percentage of Green	Less than 25%	1	Low green quality
		From 25 to 50%	2	Moderate green quality
		From 50 to 75%	3	High green quality
		Greater than 75%	4	Very high green quality
2	Weighted type of green	The cells have a built-up area of over 50%	1	Low green quality
		The cells have an area of open space or water equal to or more than 50%	2	Moderate green quality
		The cells have an area of low/grass vegetation equal to or more than 50%	3	High green quality
		The cells have an area of dense urban vegetation equal to or more than 50%	4	Very high green quality
3	Proximity to green	The cells are located in a radius of less than 100 m around built-up	1	Low green quality
		The cells are located in a radius of less than 300 m around low/grass vegetation, open spaces, and water	2	Moderate green quality
		The cells are located in a radius of 100 - 200 m around dense urban vegetation or less than 100m around low/grass vegetation	3	High green quality
		The cells are located in a radius of less than 100m around dense urban vegetation	4	Very high green quality

2.3. Generation of UGS quality map

Analytic Hierarchy Process (AHP) was used to determine the weights of the criteria. This method was developed by Thomas Saaty in 1980 and became one of the most famous methods for making multi-criteria decisions. Individual experts' experiences are utilized to estimate the

Table 2. The relative of criteria (Source: Calculated by the authors)

	Percentage of green	Type of green	Proximity to green
Percentage of green	1.00	1/3	1/3
Type of green	3.00	1.00	1/2
Proximity to green	3.00	2.00	1.00
Total	7.00	3.33	1.83

relative magnitudes of factors through pair-wise comparisons with a comparison scale from 1 to 9. The relative preference of one criterion above another is defined. In this study, the relative preference of the three above criteria was assigned based on the opinions of 15 experts including urban planners, geographers, and researchers working in the field of urban planning. The relationship between the pairwise was shown in Table 2. After the computation of weights using Saaty's pairwise comparison method, the Consistency Ratio (CR) was calculated to check the fitness of the weights. If the value of CR is smaller or equal to 0.1, the inconsistency is acceptable. If the consistency ratio is greater than 0.1, we need to revise the subjective judgment (Saaty, 1980). In this case, CR was found at 0.06 and it means that the determined weights were suitable. As the result, proximity to green was considered the most important criteria and given a weight of 0.52. The weights of the percentage of green and type of green were assigned 0.14 and 0.33 respectively, as shown in Table 3.

Table 3. Matrix normalization (Source: Calculated by the authors)

	Percentage of green	Weighted Type of green	Proximity to green	Total	**Average**	Consistency measure	CR
Percentage of green	0.14	0.10	0.18	0.42	**0.14**	1.05	
Weighted Type of green	0.43	0.30	0.27	1.00	**0.33**	0.91	0.06
Proximity to green	0.43	0.60	0.55	1.57	**0.52**	1.04	

A weighted Urban Green Space Index (WUGSI) is generated to assess the quality of UGS in the study area. This index is calculated based on three criteria, namely percentage of green, weight type of green, and proximity to green as equation 3 (Source: authors).

$$WUGSI = \frac{0.14 * X_1 + 0.33 * X_2 + 0.52 * X_3}{3} \quad (3)$$

Where: WUGSI: Weighted Urban Green Space Index; X_1: Percentage of Green; X_2: Type of Green; X_3: Proximity to Green.

Table 4. Percentage of green by levels (Source: Authors)

Classes	Area (ha)	Percentage (%)
Low green quality	9908.7	32.0
Moderate green quality	4779.2	15.4
High green quality	4714.4	15.2
Very high green quality	11545.4	37.3

RESULTS AND DISCUSSION

1. Percentage of green

Values of NDVI are scaled from -0.232768 to 0.653429 (Figure 3). The green space is extracted from NDVI map. A threshold value is proposed to classify NDVI values into the binary map (Green and Non-green). As the result, the green space area is accounted for 52.6% while the non-green space area is assigned 47.4% (Figure 4). UGS is very sparse in the central area and shows the overall uneven distribution across Hanoi inner city (Figure 5). The percentage of green is classified into four classes, namely less than 25%, from 25 to 50%, from 50% to 75%, and greater than 75%. In which, low green quality with a percentage of green less than 25% covers 32.0 % of the study area and distributes mostly in the central area. Because most of the population is densely lived in the central area of the city, the land here is mainly used for construction purposes with buildings, green space is significantly limited. Areas of high and very high green quality are concentrated around the center with values of 15.2% and 27.2% respectively (Table 4).
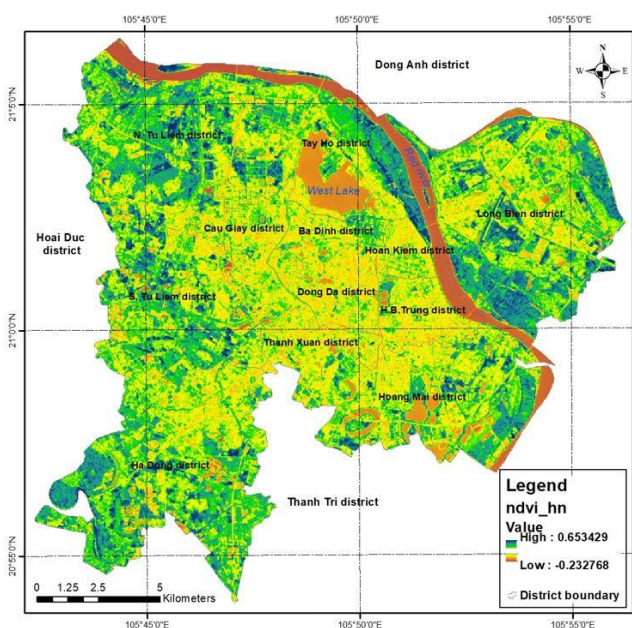
Figure 3. NDVI range (Source: Authors)

Figure 4. Binary classification (Source: Authors)

2. Weighted type of green

Figure 6 describes the type of green in the study area by the Maximum likelihood method in SNAP software. The overall accuracy for the classified image was found at 87.5%. Table 5 indicates that the built-up accounts for the highest proportion of the land structure with 41.0% while the area of land with dense urban vegetation accounts for 2.4%.

Table 5. Land use structure (Source: Authors)

Type of land use	Area (ha)	Percentage (%)
Dense urban vegetation	754.3	2.4
Low/grass vegetation	7694.3	24.9
Open space land	6617.4	21.4
Water	3191.2	10.3
Built-up	12687.6	41.0

The results show an imbalance in the land use structure. Accordingly, the percentage of green space is too little, the green area only accounts for 48.7%. The ratio of green space in the study area is estimated to be less than 2 square meters per person on average, much lower than in other countries in the world such as London 40 sq m/person, Washington 38 sq m/person (Maryanti et al., 2016). Figure 7 shows the quality of urban green space based on the canopy density of trees. Areas with high canopy density such as parks and botanical gardens are assigned at a very high

green quality and account for 4.7%. Areas with low quality of green occupy a large area in the study area. These are construction land areas with asphalt, concrete, or brick and they cover about 39.8% of the area.
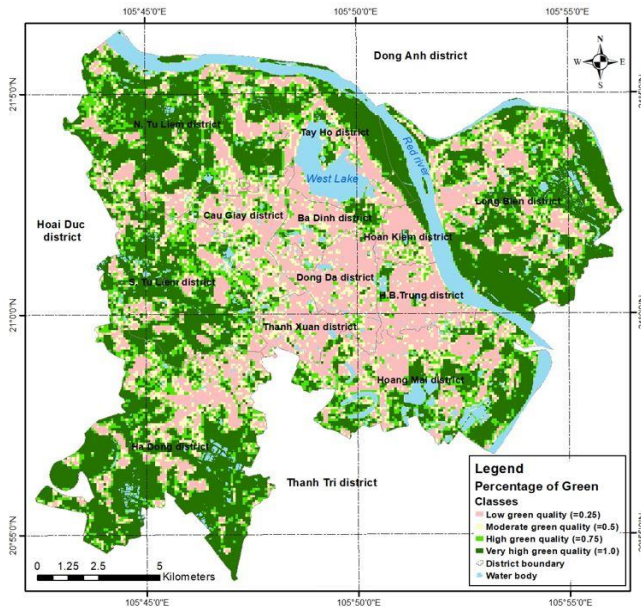
Figure 5. Percentage of green (Source: Authors)

Table 6. Weighted type of green by levels (Source: Authors)

Classes	Area (ha)	Percentage (%)
Low green quality	12327.5	39.8
Moderate green quality	10494.2	33.9
High green quality	6674.8	21.6
Very high green quality	1451.1	4.7

Table 7. Proximity to green by levels (Source: Authors)

Classes	Area	Percentage
Low green quality	6857.9	22.2
Moderate green quality	11190.5	36.3
High green quality	11252.7	36.5
Very high green quality	1523.6	4.9

Table 8. Quality of UGS by levels (Source: Authors)

Classes	Area (hectare)	Percentage (%)
Low	4857.8	22.4
Moderate	11040.4	36.0
High	11252.7	36.7
Very high	1523.6	5.0
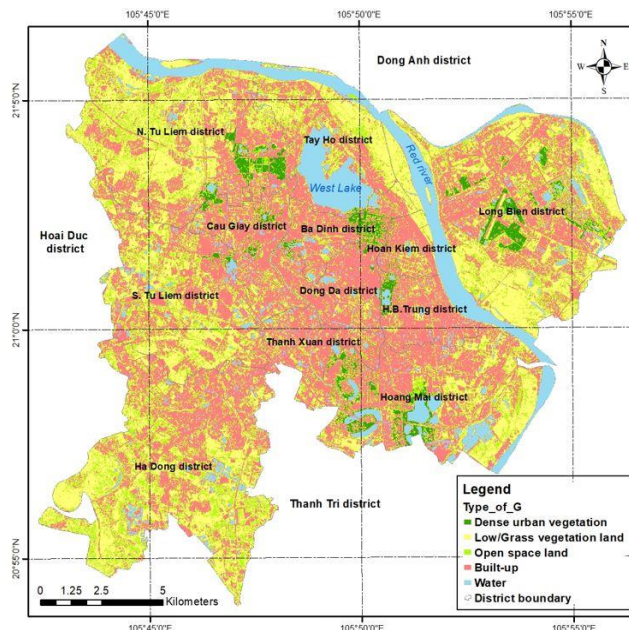
Figure 6. Type of green (Source: Authors)

Figure 7. Weighted type of green (Source: Authors)

3. Proximity to green

Figure 8 shows a clear difference in the degree of proximity to green in the study area. In which, areas with low levels of access to green space are distributed in central Hanoi with 22.2% area of the study area, where densely distributed urban areas coexist with small green spaces. More than 50% of the population is distributed in this area. It means that about half of the population in Hanoi inner city is not sufficiently close to green space (Table 7).

4. Quality of Urban green space

Map of UGS quality is built by using an arithmetic weighted overlay approach from three criteria, namely percentage of green, weighted type of green, and proximity to green (Equation 3). The calculated values are further classified into four green quality classes for ease of visualization and comparative evaluation. The quality of UGS is presented in Figure 9. The research results clearly show the imbalance in the quality of green space in the study area, especially the significant difference between the central and suburban areas. As the result, areas with low and very low quality of green space account for 22.4% and are distributed mainly in the central area of the city. Areas with good and very good quality of green space are scattered around the central area, accounting for 36.7% and 5.0%, respectively.

The map shows the current status of green space quality in the whole area. Accordingly, green space in the study area has not been properly planned, which is doing very well in many developed countries (Oh-Hyun et al., 2021). There is a significant imbalance between the central area and the surrounding area. The quantifiable information regarding green structures and their distribution is very important for sustainable planning. The developed index provides a decision support tool to evaluate, quantify and compare various neighborhoods in terms of the amount and distribution of green structure.
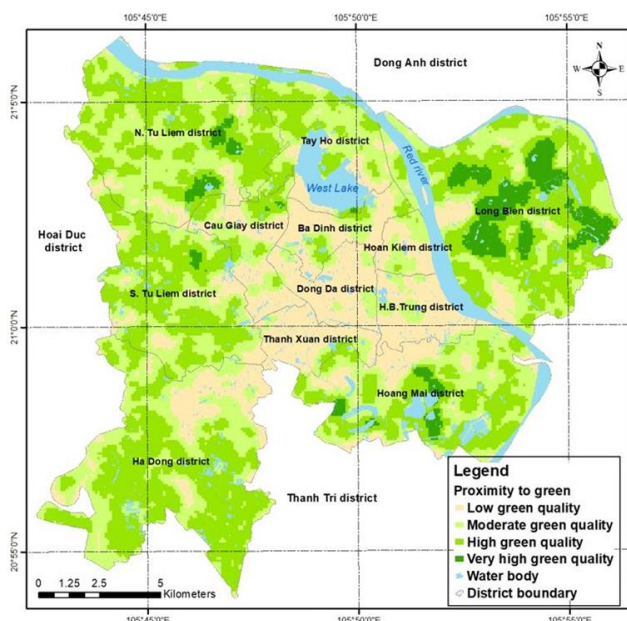
Figure 8. Proximity to green (Source: Authors)
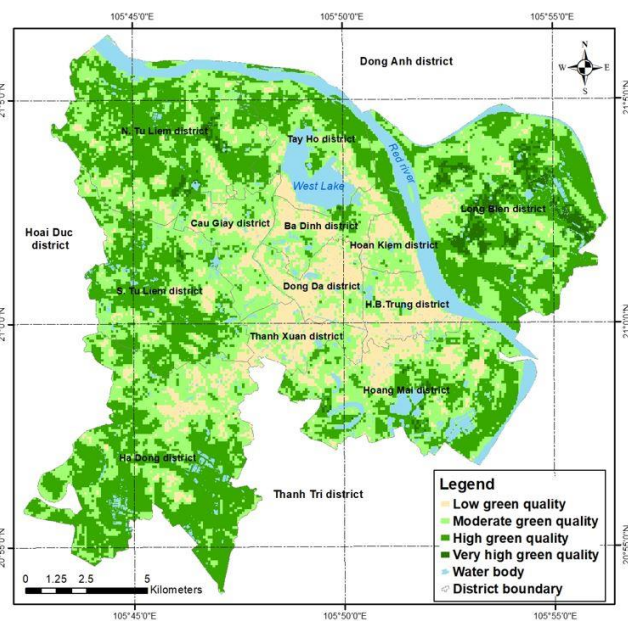
Figure 9. Quality of Urban Green Space (Source: Authors)

The quality of UGS is not only considered based on a percentage of green but also assessed based on the proximity of green space in specific neighborhoods and environments. The type of green with the difference in canopy density is also taken into in this model. The assessment of green space quality in many aspects with the participation of experts makes the research results more reliable. Therefore, this model can be used by spatial planners and urban managers. The application of this index can provide an opportunity to undertake a range of neighborhood greening strategies and will be useful information for the urban planning system in Hanoi inner city.

Literature shows that many studies have used multi-criteria analysis based on GIS for assessing the quality of UGS in the world. The integrated model of GIS and AHP has been proven and applied effectively in many studies. The quality of UGS was effectively assessed by using the Urban Neighborhood Green Index which was built by four criteria, namely percentage of green, built-up density, proximity to green, and height of structures in Delhi, India (Gupta et al., 2012). The quality of UGS in some big cities in China was also assessed based on the green index, proximity to green, density of high built-up, and building sparsity (Yuqin et al., 2015; Zhanqiang et al., 2019).

CONCLUSION

The process of urbanization is accelerating the development of urban areas around the world. As of 2021, the urban population accounts for 56.2% of the population. The increasing urban growth rate leads to the rapid decline of urban green in cities. The urban green space quality zoning map provides important documents that contribute to reflecting the current status of green space in the study area. Instead of just looking at a single component like the percentage of green, the WUGSI reflects the quality of urban green space holistically, where the distribution of green space in residential areas has a significant influence on the quality of life of residents and urban structure.

With the increasing impact of global warming, coupled with unsustainable urbanization, many cities around the world are facing new challenges such as intensified Urban heat island effect (Shishegar, 2014; Huang et al., 2018). The important role of UGS provides city planners with important lessons learned in sustainable urban development and improves the human life quality (Michelle et al., 2018). The research results reflect the current status of green space quality in the inner city of Hanoi. On that basis, managers need to have appropriate solutions to rationally use and plan urban green space in Hanoi. Some possible solutions are suggested such as (1) Strengthening cooperation between urban management agencies and the Department of Natural Resources and Environment, (2) Raising people's awareness of protecting green spaces, and (3) relocation of the building structure to reduce the population density in the downtown.

This study takes advantage of Sentinel satellite image data. Our results indicated that Sentinel-2 MSI data with a 10-meter-resolution band may assist decision-makers in the knowledge of the physical features of UGS in the city. Remote sensing imagery with high spatial resolution and GIS data can be effectively used in preserving and monitoring green and open spaces in urban areas. Sentinel 2 MSI images can provide information about the percentage of green, the weight type of green, and proximity to green. The data from the field survey helps to strengthen the research results. The combination of remote sensing with spatial analysis and processing functions in GIS makes correlation assessment

easier. The study demonstrates that remote sensing images coupled with GIS can be a valuable tool for evaluating urban green structures. GIS can be an effective tool for preserving and monitoring green and open spaces in an urban area.

GIS technologies play a crucial role in UGS planning. The combination of GIS and AHP brings a flexible and realistic tool for assessing the quality of UGS in the study area. The contribution of experts in the determination of the criteria using AHP improves the reliability of research results. This study can provide a framework for the planning of USG and land use planning in the study area in the future. Improving the quality of urban green space plays an important role in the city's sustainable economic development strategy. This research, however, is subject to several limitations. Firstly, some other parameters can be used to analyze UGS such as density of built-up, the density of high built-up, building sparsity, etc (Zhanqiang et al., 2019). However, this study only evaluates the quality of green space based on three indicators, namely percentage of green, type of green, and proximity to green. Assessing the UGS index based on proximity to surrounding built-up, usability, population to be served and the combination of several other parameters will yield better results. Secondly, using high-resolution satellite images can bring better effectiveness. LIDAR data or stereo pairs can provide useful information about urban structure (Faryadi and Taheri, 2009; Zhanqiang et al., 2019).

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IS THERE A LONG-RUN RELATIONSHIP BETWEEN TOURIST ARRIVALS AND ECONOMIC GROWTH IN NEPAL? AN EMPIRICAL ASSESSMENT BASED ON ARDL BOUNDS TEST APPROACH

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Abstract: The tourism industry has become a significant economic contributor to a number of countries worldwide. Until COVID-19, tourism was the world's largest and fastest-growing business. The importance of tourist arrivals and the examination of their effects has triggered curiosity among different researchers, as tourism helps in balance of payment and boosts the overall GDP of the nation. Thus, this paper aimed to examine the long-run relationship among the number of tourist arrivals per year and economic growth (proxied by GDP). The study used annual secondary data collected from World Development Indicators between 1995 and 2019. Cointegration test (ARDL bounds test) was applied to check the long-run relationship among the variables. The result shows that a 1% increase in tourist arrivals, in the long run, is associated with a 1.15% increase in GDP at a (p<0.05) significance level, other things remaining constant. The evidence from ARDL bounds cointegration test confirms that tourist arrivals have a long-run relationship with a significant impact on GDP in Nepal. Thus, this study recommends some policy implications like the allocation of government funds for infrastructure and tourism development is critical since these investments benefit the tourism industry and overall GDP of the country.

Key words: tourism, economic growth, bounds test, ARDL, Nepal

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INTRODUCTION

Worldwide, the tourism industry has a positive effect on long-run economic growth. The tourism industry is therefore one of the most significant industries contributing to a nation's economic growth, especially in economically progressing countries. In terms of foreign economic trade, the tourism industry is a relatively recent entrant. It adds to the international income and household income streams of several countries (Selimi et al., 2017). It also plays a vital role in many countries' economic, cultural, and social growth. In developing nations like Nepal, the development of the tourism industry makes a significant contribution to overcoming the problems related to economic development, such as high unemployment and currency processing (Nepal et al., 2019). Tourism development helps in increasing the economic growth, however, economic growth if not used wisely may sometimes lead to degrade the environment (Khanal, 2021a, 2021b) by increasing tourism activities like hotel stays and the use of transportation facilities which increases energy consumption (Khanal et al., 2021). Nevertheless, energy consumption plays a crucial role in the development of infrastructures, which may attract a lot of tourists (Aydin, 2022). The role of tourism to a nation's economy is influence by country risk measures such as economic, financial and political risk (Muzindutsi et al., 2021). After the 2008 economic and financial crisis, which resulted in a decrease in international tourist arrivals, the international tourism industry has demonstrated sustained development in terms of tourist arrivals and tourism revenues (Muzindutsi et al., 2021). According to the World Travel and Tourism Council (WTTC, 2021), travel and tourism contributed 10.4% to global GDP in 2019. Their economic impact reports note that tourism accounted for 1 in 4 jobs created worldwide, which is 10.6% of all jobs around the globe. Over the last decade, international tourism has developed rapidly in Nepal. However, the rate of growth has varied from year to year. In 2019, tourism directly supported 1034,000 jobs (6.9 percent of total employment) in Nepal. It contributed 6.7 percent of the total economy and 7.5% of its total GDP. In 2019, tourists from neighboring countries India and China, with 17% and 13% respectively, were the biggest cohorts to enter Nepal (WTTC, 2021).

With its many historical, religious, and natural attractions, Nepal has the potential to become one of the world's most popular tourist destinations. Most notably, tourism has influenced all aspects of Nepal's economy. Political stability is a prior condition for tourism development and, by extension, for economic growth. Nepal's tourism industry has been hampered for several years due to bitter political conflict in the region, but it is hoped that it can now propel Nepal into a new economic age (Gautam, 2011). As mentioned above, researchers have studied the relationship between tourism and economic growth in recent years, with evidence pointing to a direct link between the two. It has been widely accepted that it boosts foreign exchange earnings, creates job opportunities, encourages the development of the tourism industry, and thus boosts overall

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economic growth. As a result, tourism growth has become a topic of discussion among policymakers, government officials, and researchers in Nepal. Table 1 below shows the trend of the GDP, tourist arrivals, and exchange rate of Nepal.

Table 1. Showing trend of the variables

Year	GDP	TA	ER
1995	8623849303	363000	51.89033
2000	10899840167	464000	71.0938
2005	12877563075	375000	71.3675
2010	16002656434	603000	73.26236
2015	19774984747	539000	102.4051
2016	19891395830	753000	107.3838
2017	21527164664	940000	104.5119
2018	22969698990	1173000	108.9301
2019	24575559443	1197000	112.6095

Prior to COVID-19, research has shown that tourism had a positive impact on economic growth as it had triggered economic expansion. It was consistently seen as a significant contributor to the economic growth and development of countries (Brida et al., 2020). This has become such an important topic, research into the impact of tourism on economic growth has developed rapidly, specially to regain or recover the tourism momentum (Brida et al., 2020; Pulido-Fernández and Cárdenas-García, 2020). Thus, the main aim and contribution of this paper is to apply ARDL multivariate cointegrated method to test the cointegration relation between tourism development and GDP to determine under what circumstances tourist expansion has a beneficial influence on economic growth in Nepal. Moreover, this research contributes to the current literature by demonstrating that tourist arrival is a major contributor to economic growth.The structured of the paper is as follows: first, introduction. Second is a review of the academic literature on the basis of different countries and of Nepal is provided. Next, is materials and methods followed by results and discussions. Finally, the conclusions section which concludes the obtained results along with the implications of some policy recommendations and future research recommendations.

LITERATURE REVIEW
1. Tourism and Economic growth Nexus
A number of studies have recently focused on tourism and economic development in different countries. For example, Selimi et al. (2017) investigated the impact of tourism on economic growth in the Western Balkan countries from 1998-2014. Using Panel regression econometric techniques, they found that a 1% increase of tourist arrivals increase of GDP per capita by 0.08%. Thus, they concluded that there is a positive and statistically significant relationship between tourism and economic growth. The contribution of tourism to economic growth in Iran's Provinces was conducted by Habibi et al. (2018) using the Growth Decomposition Method (GDM). By using data from the years 2005-2014, the research revealed that tourism has a positive impact on economic growth in Iran's Provinces. Likewise, Pulido-Fernández and Cárdenas-García (2020) examined the relationship between tourism and economic development in 143 countries. In their study, the Confirmatory Factor Analysis (CFA) and Structural Equations Model (SEM) was used to investigate the relationship. The model found that tourism improves economic development, and there is a bidirectional relationship between these properties. In addition, an investigation was conducted by Brida et al. (2020) in 80 developed and developing nations using data from 1995 to 2016. The objective of this study was to examine the nexus between tourism and economic growth. Using a Minimal Spanning Tree (MST) and a Hierarchical Tree with a non-parametric and non-linear approach, the researchers detected a positive relationship between tourism and economic growth.

A recent study by Rasool et al. (2021) examined the nexus between inbound tourism, financial development, and economic growth in Brazil, Russia, India, China and South Africa (BRICS) countries from 1995-2015. A panel cointegration analysis revealed that a 1% rise in international tourism receipts per capita increased 0.31% domestic real income. Thus, the foreign exchange earnings from tourism affect growth performance positively. Tung (2021) investigated the tourism-led growth hypothesis (TLGH) using Johansen-Fisher test and ordinary least square (OLS) in some transition countries. The result indicated that both tourism revenue and tourist arrivals contribute to the growth confirming TLGH.The most recent study of Wu et al. (2022) states that there is strong evidence nexus between international tourism receipts, international tourist arrivals, capital formation, and real gross domestic product variables in the temporal domain.

2. Tourism and Economic growth Nexus in Nepal
Tourism in Nepal is one of the biggest industries and a major source of earnings. Tourism has impacted the economic growth of Nepal, and this has been proved by different researchers with different methodology. Using the Cointegration test and the Granger causality test Gautam in 2011 analysed the impact of tourism on economic growth in Nepal. With 36 years data, the study of Gautam (2011) revealed that bi-directional causality exists between tourism and economic growth, concluding that tourism increases economic development by foreign exchange earnings in both the long-run and the short-run. Similarly, by developing the tourist income multiplier from the Keynesian macroeconomic model, Paudyal (2012) investigated the influence of tourism and other relevant macroeconomic factors on Nepal's economic growth. According to Paudyal (2012), tourism earnings have a bidirectional link with GDP in Nepal Likewise, Karki (2018) studied the dynamic relationship between tourism and the economy using macroeconomic data from 1962-2011 of Nepal. The main objective of the study was to analyse the effect of tourism on economic growth in Nepal. They used ADF and the Engle-Granger cointegration test to determine the relationship among the variables. The results revealed that a 1% increase in tourism resulted in a 3.6% rise in economic growth. There was also a cointegrating relationship between tourist arrivals and real GDP. Another study conducted by Jaiswal (2018) investigated the effect of tourism on economic development in Nepal and found that tourism contributed 3.6% of GDP in 2016 in Nepal.

Likewise, Nepal et al. (2019) examined the long-run and short-run nexus between tourist arrivals and economic development, together with energy consumption and pollutant emissions of a developing nation, Nepal. From the ARDL model and Granger causality tests, the authors judged that a 1% increase in GDP would result in a 1.56% rise in tourism;

the contribution of tourist arrivals to GDP was relatively small at less than 4% and therefore does not significantly contribute to economic growth. Using time series data from 1976 to 2020 using an autoregressive distributed lag (ARDL) technique, Bhattarai and Karmacharya (2022) empirically investigated the influence of tourism on Nepal's economic growth. The result of ARDL model shows that tourism has no significant impact on economic growth of Nepal in both short-run and long-run. This may be due to the year 2020 which was totally dominated by COVID-19 Pandemic and travel restrictions. Thus, our paper used the year 2019 (pre-covid) which will help policy makers, travel and tourism officials and governments to boost and promote tourism demand after the COVID-19 is over as everything will be back to normal soon.

MATERIALS AND METHODS

Oh (2005) recommends the consideration of real exchange effective rate in the discussion of international tourism to manage likely ignored variable issues. Given that the tourism-led growth hypothesis is about contribution of tourism to the economic growth, real GDP is also included to represent the economic growth. Thus, this study uses tourist arrivals (TA), economic development (proxy by GDP (constant 2010 US$)), and real exchange effective rate (ER). The data used in this study are annual time series for the period 1995-2019. All the data are obtained from the World Bank database (World Development Indicator 2021). Following Nepal et al. (2019), we estimate the following equation (Özer et al., 2022):

GDP= f (TA, ER) …………………………………………………………….. (1)

Where GDP=Gross Domestic Product, TA=International Tourist Arrivals, and ER=Real effective exchange rate. After the natural logarithm, the given equation for the model is as follow (Özer et al., 2022):

lnGDP= f (lnTA, lnER) ..……………………………………….………………….. (2)

1. Unit Root Test

The first step for analysing the long-run relationship is to check whether the variables are stationary or non-stationary. A non-stationary variable may lead to spurious regression. Thus, to check the stationarity of the variables, we use the augmented Dickey-Fuller (ADF) test of stationarity (Dickey and Fuller, 1981) and Phillips –Perron (PP) test (Phillips and Perron, 1988). The PP procedures are applied to test for unit roots as an alternative to the ADF unit root test, which computes a residual variance that is robust to auto-correlation. Zivot-Andrews (ZA) (Zivot and Andrews, 1992) is also performed because, in the time series analysis, the power of unit root tests will undoubtedly be unsteady unless there exist structural breaks (Zivot and Andrews, 2002). Consequently, ZA is performed to overcome the unsteady problem of the series.

2. Cointegration tests

After the stationarity test, to investigate a long-term relationship between variables, ARDL bound tests are applied to examine the long-run association between GDP, tourist arrivals, and exchange rate.

3. ARDL bound tests

This study used the ARDL bound tests developed by Pesaran et al. (2001) to analyse the cointegration among the variables. Here, the calculated F-statistics are compared to the upper critical bound (UCB) and lower critical bound (LCB). If the calculated F-statistics are higher than UCB, then the null hypothesis of no cointegration is rejected, otherwise the series are said to be co-integrated.

4. Long-run and short-run estimates

An Autoregressive Distributed Lag (ARDL) approach is applied to examine the impact of tourist arrivals and exchange rate on economic development. The following equations are used to estimate the long-run and short-run.

Long-run estimates (Özer et al., 2022):
$$lnGDP = \beta_0 + \sum_{i=1}^{p} \beta_1 lnGDP_{t-i} + \sum_{i=1}^{q} \beta_2 lnTA_{t-i} + \sum_{i=1}^{r} \beta_3 lnER_{t-i} + \varepsilon_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (3)$$

Short-run estimates (Özer et al., 2022):
$$\Delta lnGDP = \alpha_0 + \sum_{i=1}^{p} \alpha_1 \Delta lnGDP_{t-i} + \sum_{i=1}^{q} \alpha_2 \Delta lnTA_{t-i} + \sum_{i=1}^{r} \alpha_3 \Delta lnER_{t-i} + \phi ECM_{t-i} + \varepsilon_t \dots\dots\dots\dots (4)$$

Where, Δ= operator of differentiation, β= coefficient of long-run dynamics, α= coefficient of short-run dynamics. Also, p, q, r = the lag values from AIC criteria. ε_t = disturbance term. ø = speed of the adjustment of the short-run to reach the long-run equilibrium and is the coefficient of error correction term. Furthermore, the rate of adjustment takes place among variables to restore long-run equilibrium in response to short-term disturbances with the help of the error correction model (ECM_{t-i}).

5. Stability of the coefficients

Finally, the cumulative sum (CUSUM) and Cumulative sum of squares (CUSUMQ) are run to check the stability of the coefficients in the short and long run.

RESULTS AND DISCUSSION

In Table 2, the descriptive statistics are shown. The numerical summaries are estimated in natural logarithms. They are found to be normally distributed and not outside a reasonable range. Thus, this will let us designate that the data are not likely to provide spurious findings.

1. ADF & PP Unit root and ZA structural break test

The results from the Augmented Dickey-Fuller (ADF) (Dickey and Fuller, 1981) and Phillips –Perron (PP) (Phillips and Perron, 1988) are given in Table 3. And, the Zivot-Andrews (ZA) (Zivot and Andrews, 1992) is presented in Table 4. The results in Table 3 reveals that the variables are stationary at first differences, i.e., I (1) using ADF and PP. The results of Zivot and Andrews (1992) structural break unit root test given in Table 4 recommended that the null of unit root at a 5% significance level should be rejected. Here the null hypotheses can be rejected as the calculated T-statistics value at the level is below the critical values. The variables are non-stationary at the level. The properties of stationarity for the T-statistics can be seen after the first difference.

Table 2. The descriptive statistics

	lnGDP	lnTA	lnER
Mean	23.37605	13.19695	4.356077
Median	23.34539	13.12236	4.304335
Maximum	23.92502	13.99533	4.723926
Minimum	22.8778	12.52453	3.949132
St. Deviation	.3050991	.3978545	.2112223
Skewness	.107861	.4685053	.19338
Kurtosis	1.901145	2.288023	2.296457
Variance	.0930854	.1582882	.0446149
Observations	25	25	25

Table 3. Unit root test

Tests	lnGDP	lnTA	lnER
ADF(Augmented Dickey-Fuller)			
At level I(0)	1.197	-0.470	-0.616
At first Difference I(1)	-4.293***	-4.239***	-4.263***
PP (Philips and Perron)			
At level I(0)	1.001	0.252	-0.985
At first Difference I(1)	-4.248***	-4.216 ***	-4.248 ***

Note: * is for <0.011, ** for <0.05, *** for <0.1 significance level. AIC criteria was selected for optimal lag.

Table 6. Results of the Bounds test of cointegration

Model	F-statistics	LCB	UCB
lnGDP=f (lnTA, lnER)	5.341**	3.79	4.85

Note: ** is 5% critical value for bound test

Table 4. Zivot-Andrews Structural break trended unit root test

Variable	At level I(0)		At first Difference I(1)	
	T-statistics	Time break	T-statistics	Time break
lnGDP	-2.830 (0)	2002	-5.285(0) **	1993
lnTA	-3.941 (0)	2001	-4.50(0) ***	1989
lnER	-3.440 (0)	2004	-4.886(0) **	1993

Note: Lag order shown in parenthesis. Critical values: **1%: -5.34**, 5%: -4.80, 10%: -4.58   where ** for <0.05,   *** for <0.1 significance level

Table 5. Results of Lag order Selection Criteria

Lag	LL	LR	AIC	HQIC	SBIC
0	26.7766	-	-2.26444	-2.23206	-2.11522
1	108.465	163.38	-9.18717	-9.05764	-8.5903*
2	120.755	24.58	-9.50052	-9.27383	-8.456
3	131.611	21.712*	-9.67727*	-9.35343*	-8.18509
4	139.689	16.156	-9.58944	-9.16845	-7.64962

Note: * Indicates lag order selected at 5% level of significance by the LL: Likelihood, LR: Likelihood Ratio, AIC: Akaike Information Criterion, HQIC: Hannan and Quinn Information Criterion, and SBIC: Schwarz Bayesian Information Criterion.

Table 7. Lags of variables

Lag	0	1	2	3	4	Selected lags AIC
	AIC	AIC	AIC	AIC	AIC	
lnGDP	0.192294	-5.07792*	-4.98482	-5.01449	-4.98317	1
lnTA	1.11399	-.379016*	-0.295993	-0.233373	-0.175845	1
lnER	-0.587094	-2.83253*	-2.75344	-2.68937	-2.75759	1

Note: Indicates lag order selected by the AIC criterion at 5% level of significance

2. Lag order selection

The Autoregressive Distributed Lag (ARDL) bound test of cointegration examines the cointegration between the factors. To get the bound tests, we selected the Akaike Information Criterion (AIC) to appraise the lag length of factors to inspect the long-run connection between the variables. The result of lag length is given in Table 5. After choosing to lag three from the AIC standard, we utilized this lag to decide the cointegration among the factors, utilizing the ARDL headed test for cointegration.

3. ARDL bounds test

Finally, we estimated the ARDL bounds test of cointegration to identify the long-run relationship between the variables. According to Table 6, the results revealed that the F-statistics value (5.341) is higher than the upper critical bound (4.85), suggesting that the estimated variables does have long-run relationship.

4. Lag length selection

Once the cointegration approach confirms the cointegration among the variables, the lag length of all variables is identified through the Akaike Information Criterion (AIC). Then we estimate the long-run and short-run coefficients using these lags (1 1 1). The lag length selection results are shown in Table 7 to estimate for ARDL approach.

5. ARDL (Long-run and short-run) approach

The long-run equilibrium relationship among the variables is assessed utilising the ARDL (1 1 1) approach using the error correction model, given in Table 8. Results reported for long-run estimated coefficient estimates show that tourist arrival has a positive and significant impact on economic development. The result shows that a 1% increase in tourist arrivals, in the long run, is associated with a 1.15% increase in GDP at a (p<0.05) significance level, other things remaining constant. This result is line with Paudyal (2012) who claimed that tourist arrivals show that tourism has impacted positively on the Nepalese economy. Our result is also consistent with the results of Karki (2018), Jaiswal (2018), and Nepal et al. (2019) whereas inconsistent with of Bhattarai and Karmacharya (2022). Tourist arrivals contribute to economic development through the employment opportunity, government income (through taxes), and infrastructure development. The exchange rate does not impact GDP in the long-run. A 1% increase in exchange rate

decreases 0.074% GDP in the long-run but does not have significant impact. The estimated error correction model adjustment term ECM (-1) is negative (-0.0583725). The result from ARDL long-run dynamics supports the long-run equilibrium relationship between tourist arrivals and GDP for Nepal.

The short-run results, independent variables (energy consumption), on the dependent variable, i.e., carbon emissions (CO_2) in Australia, are given in Table 9. The short-run results reveal that the lag value of tourist arrival decrease in GDP in the short-run. The result shows that a 1% increase in tourist arrivals causes a 0.04% decrease in GDP at a 10% significance level. The exchange rate also negatively impacts GDP in the short run.

Table 8. Long-run dynamics using the ARDL approach. ARDL (1 1 1) model coefficients Note: ** represent 5% significance level

Variables	Coeff.	t-stats	Prob.
Constant	.5436385	1.00	0.33
lnTA	1.151753	2.08	0.05**
lnER	-0.0742273	-0.10	0.919
Diagnostic test			
Serial correlation (Breusch-Godfrey LM test for autocorrelation)	27.783 (0.671)	Lagrange-multiplier test	9.9158 (0.35734)
Normality Jarque-Bera; Chi (2)	1.797 (0.4072)	F-statistics	110.21
R^2	0.9093	Adjusted R^2	0.9010

Table 9. Short-run dynamics using the ARDL approach; Note: * Represent 1% significance level and *** Represent 10% significance level

Variables	Coeff.	t-stats	Prob.
ΔlnTA	-0.0445832	-1.91	0.072***
ΔlnER	-0.1240293	-1.88	0.076***
ECM (-1)	-0.0583725	-1.70	0.107

6. Diagnostic test result.

The serial correlation, heteroscedasticity, and normality are tested using the Breusch-Godfrey LM and Lagrange-multiplier test for autocorrelation and Jarque-Bera for normality. The results of diagnostic tests are shown in Table 8. Further, the Breusch-Godfrey LM test and Lagrange-multiplier test present no serial correlation, and Jarque-Bera suggests that the residuals are normally distributed.

7. Stability of short-run model

To assess parameter stability, the cumulative sum of recursive residuals (CUSUM) and the CUSUM of square (CUSUMQ) test are applied (Pesaran and Pesaran 1997). The results for both tests are presented in Figure 1a and 1b. The outcomes show that the CUSUM and CUSUMQ statistics plot falls inside the critical bands of the 5% confidence interval of parameter stability. Thus, there is no instability of the coefficients.
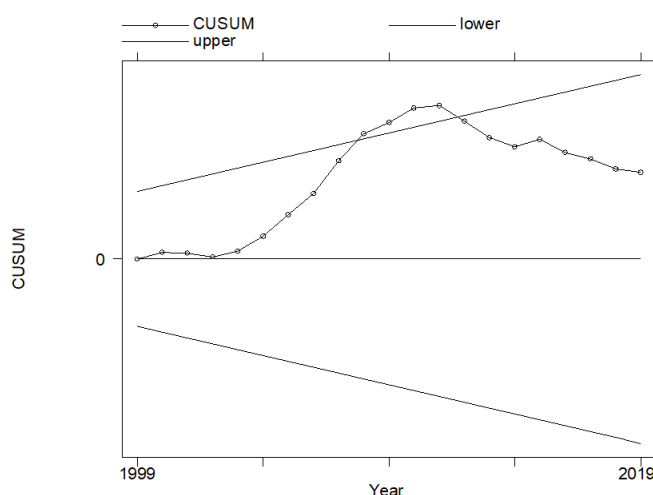
Figure 1a. **CUSUM**
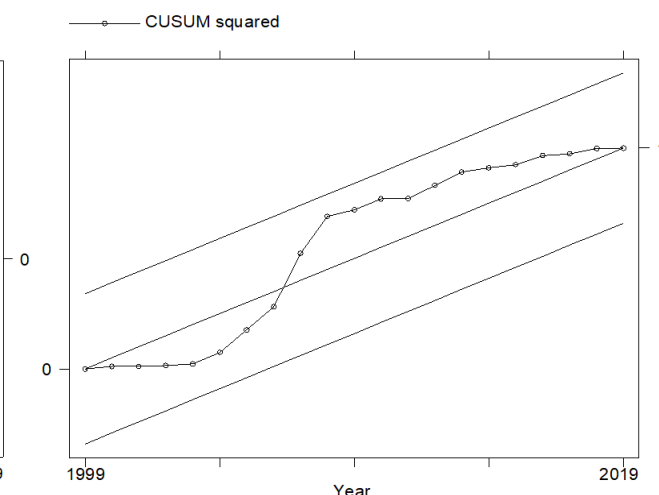
Figure 1b. **CUSUMQ**

CONCLUSION

This study examined the long-run and the short-run dynamics of the economic impact of tourism in the Nepalese context. Using annual time series data for the period 1995-2019, this study examined a series of unit root, cointegration, and ARDL tests to ascertain whether there was a long-run relationship between gross domestic product, tourist arrivals, and real effective exchange rate of Nepal. The variables in this paper are nonstationary and present a unit root, ADF and PP are applied. For the structural break, unit root ZA was applied. ARDL bound tests was used to obtain a cointegrating relationship among the series. The results of this study from cointegration test revealed a long-run nexus between the variables. The long-run and short-run dynamics results using the ARDL approach revealed that tourist arrivals positively and significantly impacted economic development in the long-run and but not in the short-run. A 1% increase in tourist arrivals would result in a 1.15% increase in GDP in the long-run at 5% significance level. However, the exchange rate would not significantly impact GDP both in the long run and the short- run.

Understanding the nexus between tourist arrivals and economic growth may provide knowledge to the researchers, tourism policymakers, and tourism industry sector to evaluate the future planning of the tourism industry. Thus, this study recommends some policy implications like the allocation of government funds for infrastructure and tourism development is critical, since these investments benefit the tourism industry and overall GDP of the country. Moreover, the ease of visa restrictions, airport expansions, and unnecessary political strikes should be stopped to maximise the inbound tourism. The limitation of this study is that it does not study the causal relationship between the variables and may encourage future researchers to use different techniques or models to investigate the relationship with more independent variables.

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STRUCTURAL EQUATION MODEL THE DEVELOPMENT OF THE COVID 19 COMMUNITY RESILIENCE IN PUJON KIDUL TOURISM VILLAGE

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Abstract: Pujon Kidul, Malang is a village tourism that offers agricultural potential as a tourist attraction to prosper the communities. Pandemic Covid-19 has caused instability in all sectors, including agricultural sector. The agricultural sector is the last line of defense, but that does not mean the pandemic has no impact on farming activities. On the contrary, the pandemic has slowed global economic growth and social growth, particularly in agriculture; as a result, social capital and local wisdom must be strengthened. As a result, this study was carried out to support Covid-19's Resilience Area in the tourism village of Pujon Kidul by investigating the role of social capital and resilience. Confirmatory Factor Analysis (CFA) and the Structural Equation Model (SEM) were used in this study. We employed structural equation model using AMOS program which the result of the study shows that the residents of Pujon Kidul Village Tourism already have favorable social capital circumstances, which are characterized by a high level of trust among residents and good social network. This trust and social network support the Covid-19 Resilience Village program's effectiveness. So far, the currently used model could explain the relationship between social capital and community resilience.

Key words: pandemic, resilience, social capital

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INTRODUCTION

The role of villages in regional and national development is integral because the number of Indonesians living in villages was 43.3% in 2020 (BPS, 2021). Although the urban population is more significant due to massive urbanization, rural development remains an important element in the regional development process. The goal is that regional development in Indonesia is evenly distributed to the scale of the village. Developing tourism is one strategy to develop a village.

Tourism remains a government priority industry since it is viewed as the locomotive for its economic growth. Tourism has even overtaken palm oil (CPO) and coal exports as the third-largest contributor to national foreign exchange earnings. Therefore, the government continues to strengthen the tourist sector's management through various policies to make Indonesian tourism more advanced and well-known in the world. East Java is one of the provinces that has significant tourism potential, as evidenced by the increasing number of tourism objects from 2016 to 2018, namely 784 tourist sites, including natural, cultural, and artificial tourist attractions (Indah et al., 2021). In addition, Malang Regency is one of the regency tourism villages with a tourist village that is a national tourist destination.

One of the tourist villages in Malang Regency is Pujon Kidul Village, which is located on the west side of the district. The village offers a variety of activities, ranging from agricultural activities, plantations, outdoor activities, and others (Nugraha et al., 2021). The tourism industry is believed to be one of the mainstay sectors of the region to improve people's welfare (Irwan et al., 2021; Pitana and Gayatri, 2005). Concerning agriculture, there is a combined term between tourism and agriculture (Han et al., 2020), namely agrotourism, that introduces related agriculture in tourism packages (Lan and Hung, 2019; Maruti, 2009; Mulyo et al., 2021). Han et al., (2020) found that tourism and agriculture can help to sustain destinations by increasing tourist-stakeholder satisfaction. In addition, agriculture is an essential component of a rural destination's appeal. The development of agrotourism could increase the income of local government (Sulaksana et al., 2021) and has impact to sustainable agriculture (Nugraha et al., 2021).

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Along with the increasing activity of tourist villages in Pujon Kidul Village, new challenges suddenly occur, namely the COVID-19 pandemic. The tourism sector, an important sector of the Indonesian economy, is also experiencing problems (Utami, 2021). The existence of a policy of limiting activities is to suppress the spread of the virus resulted in the cessation of several sectors supporting the economy. In the tourism sector, the number of visitors is limited, and even many destinations are forced to close and cannot operate. The decline in the tourism sector impacts small and medium businesses and employment. During this time, the tourism sector is a labor-intensive sector that absorbs a lot of labor (Sanaubar et al., 2017) and has impact in tourism industries in Asia-Pacific (Elder and Huynh, 2021). During the COVID-19 epidemic, our previous study demonstrated that social capital could foster reciprocal help and knowledge of community needs (Dewi et al., 2021, Ihsan et al., 2022). After we know the role of social capital, the development of the model of community resilience in dealing with shocks related to pandemics and preparedness for other natural disasters such as floods, threats of volcanic eruptions, and other disasters. Community resilience is a communities' ability to bounce back after a disruption or adversity, a process in which a network of adaptive capacities (resources with dynamic qualities) or linked to adaptation (Nemeth and Olivier, 2017; Norris et al., 2008). Community readiness is the readiness and willingness of the community to take action on an issue or problem (Edward, 2014) and increased community readiness to realize the global village tourism sector should increase the availability of resources, particularly in the tourism sector, and create a positive climate in the community in response to the advancement of information technology (Orbawati et al., 2020).

Community readiness is related to people who have binding dues to respond or react in specific ways to design things. In terms of the economy, pandemics also impact the social conditions of the community (sie.pujonkidul.desa.id, 2020). Local wisdom is a form of community preparedness in the face of disasters; therefore, social capital and local wisdom must be strengthened during the Covid-19 Pandemic (Khotimah et al., 2020; Maskur and Supriatna, 2021). Social capital is the nature of a society that describes the ability of a social group to solve a problem together. Therefore, social capital can direct people to achieve common goals when facing a problem. Based on this explanation, the existence of social capital will be a force for the community to advance in the face of the COVID-19 pandemic. So it is known that good community social capital will be able to realize the development of Covid-19 Resilience Village in Pujon Kidul Village.

MATERIALS AND METHODS
Research Variables

Through social capital, people can deal with the problem of the COVID-19 pandemic through the components of trust, networking, and norms that are in the community. In this study, researchers utilized three social capital variables: trust, network, and norms. The trust measured by indicators: K1 (Level of trust in fellow people); K2 (Level of trust in people of different cultural backgrounds); K3 (Level of trust in the village apparatus or government); K4 (Level of trust in local indigenous leaders); K5 (Level of trust in local religious leaders); K6 (Level of trust in tourism institutions such as BUMDES (village-owned enterprises) or pokdarwis (tourist awareness group); and K7 (Level of communication with others). The variable of social network measured by the indicators: J1 (The level of willingness in building cooperation to achieve mutual success); J2 (Level of participation in religious activities); J3 (Level of participation in community social activities); J4 (Level of activeness in giving opinions); J5 (Level of participation in a group or community). The last variable social network measured by 3 (three) indicators: N1 (The level of adherence to applicable customary norms); N2 (The level of existence of social sanctions); and N3 (Level of attendance in participating in customary activities or events). The answers from the respondents are Likert scale from 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agreed). Next, there are the resilience variables based on the 5 indicators below (Table 1):

Table 1. Resilience Variables

Variable	Ind.	Information
Community Resilience	R1	Public understanding of Covid-19
	R2	Ease of access to healthcare
	R3	Community involvement in planning and decision-making in Covid-19 recovery activities
	R4	Independence of individuals and communities
	R5	Cooperation between governments institutions, and communities

Sample

The number of populations used in sampling is the head of the family in Pujon Kidul Village as a community representative developing Tangguh Covid-19 Village. Here is a sample calculation using Krejcie-Morgan (Krejcie and Morgan, 1970):

$$S = \frac{x^2 . N . P(1-P)}{d^2 . (N-1) + x^2 . P(1-P)} \qquad S = \frac{3.841 * 125 * 0.5(1-0.5)}{0.05^2 * (1250-1) + 3.841 * 0.5(1-0.5)}$$

$$S = \frac{1200.3125}{4.08725} = 293.64 = 294 \text{ KK}$$

Where: S = Number of Samples; N = Population
P = Proportion of Population (0.5); x^2 = Table Value x^2 (3,841)
d = Degree of Error (0.05)

Therefore, based on the calculation of samples using the Krejcie-Morgan formula, the sample in the study amounted to 294 KK.

METHOD OF COLLECTING DATA
Methods of Analysis
A. Confirmatory Factor Analysis (CFA)

Confirmatory factor analysis is used to obtain indicators that affect social capital variables and indicators that affect

community resilience variables. The CFA analysis of social capital employed in this study makes use of indicators from social capital dimensions such as trust (K), norms (N), and social networks (J). For example, the trust dimension (K) includes indicators such as trust in fellow community members (K1), trust in people from diverse cultural backgrounds (K2), trust in village officials or the government (K3), trust in local community leaders (K4), trust in local religious leaders (K5), trust in tourism institutions such as Pokdarwis (tourist awareness group) (K6), and level of communication with others (K7). Then, on the Norm dimension (N), indicators of conformity to applicable customary norms (N1), the presence of social punishments (N2), and participation in traditional activities or events (N3) are included (N3). Furthermore, the social network dimension (J) contains five indicators: the degree of willingness to cooperate to achieve mutual success (J1); the degree of participation in religious activities (J2); the degree of participation in community social activities (J3); the degree of activeness in expressing opinions (J4); the degree of membership in a group or community (J5).

The results of this CFA analysis stage will be used for the following analysis stage to find out the social capital relationship in the development of the Covid-19 resilient villages in Pujon Kidul Village. The following is a CFA Social Capital analysis of CFA Community Resilience in Pujon Kidul Village.

1. CFA social capital Phase 1 (Figure 1).

CFA analysis phase 1 is the initial stage of testing indicators of social capital trust (K), Norms (N), and social networks (J).

2. CFA social capital Phase 2

Next is to create a CFA analysis model Phase 2 with indicators that have been eliminated earlier r in Phase 1. In Phase 2 of this CFA is carried out, calculations of the new model of social capital are l as follows (Figure 2).

Based on the results of CFA Phase 2, it can be known that three indicators form the Trust dimension (K) with a loading factor value of 0.613 to 0.528.

3. CFA social capital Phase 3 (Figure 3)
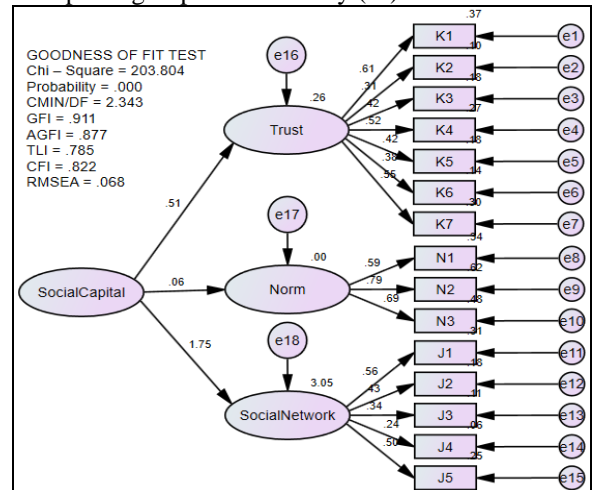
Figure 1. CFA Model of Social Capital Phase 1
(Source: Analysis Results, 2021)
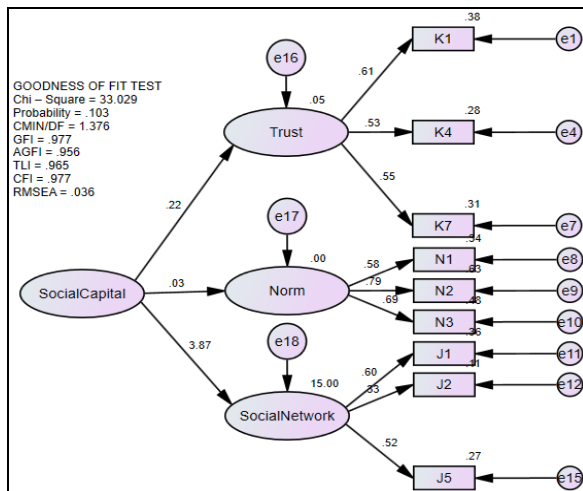
Figure 2. CFA Model of Social Capital Phase 2
(Source: Analysis Results, 2021)
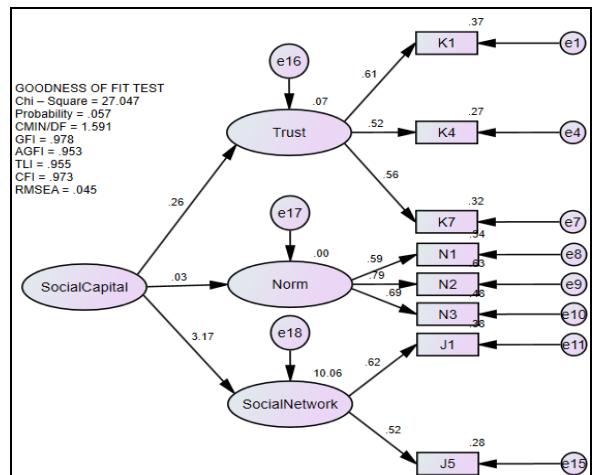
Figure 3. CFA Model of Social Capital Phase 3
(Source: Analysis Results, 2021)

Furthermore, analysis of CFA Community resilience (Figure 4) in this research has indicators of community understanding of Covid-19 (R1), ease of access to health services (R2), community involvement in planning and decision making in Covid-19 recovery activities (R3), individual and community independence (R4), and intergovernmental cooperation with institutions and communities (R5).

1. CFA resilience Phase 1
2. CFA resilience Phase 2

During the first phase of this CFA, the social capital dimension variable indicators were eliminated, including community participation in rehabilitation operations for Covid-19 (R3). Therefore, the path analysis stage 2 results follow after the invalid indicators are deleted (Figure 5).

B. Structural Equation Model (SEM)

SEM can broadly be defined as a multivariate analysis method in describing linear relationships between observational and latent variables. SEM combines SEM analysis with the AMOS software used in the analysis (Ghozali, 2008; Schumacker and Lomax, 2012). PLS or Partial Least Square analysis method with low measurement scale dependency (Prayitno et al., 2021).

The measurements in question include the size and distribution of samples (Sholiha and Salamah, 2015). Here are the steps that need to be done in the preparation of SEM analysis (Haryono, 2016):

1. Reviewing theories, hypotheses, and previous literary research
2. Develop a theoretical framework of thought
3. Develop research model specifications
4. Determine research samples and sample measurements
5. Perform parameter estimation
6. Doing a Goodness of Fit Test or Model Conformity Test
7. Modifying the model
8. Drafting discussions, research suggestions, policy implications, conclusions
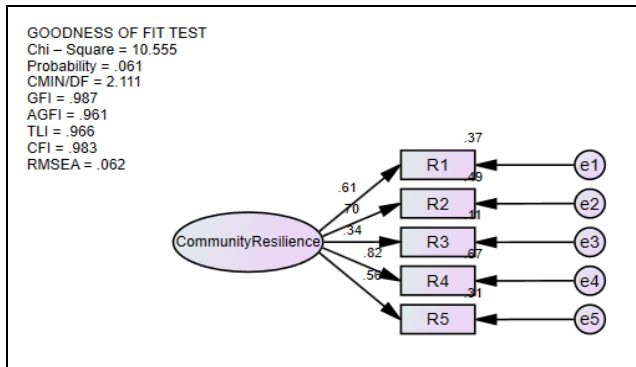
Figure 4. CFA Model of Community Resilience Phase 1
(Source: Analysis Results, 2021)
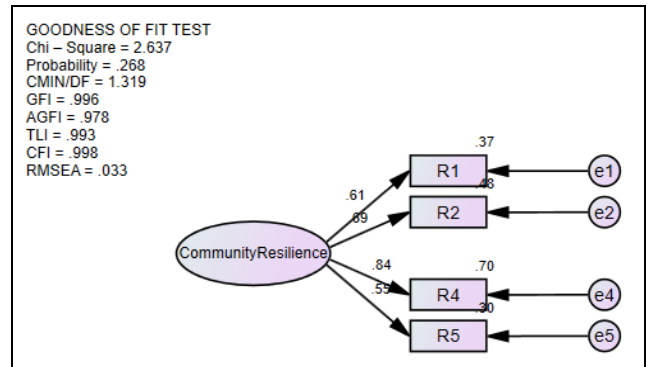
Figure 5. Model CFA Community Resilience Phase 2
(Source: Analysis Results, 2021)

RESULTS AND DISCUSSION

Pujon Kidul village is located in Malang Regency, East Java Province, Indonesia (Figure 6). Pujon Kidul village was selected because it is one of the leading village tourist destinations in Indonesia.

Characteristics of Tourist Village

Pujon Kidul village is currently not only dependent on the agricultural sector but also on the tourism sector. Tourism in Pujon Kidul Village is a fusion activity that utilizes the potential of agriculture as one of the main attractions of village tourism. One of the main attractions or tourist icons of Pujon Kidul Village is Kafe Sawah, located in Krajan Hamlet (Figure 6).

(a)

(b)
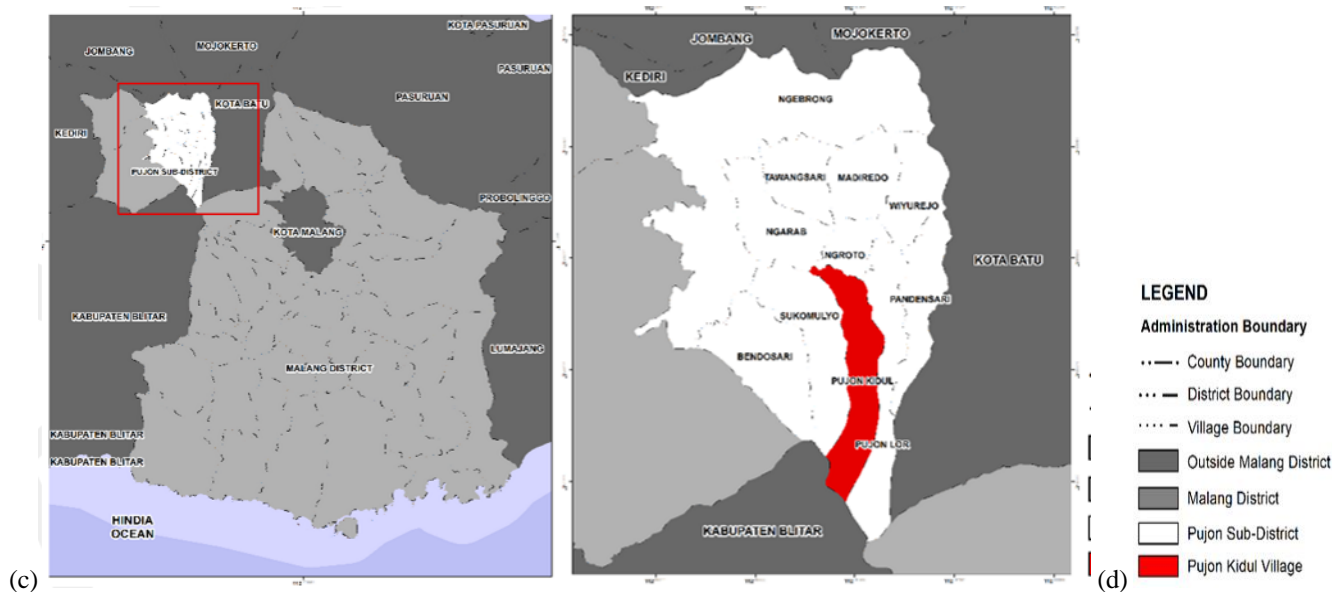
Figure 6. Map of Study Area: a. East Jawa in Indonesia; b. Malang Regency to East Jawa;
c. Map of Malang Regency, the highlighted area shows Pujon Kidul District, and d. Pujon Kidul Villange.

Kafe Sawah is one of the main attractions in Pujon Kidul Village. This tourist attraction offers natural scenery in the form of hills and mountains. Various exciting tourist attractions that can be enjoyed by visitors include the Cafe Sawah area (Figure 7), Fantasy Land, cultural parks, adventure tours, educational tours, and the Rough 78.

The COVID-19 pandemic caused several closures of tourist attractions due to the enactment of PPKM. The impact was that tourism activities stopped, and there was no income from the tourism sector.

Figure 7. Cafe Sawah Pujon Kidul (Source: Primary survey results, 2021)

Characteristics of Agriculture

Pujon Kidul village is one of the tourist villages in the Malang Regency. This village was initially based on agricultural subsystems, so it has considerable agricultural potential. The agricultural sector of Pujon Kidul village is the dominant economic sector for the village community. As many as 39.3% of the residents of Pujon Kidul Village work in agriculture; among them are 1,334 farmers, 194 as farmworkers, and 228 as farmers. From these livelihoods, it is seen that the agricultural sector in Pujon Kidul Village is engaged in the sub-sector of food crops and livestock. The sub-sector of food crops found in Pujon Kidul Village was supported by surface area and cool air. One of the food crops grown in Pujon Kidul Village is rice. Based on the profile data of Pujon Kidul Village in 2019, the area of Kafe Sawah in Pujon Kidul Village is an area of 82.88 ha or 25% of the total area of Pujon Kidul Village. In addition to rice, other food crops such as fruits and vegetables. Based on data from SIE Pujon Kidul in 2019, it can be known that the total area of land planted with vegetables in Pujon Kidul Village is 8.78 ha. Vegetables grown by the people of Pujon Kidul Village include shallots, cauliflower, leeks, carrots, cabbage, white cabbage, mustard greens, and potatoes. The largest vegetable land area is carrot land, with 3.82 ha or 44% of the total land area for vegetable commodities (Figure 8.a). In addition to being planted with vegetables, Pujon Kidul Village also has land planted with fruits to support the village's agricultural sector. The total area of land planted with vegetables in Pujon Kidul Village is an area of 5.66 ha. Fruits grown by the community include chickpeas, tomatoes, chilies, eggplants, oranges, guava, corn, and cucumbers. Based on SIE Data, Pujon Kidul can be known that the largest area of fruit land is land planted with chili with a total percentage of 29%. The chili land consists of cayenne pepper land covering an area of 2.5 ha and land planted with large chili peppers covering an area of 1.75 ha (Figure 8.b).

(a)   (b)
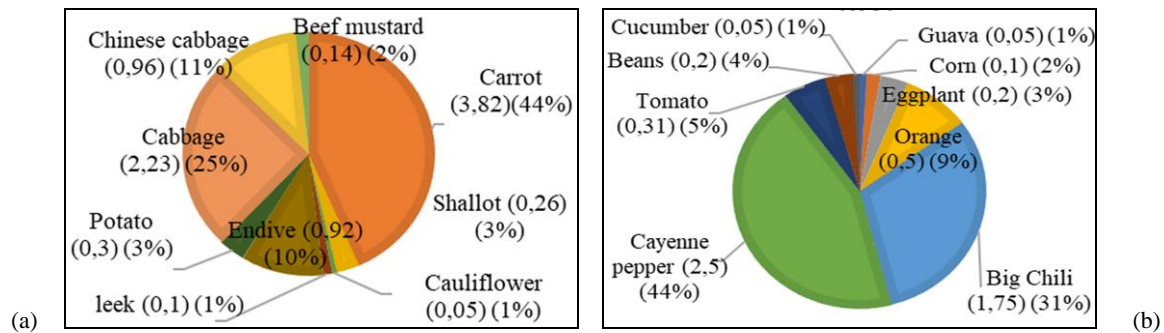
Figure 8. Percentage of Land Area (a) Vegetables (b) Fruits Area (Source: SIE Pujon Kidul SIE Desa Pujon Kidul, 2021)

Characteristics of Respondents

1. Based on age

Based on the age classification of respondents from Krajan Hamlet, Maron Hamlet, and Tulungrejo Hamlet, it shows that the age of the community is dominated by productive age, or 15–65 years, with a total of 283 people, or 96% of the number of respondents (Figure 9. a).

2. Based on Gender

The number of female respondents was higher (74%) than the number of male respondents (26%) based on the number of men and women that responded (male respondents). This calculation demonstrates that women outnumber men among farmer respondents (Figure 9. b).

3. The level of education

The level of education has a significant influence on the economic well-being of most people working in the agricultural sector. In addition, higher education levels can affect the mindsets of farmers who have the skills to cultivate agriculture more effectively and efficiently.

Based on the education taken by 294 respondents, including Krajan Hamlet, Maron Hamlet, and Tulungrejo Hamlet, it was obtained that community education is very varied, starting from elementary school / MI equivalent to Bachelor. The last level of respondents' education was dominated by SD / MI (elementary school), which amounted to 181 people, or 59% of the number of respondents. However, four people, or 4% of the respondents, did not attend school (Figure 10). This is lower than the average Education in Indonesia, encouraging nine years of primary education. Unfortunately, this causes the ability of the population to be lacking in managing their tourism potential.

(a)   (b)
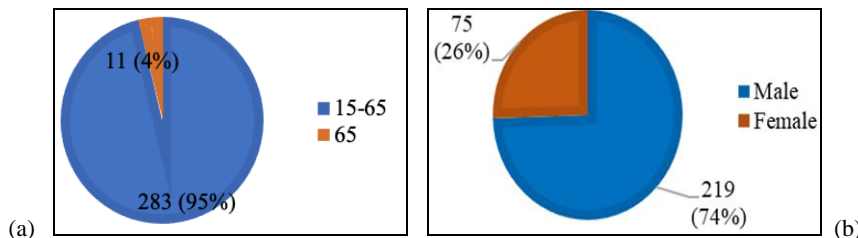
Figure 9. Characteristics of Respondents (a) Based on Age
(b) Based on gender (Source: Primary survey results, 2021)
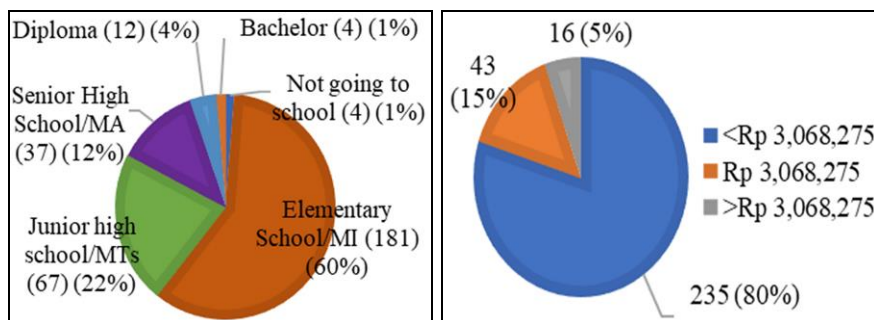
Figure 10. Characteristics of
Respondents Based on Education Level
(Source: Primary survey results, 2021)
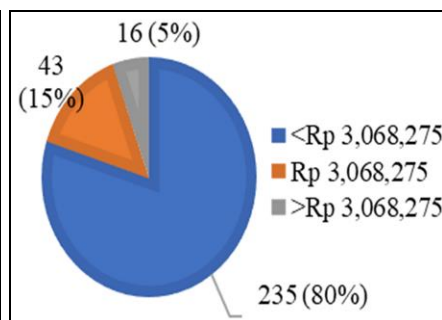
Figure 11. Characteristics
of Respondents Based on Income
(Source: Primary survey results, 2021)

Table 2. Characteristics of Respondents by Job (Source: Primary survey results, 2021)

Type of work	Number (people)
Workshop	2
Freelance Day Labor	6
Farm labor	**51**
Freelancer	1
Teacher	3
IRT (Housewife)	1
Parking attendant	1
Head of Building	3
Building Porters	8
Merchant	27
Civil servants	2
Private employees	5
Village Devices	2
Timber	1
Farmer	**136**
Breeder	9
Driver	4
Not Working	14
Trail	1
Self-employed	11
Entrepreneurial	6
Total	**294**

4. Based on Work and Income

Income is all receipts in the form of money or goods. Income is closely related to work because it is related to survival (Suroto, 2000). It is known that the community with a job as a farmer is the response and the majority in research on the development of resilient villages Covid-19 in Pujon Kidul Tourism Village. Generally, people who work as farmers 46.2 percent are people who used to have a role in the development of tourist villages, especially Kafe Sawah (Table 2). The domination of income is less than IDR 3,088,275 or less than 205.88 USD (Figure 11).

Characteristics of Social Capital

The social capital characteristics of Pujon Kidul Village can be known through the results of a primary survey in the form of questionnaires that include research variables, namely trust variables, norms, and social networks. In more detail, Table 3 are the variables and indicators used in the social capital research of Pujon Kidul Village:

For all indicators in social capital (trust, norm, and social network), more than 50% agreed and strongly agreed. This respondent's answer shows that most respondents support or have good social capital based on social capital measurement indicators. Furthermore, the level of resilience of the people of Pujon Kidul Village amid the Covid-19 pandemic can be seen in detail in Table 4. According to Table 4, there are only two types of responses in the Five Resilience (R1-R5) indicator: strongly agreeing with 223 individuals or 76 percent of total respondents and agreeing with 71 people or 24 percent of all respondents. The community with the highest proportion of highly agreeing responses dominates the R4 indicator. This value means they view their health and the world around them as a shared responsibility and are always willing to assist neighbors afflicted by the Covid-19 Pandemic. Meanwhile, the second group of responses, agree, demonstrates how people feel a sense of responsibility for their health and the health of their neighbors in the environment and a willingness to assist neighbors afflicted by the Covid-19 outbreak. These findings indicate that the entire community is resilient to the impact of COVID-19 and knows how to deal with it collectively.

Table 3. Characteristics of Social Capital of Pujon Kidul Village (Source: Primary survey results, 2021)

Variable	Indicators	STS (1)		TS (2)		CS (3)		S (4)		SS (5)		Mood
		f	%	f	%	f	%	f	%	f	%	
Trust	K1	0	0%	0	0%	41	5%	70	5%	183	9%	5
	K2	4	27%	10	5%	80	9%	82	6%	118	6%	5
	K3	2	13%	11	6%	63	7%	97	7%	121	6%	5
	K4	0	0%	0	0%	32	4%	111	8%	151	8%	5
	K5	0	0%	0	0%	34	4%	101	7%	159	8%	5
	K6	0	0%	29	15%	69	8%	79	6%	117	6%	5
	K7	2	13%	36	18%	53	6%	99	7%	104	5%	5
Norm	N1	0	0%	5	3%	58	7%	86	6%	145	7%	5
	N2	0	0%	25	13%	66	8%	87	6%	116	6%	5
	N3	0	0%	40	20%	69	8%	79	6%	106	5%	5
Social Network	J1	0	0%	0	0%	29	3%	105	8%	160	8%	5
	J2	0	0%	6	3%	23	3%	110	8%	155	8%	5
	J3	0	0%	0	0%	83	10%	99	7%	112	6%	5
	J4	7	47%	16	8%	83	10%	87	6%	101	5%	5
	J5	0	0%	21	11%	64	8%	91	7%	118	6%	5
Total		**15**		**199**		**847**		**1383**		**1966**		

Where: f = frequency; STS = Strongly disagree; TS = Disagree; CS = Agree enough; S = Agree; SS = Strongly agree

Table 4. Characteristics of Community Resilience of Pujon Kidul Village (Source: Primary survey results, 2021)

Variable	Indicators	STS (1)		TS (2)		CS (3)		S (4)		SS (5)		Mood
		f	%	f	%	f	%	f	%	f	%	
Community Resilience	R1	0	0%	0	0%	5	2%	75	12%	214	35%	5
	R2	0	0%	0	0%	49	22%	231	37%	14	2%	4
	R3	0	0%	0	0%	131	58%	101	16%	62	10%	3
	R4	0	0%	0	0%	0	0%	71	11%	223	36%	5
	R5	0	0%	0	0%	42	19%	153	24%	99	16%	4

Table 5. Results of Significance Test and Validity Test of CFA Social Capital Phase 1(Source: Primary survey results, 2021)

Dimensions	Indicator	C.R.(≥1.96)	P (≤0.05)	Loading Factor (≥0.50)	Information
Trust	K1	Fixed		0.612	Valid
	K2	4.378	***	0.314	Valid
	K3	5.633	***	0.42	Valid
	K4	6.636	***	0.519	Valid
	K5	5.627	***	0.42	Invalid
	K6	5.124	***	0.375	Invalid
	K7	6.9	***	0.549	Valid
Norm	N1	Fixed		0.585	Valid
	N2	7.506	***	0.79	Valid
	N3	7.822	***	0.695	Valid
Social Network	J1	Fixed		0.557	Valid
	J2	5.28	***	0.428	Invalid
	J3	4.396	***	0.338	Invalid
	J4	3.25	0.001	0.238	Invalid
	J5	5.91	***	0.504	Valid

Confirmatory Factor Analysis (CFA) Social Capital

The indicators of social capital variables that are eliminated in phase 1 (Table 5) of the CFA are: the level of trust in people with different cultural backgrounds (K2), the level of trust in local religious leaders (K5), the level of trust in tourism institutions such as pokdarwis (K6), level of participation in religious activities (J2), level of participation in community social

activities (J3), and level of activeness in giving opinions (J4). Next, the indicators that make up social capital in CFA phase 2 include the level of trust in fellow community members (K1), the level of trust in local community leaders (K4), the level of communication with others (K7), the level of obedience to applicable customary norms (N1), the level of existence of social sanctions (N2), the level of attendance in participating in traditional activities or events (N3), a high level of willingness to build cooperation to achieve mutual success (J1), the level of participation in religious activities (J2), and level of participation in a group or community (J5). In phase 2 of this CFA, the new model of social capital calculation is in Table 6.

Table 6. Results of Significance Test and Validity Test of CFA Social Capital Phase 2 (Source: Primary survey results, 2021)

Dimensions	Indicator	C.R.(≥1.96)	P (≤0.05)	Loading Factor (≥0.50)	Information
Trust	K1	Fixed		0.613	Valid
	K4	5.972	***	0.528	Valid
	K7	6.118	***	0.554	Valid
Norm	N1	Fixed		0.585	Valid
	N2	7.494	***	0.794	Valid
	N3	7.831	***	0.691	Valid
Social Network	J1	Fixed		0.601	Valid
	J2	4.143	***	0.334	Invalid
	J5	5.582	***	0.515	Valid

Table 7. Results of Significance Test and Validity Test of CFA Social Capital Phase 3 (Source: Primary survey results, 2021)

Dimensions	Indicator	C.R.(≥1.96)	P (≤0.05)	Loading Factor (≥0.50)	Information
Trust	K1	Fixed		0.61	Valid
	K4	5.791	***	0.52	Valid
	K7	6.019	***	0.565	Valid
Norm	N1	Fixed		0.585	Valid
	N2	7.484	***	0.795	Valid
	N3	7.831	***	0.69	Valid
Social Network	J1	Fixed		0.62	Valid
	J5	5.326	***	0.525	Valid

The variable dimensions of social capital removed in phase 2 of this CFA are the level of participation in religious activities (J2). After the invalid indicators are removed, the phase 2 CFA test is completed, and then the CFA phase 3 retest is carried out by recalculating the model (Table 7). Phase 3 is the final phase of the CFA of social capital, with indicators forming the variable dimensions of social capital, namely the level of trust in fellow community members (K1), the level of trust in local community leaders (K4), the level of communication with others (K7), the level of obedience to the prevailing customary norms (N1), the level of existence of social sanctions (N2), the level of attendance in participating in traditional activities or events (N3), the level of willingness to build cooperation to achieve mutual success (J1), and the level of participation in a group or community (J5). These indicators are said to be indicators that can measure the dimensions of social capital well. So, in the next stage, the feasibility test of the model with the goodness of fit is carried out as follows (Table 8).

Table 8. Goodness Of Fit Test Results on Social Capital CFA Model (Source: Primary survey results, 2021)

The goodness of fit index	Phase 1 CFA			Phase 2 CFA			Phase 3 CFA		
	cut of value	Results	Note	Cut of value	Result	Note	Cut of value	Result	Note
Chi-square	<α.df (α=0.005)	<124.718 (df=87) 203.8	good fit	<a.df (a=0.005)	<45.558 (df=24) 33.0	good fit	<a.df (a=0,005)	<35,718 (df=17) 27,0	good fit
Probabilitas	≥ 0.05	0.000	poor fit	≥ 0.05	0.103	good fit	≥ 0,05	0,057	good fit
CMIN/DF	≤ 2.00	2.343	poor fit	≤ 2.00	1.376	good fit	≤ 2,00	1,591	good fit
GFI	≥ 0.90	0.911	good fit	≥ 0.90	0.977	good fit	≥ 0,90	0,978	good fit
AGFI	≥ 0.90	0.877	poor fit	≥ 0.90	0.956	good fit	≥ 0,90	0,953	good fit
TLI	≥ 0.90	0.785	poor fit	≥ 0.90	0.965	good fit	≥ 0,90	0,955	good fit
CFI	≥ 0.90	0.822	poor fit	≥ 0.90	0.977	good fit	≥ 0,90	0,973	good fit
RMSEA	≤0.08	0.068	good fit	≤0.08	0.036	good fit	≤0,08	0,045	good fit

Based on phase 1, phase 2, and phase 3, there is a change in the goodness of fit value. A goodness of fit feasibility model can be said to be accepted if it has 4-5 goodness of fit indexes that meet the requirements (Suroto, 2000). So, in phase 1, the model is not accepted because it only has three goodness of fit indexes that meet the requirements, or in the first phase CFA model. While phases 2 and 3 are models that can be accepted because all the goodness of fit indexes have met the requirements, The following is the value of the social capital-forming factors in model 3 CFA in Pujon Kidul Village.

1. Trust

The dimension of trust is formed by three indicators, including the level of trust in fellow community members (K1), the level of trust in local community leaders (K4), and the level of communication with others (K7). The equation formed is as follows: K1 = 0.61 Trust + e1; K4 = 0.52 Trust + e4; K7 = 0.565 Trust + e7.

Based on the problems above, it can be seen that the most significant factor loading value is the indicator of the level of trust in fellow community members (K1), with a value of 0.61. An indicator with a significant loading factor value means it has a large effect. Therefore, trust in fellow community members is the most precise indicator in forming trust in Pujon Kidul Village, which is marked by the willingness of the community to help others.

2. Norms

Dimensional norms are formed by three indicators, including the level of adherence to applicable customary norms (N1), the level of social sanctions (N2), and the level of attendance at participating in traditional activities or events (N3). The equation formed is as follows: N1 = 0.585 Norm + e8; N2 = 0.795 Norm + e9; N3 = 0.69 Norm + e10;

Based on the problems above, it can be seen that the largest factor loading value is in the indicator of the level of existence of social sanctions (N2), with a value of 0.795. Therefore, the existence of social sanctions is the clearest indicator in forming norms in Pujon Kidul Village, which is marked by sanctions against the people of Pujon Kidul Village who violate the norms, from receiving a warning, being resolved in a family manner, to being handed over to the authorities.

3. Social Network

The social network dimensions are formed by two indicators, including the level of willingness to build cooperation to achieve mutual success (J1) and the level of participation in a group or community (J5). The equation formed is as follows:

J1 = 0.62 Social Network + e11; J5 = 0.525 Social Network + e15

The biggest loading factor value is in the indicator level of willingness to build cooperation to achieve mutual success (J1), with a value of 0.62. Therefore, the willingness to build cooperation to achieve mutual success is the most influential indicator in forming a social network in Pujon Kidul Village, which is marked by the willingness of the community to work together to achieve common goals without expecting a personal gain.

Confirmatory Factor Analysis (CFA) Community Resilience

A CFA analysis results were carried out in two phases based on the indicators of community resilience (Table 9). Phase 1 of the CFA analysis is the initial stage of testing community resilience indicators in the form of public understanding of COVID-19 (R1), ease of access to health services (R2), community involvement in planning and decision making in COVID-19 recovery activities (R3), individual and community independence (R4), and cooperation between government and institutions and society (R5). The CFA phase 1 test results show that all indicators are significant (Table 10). However, there is 1 invalid indicator: community involvement in planning and decision-making in COVID-19 recovery activities (R3), so it is removed. In phase 2 of the CFA, community resilience makes a CFA analysis model with indicators from the results of CFA phase 1. The indicators that shape community resilience in CFA phase 2 are still the same as before. During the first phase of this CFA, the social capital dimension variable indicators were eliminated, including community participation in rehabilitation operations for Covid-19 (R3). The path analysis stage 2 results are as follows after the invalid indicators are deleted (Table 10). Phase 2 is the final phase of CFA resilience. The forming indicators are said to be indicators that can measure community resilience well. So, in the next stage, the feasibility test of the model with the goodness of fit is carried out as follows (Table 11). This result shows that the community's understanding of COVID-19 influences the resilience of tourist villages. First, the resident could provide the best adaptation on dealing with it, then relate to individual and community resilience. The next is good cooperation between the community and government institutions and good access to health facilities in the village.

Table 9. Results of Significance Test and Validity Test of CFA Community Resilience Phase 1(Source: Primary survey results, 2021)

Dimensions	Indicator	C.R. (≥1.96)	P (≤0.05)	Loading Factor (≥0.50)	Information
Community Resilience	R1	Fixed		0.61	Valid
	R2	8.859	***	0.703	Valid
	R3	4.908	***	0.335	Invalid
	R4	9.239	***	0.819	Valid
	R5	7.558	***	0.559	Valid

Table 10. Results of Significance Test and Validity Test of CFA Community Resilience Phase 2 (Source: Primary survey results, 2021)

Dimensions	Indicator	C.R. (≥1.96)	P (≤0.05)	Loading Factor (≥0.50)	Information
Community Resilience	R1	Fixed		0.609	Valid
	R2	8.787	***	0.69	Valid
	R4	9.112	***	0.836	Valid
	R5	7.473	***	0.549	Valid

Table 11. Goodness Of Fit Test Results on Community Resilience CFA Model (Source: Primary survey results, 2021)

No	The goodness of fit index	Phase 1 CFA			Phase 2 CFA		
		cut of value	Results	Information	cut of value	Results	Information
1	Chi-square	<α.df (α=0.005)	<16.75 (df=5) 10.555	good fit	<a.df (a=0.005)	<10.59 (df=2) 2.637	good fit
2	Probabilitas	≥ 0.05	0.061	good fit	≥ 0.05	0.261	good fit
3	CMIN/DF	≤ 2.00	2.111	poor fit	≤ 2.00	1.319	good fit
4	GFI	≥ 0.90	0.987	good fit	≥ 0.90	0.996	good fit
5	AGFI	≥ 0.90	0.961	good fit	≥ 0.90	0.978	good fit
6	TLI	≥ 0.90	0.966	good fit	≥ 0.90	0.993	good fit
7	CFI	≥ 0.90	0.983	good fit	≥ 0.90	0.998	good fit
8	RMSEA	≤0.08	0.062	good fit	≤0.08	0.033	good fit

The equation formed is as follows.

R1 = 0.609 Community Resilience + e1; R2 = 0.69 Community Resilience + e2;

R4 = 0.836 Community Resilience + e4; R5 = 0.549 Community Resilience + e5

Based on the above problems, it can be seen that the largest factor loading value is in the individual and community independence indicator (R4), namely 0.836.

Analysis Structural Equation Modeling of the Relationship between Social Capital and Community Resilience

This study uses SEM to determine which model is the most appropriate in linking social capital and community resilience dimensions. Models 1 to 3 describe SEM data processing starting from the development of path diagrams, variable significance tests, and goodness of fit model feasibility tests. The following is the result of processing data on the relationship between social capital and community resilience in models 1 to 3.

A. Model 1
1. Development of a Path Diagram
It can be seen (Figure 12) that the dimension of social capital in the form of trust is a variable that affects community resilience in the development of a Covid-19 resilient village in Pujon Kidul Village.
2. Variable Significance Test
In this model, the social network variable influences the trust variable (Table 12). Then on the trust variable, it also affects the community's resilience.
3. Evaluation of Goodness of Fit
A goodness of fit evaluation was conducted to test the feasibility of model 1 of the relationship between social capital and community resilience (Table 13). The table above shows that only one criterion is a good fit. Overall, model 1 is a model that does not fit.

B. Model 2
1. Development of Path Diagrams
In model 2, the path coefficients of social network

variables and trust variables directly correlate with norm variables (Figure 13). Furthermore, the norm variable directly relates to the community's resilience variable.
2. Variable Significance Test
In model 2, the trust variable has an effect on the social network variable (Table 14).
3. Evaluation of Goodness of fit
The Table 15, shows that only one criterion is a good fit. Therefore, overall model 2 is also unfit.

C. Model 3
1. Development of Path Diagrams
In Model 3 SEM (Figure 14), it is also described that the path coefficients of trust variables and norm variables have a direct relationship with social network variables.
2. Variable Significance Test
In model 3, the trust variable influences the social network variable (Table 16). Then, on the social network variable, it also affects the community's resilience (C.R$\geq$ 1.96) with p$\leq$0.05 (significant).
3. Evaluation of Goodness of fit
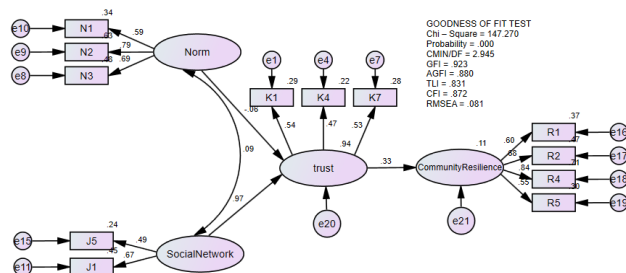
Figure 12. Model 1 Path Diagram (Source: analysis results, 2021)
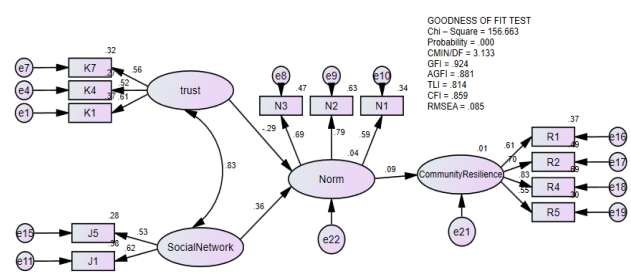
Figure 13. Model 2 Path Diagram (Source: analysis results, 2021)

Table 12. Results of Significance Test Model 1
(Source: analysis results, 2021)

Path coefficient	C.R. ($\geq$1.96)	P ($\leq$0.05)	Loading Factor ($\geq$0.50)	Note
Trust <- Norm	-0.701	0.484	-0.064	Insignificant
Trust <- Social Network	4.899	***	0.974	Significant
Community Resilience <- Trust	3.627	***	0.328	Significant
Norm <-> Social Network	0.991	0.322	0.092	Insignificant

Table 13. Results of Goodness of fit Model 1
(Source: analysis results, 2021)

Goodness of fit index	cut of value	Results	Note
Chi-square	<a.df (a=0.005)	<79.489 (df=50) 147.270	poor fit
Probabilitas	$\geq$ 0.05	0.000	poor fit
CMIN/DF	$\leq$ 2.00	2.945	poor fit
GFI	$\geq$ 0.90	0.923	good fit
AGFI	$\geq$ 0.90	0.880	poor fit
TLI	$\geq$ 0.90	0.831	poor fit
CFI	$\geq$ 0.90	0.872	poor fit
RMSEA	$\leq$0.08	0.081	poor fit

Table 14. Results of Significance Test Model 2 (Source: analysis results, 2021)

Path coefficient	C.R. ($\geq$1.96)	P ($\leq$0.05)	Loading Factor ($\geq$0.50)	Note
Trust <- Norm	-0.904	0.366	-0.289	Insignificant
Trust <- Social Network	1.078	0.281	0.362	Insignificant
Community Resilience <- Trust	1.178	0.239	0.089	Insignificant
Norm <-> Social Network	5.539	***	0.825	Significant

There are four criteria for a good fit in Table 17, so overall, model 3 is a fit or acceptable (Haryono, 2016). Acceptance of the third model means that the COVID-19 resilience village can be done by increasing trust among community members and strengthening networks. The model shows that the better the network, the community has various relationships with other parties in tackling COVID-19. According to the results of the SEM analysis and the state of the exhibition, the residents of Pujon Kidul

Village Tourism already have favorable social capital circumstances, which are characterized by a high level of trust, norms, and social network. This is trust and social network to support the Covid-19 Resilience Village program's effectiveness.

Table 15. Results of Goodness of fit Model 2
(Source: analysis results, 2021)

The goodness of fit index	cut of value	Results	Note
Chi-square	<a.df (a=0.005)	<79.489 (df=50) 156.663	poor fit
Probability	≥ 0.05	0.000	poor fit
CMIN/DF	≤ 2.00	3.133	poor fit
GFI	≥ 0.90	0.924	good fit
AGFI	≥ 0.90	0.881	poor fit
TLI	≥ 0.90	0.814	poor fit
CFI	≥ 0.90	0.859	poor fit
RMSEA	≤0.08	0.85	poor fit
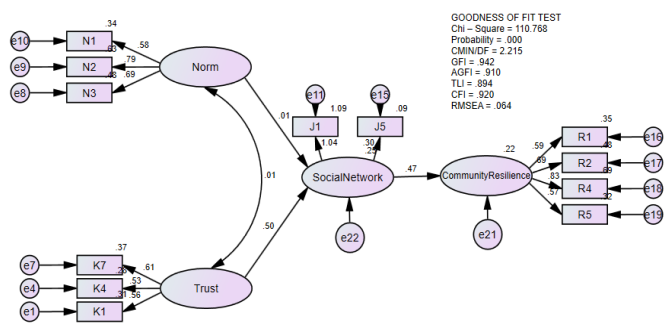
Figure 14. Model 3 Path Diagram (Source: analysis results, 2021)

Table 16. Results of Significance Test Model 3

Path coefficient	C.R. (≥1.96)	P (≤0.05)	Loading Factor (≥0.50)	Note
Trust <- Norm	0.147	0.884	0.009	Insignificant
Trust <- Social Network	5.467	***	0.502	Significant
Community Resilience <- Trust	3.944	***	0.473	Significant
Norm <-> Social Network	0.078	0.938	0.007	Insignificant

Table 17. Results of the Goodness of Fit Model 3

Goodness of fit index	cut of value	Results	Note
Chi-square	<a.df (a=0.005)	<79.489 (df=50) 110.768	poor fit
Probabilitas	≥ 0.05	0.000	poor fit
CMIN/DF	≤ 2.00	2.215	poor fit
GFI	≥ 0.90	0.945	good fit
AGFI	≥ 0.90	0.910	good fit
TLI	≥ 0.90	0.894	poor fit
CFI	≥ 0.90	0.920	good fit
RMSEA	≤0.08	0.64	good fit

Structural Equation Model of The Development of The Covid 19 Community Resilience

Using Structural Equation Model (SEM), we determined the link between social capital and community resilience in Pujon Kidul Village, a Covid-19 resilient community. Model 3 is a model that can determine the relationship between social capital and community resilience in the development of COVID-19 resilient in Pujon Kidul Village Tourism. The SEM discussion created three alternative models to see the relationship between social capital and community resilience in developing COVID-19 resilient villages (model 1-3). Model 3's path diagram and significance test show that social capital and community resilience are linked through the Social Network variable in establishing COVID-19 resilient communities. In line with (Guarnacci, 2016) finding that social network has relation to community resilient in the case of Aceh Province-Indonesia. With a minor influence or loading factor value of 0.009, the norm variable is directly linked to the social network variable with a negligible value. However, the trust variable has a strong influence or loading factor of 0.502 or 50.2 percent on the social network variable. As a result, it can be said that in Pujon Kidul Village, trust in fellow community members (K1), trust in local leaders (K4), and communication with others (K7) have a significant relationship and effect of 50.2 percent on social networks. This is characterized by the willingness to build cooperation to achieve mutual success (J1). The community-owned social network has a strong influence or loading factor value of 0.473 or 47.3% on the community's resilience variable. Therefore, it can be said that the social network owned by the community has a significant relationship and has an effect of 47.3% on community resilience in developing resilient villages, as evidenced by their willingness to build cooperation for mutual success (J1) and participation in a group or community (J5). People in Pujon Kidul Village are more informed about Covid-19 (R1), have better access to health services (R2), and are more self-sufficient (R4) as a result of Covid-19.

CONCLUSION

The conclusions from the research are as follows:

1. The results of CFA Social capital analysis are carried out in 3 phases, where all indicators are significant and valid in phase 3. This is because the indicator has met the testing requirements, which can be said to be valid if it has a loading factor value of 0.5, and is said to be significant if it has a C.R value of 1.96 and a P value of 0.05, which are marked with *** in the table. Thus, there is no need to eliminate or reduce indicators because all indicators are valid and significant.

2. The CFA Community Resilience analysis results show that the indicators that best describe the resilience of the Pujon Kidul Village community are: (R1) the community's understanding of COVID-19; R1 (ease of access to health services); R3 (Independence of individuals and communities); and R4 (cooperation between government institutions and the community. This result shows that the community's understanding of COVID-19 influences the resilience of tourist villages. First, the resident could provide the best adaptation on dealing with it, then relate to individual and community resilience. The next is good cooperation between the community and government institutions and good access to health facilities in the village.

3. The test results of the three models show that models 1 and 2 only have one goodness of fit index criteria that matches the cut-off value. Meanwhile, model 3 has four goodness of fit index criteria that meet the cut-off value requirements. So, model 3 is the best model for describing the relationship between social capital and community resilience in developing the Covid-19 Resilience Village in Pujon Kidul Village. According to the results of the SEM analysis and the state of the exhibition, the residents of Pujon Kidul Village Tourism already have favorable social

capital circumstances, which are characterized by a high level of trust, norms, and social network. This trust and social network support the Covid-19 Resilience Village program's effectiveness. So far, the currently used model (Model 3) could explain the relationship between social capital and community resilience.

Acknowledgment

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SPATIO-TEMPORAL DEVELOPMENT OF COASTAL TOURIST CITY OVER THE LAST 50 YEARS FROM LANDSAT SATELLITE IMAGE PERSPECTIVE IN TAKUA PA DISTRICT, PHANG-NGA PROVINCE, THAILAND

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Abstract: The objective of this research was to study the land-use patterns through the Landsat satellite image perspective in order to see the spatio-temporal development of coastal tourist city in Takua Pa District, Phang-Nga Province, Thailand. The study found that there is a noticeable land-use change in the cassiterite (tin) mining area that has declined over the past 50 years, from 1973 appearing 55.82 km^2 (9.68%) until the current year 2022 without remaining, as it has been transformed into an agricultural area where rubber, palm, and coconut are planted. In addition, the mining area has become an urban area and buildings such as hotels and resorts, and a water source for shrimp farms. It can be seen that Landsat satellite imagery is very useful for land-use planning, especially in the coastal tourist city area. The results of this research can be classified as a spatial database for tourism planning in Takua Pa community by zoning into 3 areas for major tourism, Zone-1 Eco Tourism, Zone-2 Cultural Tourism, and Zone-3 High-end Tourism. This is important research data to support decision-making in regulating, monitoring, and controlling areas for further tourism business expansion in order to avoid negative impacts on the environment.

Key words: spatial assessment, built-up and recreation expansion, geo-informatic, Koh Chang Island, tourism

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INTRODUCTION

Spatial management in the coastal tourist city style is an economic activity that generates huge income for countries in the equatorial regions (Kay and Alder, 1999; Tan et al., 2018). The coastal city has a very high tourism potential because of its beautiful topography (Dvarskas, 2017; Patterson et al., 2004). The coastal region of the south west coast of Thailand has a high potential for tourism due to its diversity of natural resources, exotic landscapes, good service systems, and infrastructure that facilitates tourists holding (Gössling, 2002; Boavida-Portuga et al., 2016). It is another destination that both Thai and foreign tourists want to come and experience. One of the world-famous places is Phuket Island. With growth and bustle of Phuket Island like a city that never sleeps, as a result, Khao Lak beach, located in Takua Pa District, Phang-Nga Province, has been popular since 1994 as it is only 70 km from Phuket International Airport.

For this reason, it is important to tell from the perspective of the spatio-temporal development of coastal tourist city over the last 50 years via satellite imagery to help understand the context of the area and how it came to be for people in the community, government and private agencies understand the management of land-use planning to support the expansion of tourism business of Takua Pa District. Takua Pa District, Phang-Nga Province is one of the important cities in the south-west coast of Thailand. It covers an area of approximately 570.45 km^2. The study area is located between latitude 8°35' N to 9°5' N and longitude 98°10' E to 98°30' E (Figure 1). The topography is mostly hilly and low complexes appearing in the eastern part of the study area. The central part of Takua Pa is a sedimentary river basin of the Quaternary Period with the main river being the Takua Pa River (Feldens et al., 2022; Department of Mineral Resources, 2013). The west of the study area is a coastal plain, alternating with an undulating plain, spanning more than 70 km. And in the north, there is an estuary environment covered with mangrove forests and sediments washed by the Takua Pa River, resulting in this area being extremely fertile. There is also an important large island, Koh Kho Khao.

Takua Pa District, formerly known as "Takola", is part of the Suvarnadwipa region (Ghosh, 2019). Takola is a Sinhalese word for cardamon fruit, which is an important spice product of the city that developed into a port since 500 BC (Srichampa, 2015; Ghosh, 2019). Takola is an ancient city of great historical significance. In 1890, Takola transformed from a spice trading port to a large mineral trading center, especially cassiterite which was an important raw material for the industrial manufacturing sector of the time (Gardiner et al., 2015). The years 1935-1942 were the era of the cassiterite exploitation (Kongkeaw et al., 2019; Boonwanno et al., 2022). The tin mining activities were carried out day and night until it became a sleepless mining community like the Khuek Khak community, which means "energetic, upbeat" because all

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cassiterites were found anywhere near the town of Takola, such as Talat Yai or Big Market. It is an important historical evidence of prosperity and was a major exchange center of the south west coast in those days. But at present, tin mining has ceased to exist, forcing Takua Pa District to shift its status from tin mining and trading town to another form for the survival of the community. Therefore, nowadays it has become an important tourist city in the southern part of Thailand. Geo-informatics technology needs to be applied in this research to track land-use change patterns in order to create a database for systematic and methodical land-use planning that can tell about the past in 50 years ago, through satellite imagery of Landsat and tourism areas zoning in various ways to accommodate tourists in order to maintain the style of coastal tourist city maintaining the identity of the local community together with the development of sustainable modern tourist attractions in the future (Waridin and Astawa, 2021; Hadmoko et al., 2021; Waiyasusri et al., 2021).

The purpose of this research was to study land-use patterns in Takua Pa District, Phang-Nga Province from 1973 to 2022, and to study land-use changes to reveal spatio-temporal development of coastal tourist city over the last 50 years from Landsat satellite image perspective for information in decision making in setting the direction of spatial management to support the expansion of sustainable tourism in the future.
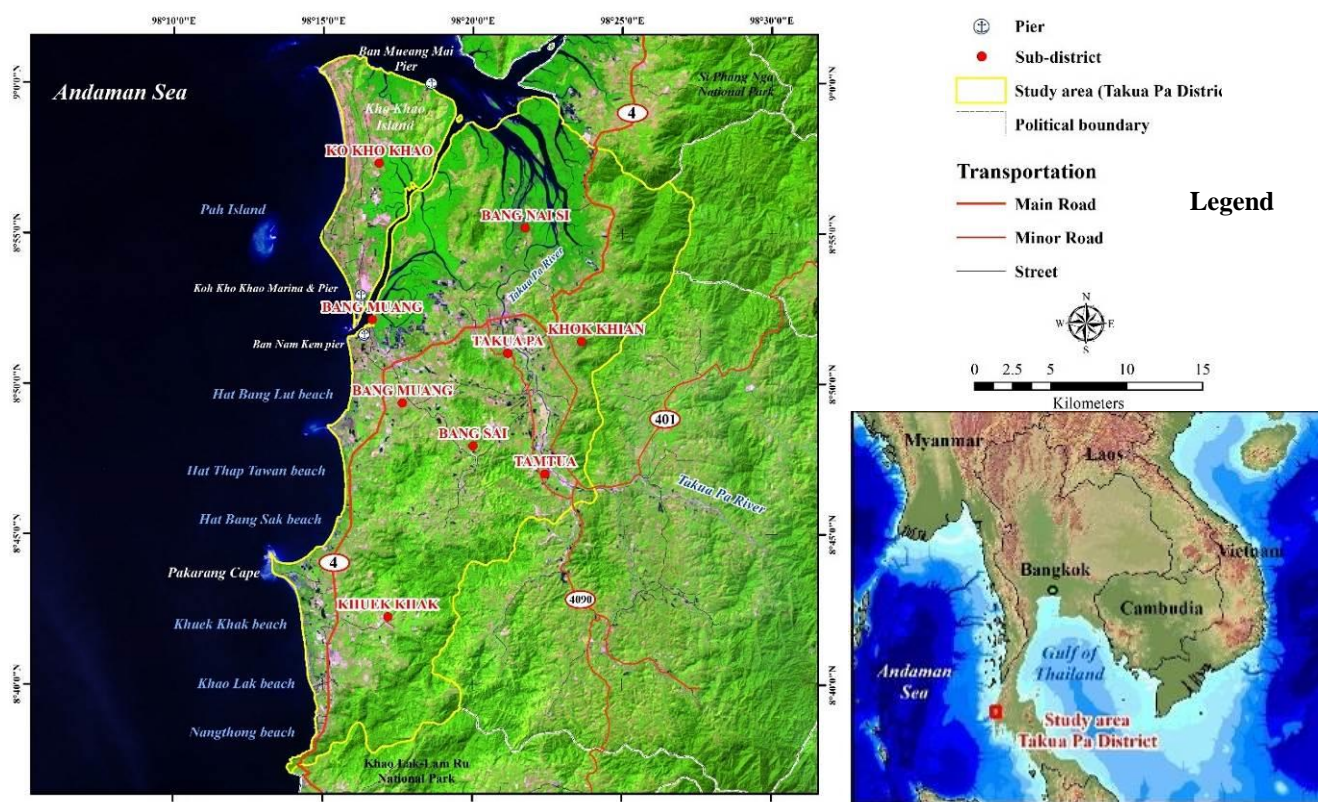
Figure 1. Location of Takua Pa District, Phang-Nga Province, Thailand (Source: collected and processed by authors)

MATERIALS AND METHODS

In the study of land-use patterns and land-use changes, data were gathered; analyzed; and showed in the results of the research systematically as follows:

1. Collect spatial data and attribute data from relevant agencies and grant permission to publish as follows:

Table 1. Satellite Image Data and Land-use data over the Takua Pa District for Analysis

Database	Acquisition date	Format	Sources
Landsat-1 MSS Image Path 130 Row 054	2 March 1973	Image File	https://earthexplorer.usgs.gov/
Landsat-5 TM Image Path 130 Row 054	17 January 1994	Image File	https://earthexplorer.usgs.gov/
Landsat-5 TM Image Path 130 Row 054	27 November 2004	Image File	https://earthexplorer.usgs.gov/
Landsat-8 OLI/TIRS Image Path 130 Row 054	24 January 2014	Image File	https://earthexplorer.usgs.gov/
Landsat-9 OLI/TIRS Image Path 130 Row 054	6 January 2022	Image File	https://earthexplorer.usgs.gov/

2. Import satellite image data including Landsat-1 (MSS system), Landsat-5 (TM system), Landsat-8 (OLI/TIRS system) and Landsat-9 (OLI/TIRS system) at each time interval, using the satellite image manipulation program Erdas Imagine Version 8.5, the satellite imagery bands were mixed by selecting the band: 5 (short-wavelength infrared), 4 (near-infrared), and 3 (red) for Landsat TM (Abuzar et al., 2020). Landsat OLI/TIRS uses band 6 (short-wavelength infrared), 5 (near-infrared), and 4 (red) (Barsi et al., 2014; Li et al., 2014; Lulla et al., 2021). And, Landsat MSS uses the following band combinations: Band 3 (near-infrared), 2 (red), and 1 (green) (Maul and Gordon, 1975; Wang et al., 2017).

3. Interpret satellite image data for land-use classification in 1973, 1994, 2004, 2014 and 2022 using image processing interpreting the land-use model with supervised classification (Everitt et al., 2010; Parida and Kumar; 2020). Results from the

interpretation of the land-use model are presented as Overall Accuracy and Kappa coefficient (KHAT) to assess the validity of the various data classifications that appear on the satellite imagery. Specifying a sample points to validate after land interpretation based on data from the Land Development Department of Thailand, additionally using random sampling method by selecting a sample point of land-use, each 30 locations for a total of 180 locations. Validation is performed to compare with the data obtained from the classification. The classification criteria are as follows (Jensen and Kiefer, 2007; Poursanidis et al., 2015):

< 0	means unacceptable classification data
0.01 – 0.40	means fair classification data
0.41 – 0.60	means moderate classification data
0.61 – 0.80	means good classification data
0.81 – 1.00	means very good classification data

4. Create data on the acquired land-use model as a database in the geographic information system and check for spatial errors by using the geographic information system program that displays the data at each time interval to check the land-use change for each period as shown in the equation (Jia et al., 2014).

$$\Delta = [(A2 – A1) / A1 \times 100] / (T2 – T1)$$

where
- Δ is the change in land utilization ratio (percent)
- $A1$ is type of land-use at the first time (T1)
- $A2$ is type of land-use at the second time (T2)

The results are shown as the proportion of each type of land-use on the map. It shows the land-use change pattern from 1973 to 2022, along with the Change Detection table from the Tabulate area analysis in ArcMap 10.3.

5. Randomly examine the data from the real area to verify the accuracy of the data interpreted from the satellite images, including land-use characteristics; factors and effects of land-use changes, asking for explanatory information from people in the area, etc.

6. Create land-use model area data as a geographic information database and check spatial data and attribute data errors, using ArcMap 10.3 geographic information system program to track land-use changes, and store it as a spatial database for agencies to solve problems and plan appropriate tourism land-use.
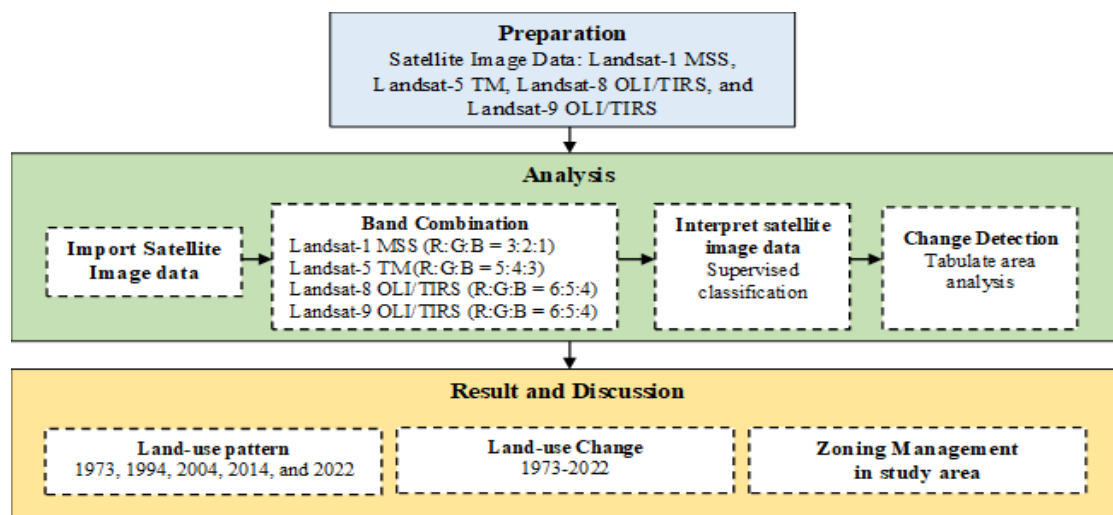
Figure 2. Flowchart of Methodology

Table 2. Land-use pattern of 1973, 1994, 2004, 2014, and 2022 in Takua Pa District, Phang-Nga Province, derived from Supervised classification showing overall accuracy and Kappa coefficient

Land-use pattern	1973		1994		2004		2014		2022	
	km²	%	km²	%	km²	%	km²	%	km²	%
Agricultural land	229.46	39.78	70.58	12.24	157.16	27.25	121.44	21.06	216.73	37.58
Beach	2.91	0.50	4.27	0.74	14.35	2.49	2.66	0.46	0.63	0.11
Forest land	278.18	48.23	465.74	80.75	343.3	59.52	384.66	66.69	292.45	50.71
Mine area	55.82	9.68	14.18	2.46	5.14	0.89	0	0.00	0	0.00
Urban and built-up land	8.19	1.42	8.9	1.54	31.03	5.38	39.88	6.91	35.25	6.11
Waterbodies	2.2	0.38	13.09	2.27	25.78	4.47	28.12	4.88	31.7	5.50
Total	576.76	100.00	576.76	100.00	576.76	100.00	576.76	100.00	576.76	100.00
Overall Accuracy (%)	75.30		76.80		81.70		84.20		87.60	
Kappa coefficient (KHAT)	0.65		0.73		0.76		0.79		0.82	

RESULTS AND DISCUSSION

Takua Pa district has been designated as a major tourist destination in the southern Thailand's west coast as a coastal tourist city, but the study area has not been zoning with the status of a coastal tourist city. In this research, the Landsat satellite image has been applied to study land-use patterns in order to understand land-use conditions from the past to the present. The satellite images were processed for each time period of 1973, 1994, 2004, 2014, and 2022 using a Supervised classification method.

The results of the research revealed that the results from the interpretation of the land-use model have overall accuracy as shown in Table 2 as follows: 75.30%, 76.80%, 81.70, 84.20 and 87.60%, respectively. The criteria for classification of land-use data are in good to very good. Kappa coefficient (KHAT), which is a coincidence of 2 sets of data, from the interpretation of the land-use model, it was found that the KHAT values were as follows: 0.65, 0.73, 0.76, 0.79 and 0.82, respectively, with good to very good criteria, and the land-use pattern for each period is shown in Figure 3 and Figure 4 as follows:
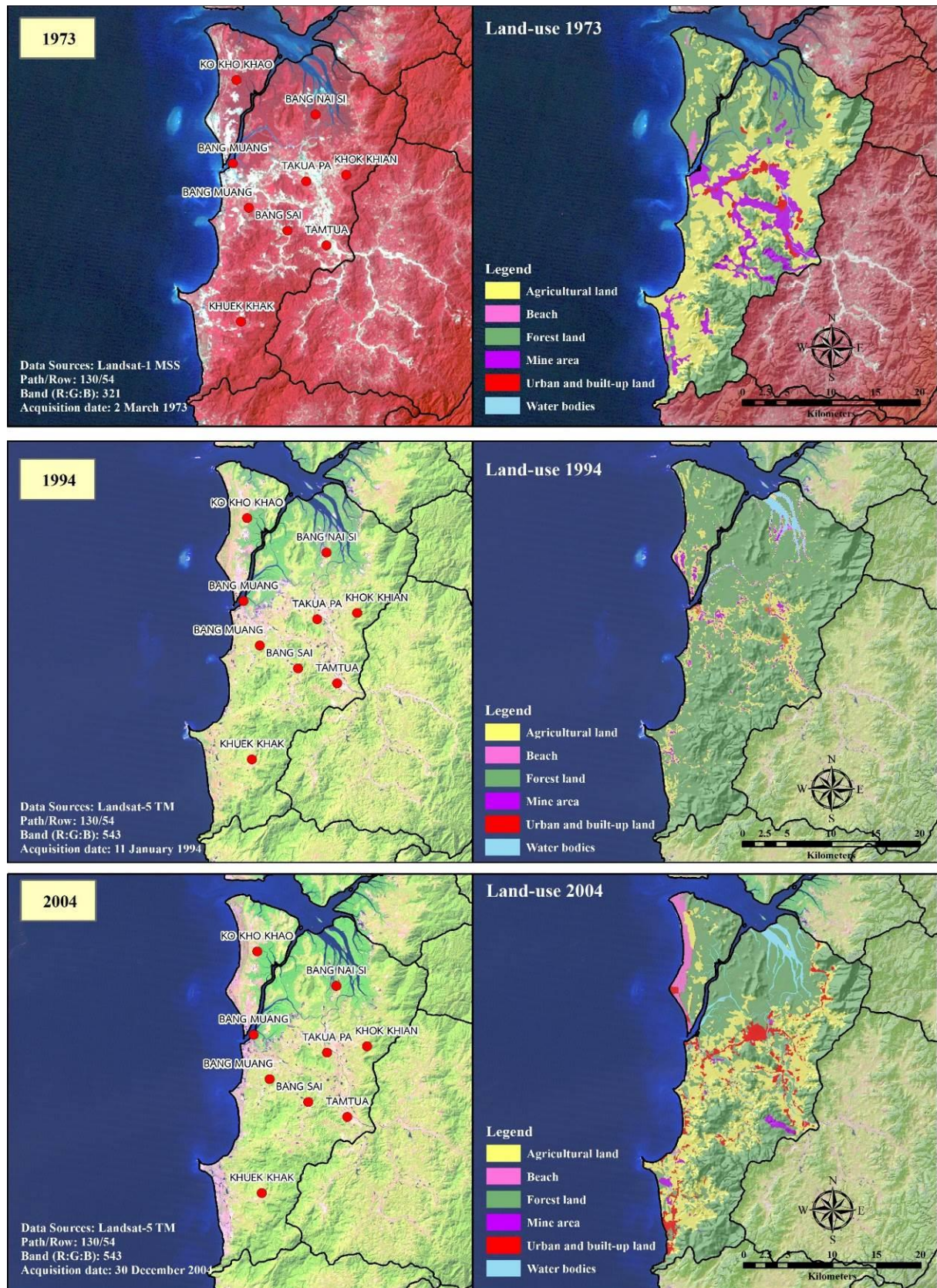
Figure 3. Land-use pattern map in 1973, 1994, and 2004 in Takua Pa District, Phang-Nga Province, Thailand
(Source: collected and processed by authors)
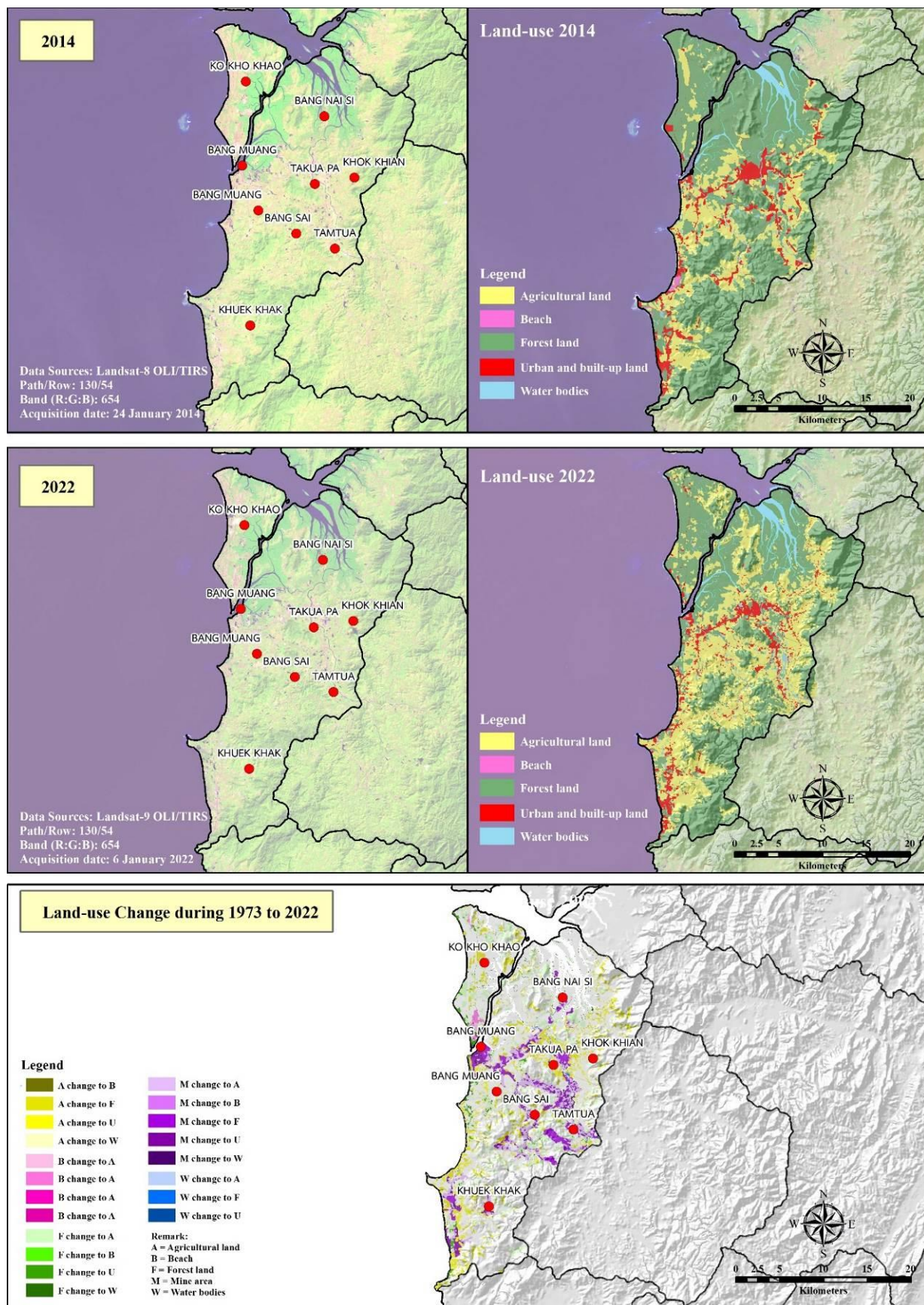
Figure 4. Land-use pattern map in 2014 and 2022. And Land-use Change Map during 1973-2022
in Takua Pa District, Phang-Nga Province, Thailand (Source: collected and processed by authors)

Interpretation of Landsat satellite images over the five time periods (1973, 1994, 2004, 2014, and 2022) shows the amount of land-use area that appeared over the period 1973-2022 (Table 2). The results showed that most of Takua Pa District was covered by forest, about half of the area. Most are tropical rain forest, mangrove swamp forest and beach

forest. Tropical rain forest covers the eastern part of the study area. Mangrove forests cover the estuary of the Takua Pa River in the northern part of the study area and east of Kho Khao island. The beach forest covers a small area in the western part of Kho Khao Island and the coastal area around Cape Pakarang. The agricultural land area is the secondary area that covers the study area, covering an area of approximately 25% of Takua Pa District. Most of the area is perennial crops and orchards such as rubber, oil palm, cashew, and coconut, which are the main cash crops of the study area. In addition, areas that have seen significant changes in Landsat satellite image processing over the past 50 years are land-use in the mine area, and urban and built-up land. Mine area in 1973 appeared 55.82 km^2 (9.68%) of the total study area, the trend has been decreasing over the past 50 years until now with no such area left.

Most of the mining areas that used to exist half a century ago were tin mines. Urban and built-up land-use tends to increase as shown in Table 2. In 1973, the area of urban and built-up land was only 8.19 km^2 (1.42 %). At present, in 2022, the aforementioned land-use reaches 35.25 km^2 (6.11%), most of which are community areas, hotels, resorts and government offices that are expanding to support tourism in the southern western region of Thailand. The results of this study are based on tracking land-use change patterns with Landsat over the past 50 years, since the application of Landsat-1 MSS, Landsat-5 TM, Landsat-8 OLI/TIRS. The development of the Landsat-9 OLI/TIRS satellite was launched on September 27, 2021 at 1:12PM CST from Vandenberg Air Force Base, California, under the direction of US Geological Survey (Lulla et al., 2021). This research therefore uses this satellite data to study land-use change in Takua Pa district. The study found that land-use change from 1973 to 2022, together with the change detection table obtained from the tabulate area analysis, is shown as spatial data to show the clarity of the transition of the area during that period (Figure 3B and Table 3). At present, the land-use of mine area has been changed until there is no more left. Land-use in urban and built-up land has an increase of 3.16.3%, and water sources have an increase in land-use 480.09%.

Table 3. Transition Matrix of land-use changes in in Takua Pa District, Phang-Nga Province, 1973–2022 (km^2)

Land-use change		2022					Change (%)
		Agricultural land	Beach	Forest land	Urban and built-up land	Waterbodies	
1973	Agricultural land	140.54	0.12	45.16	17.91	2.45	4.66
	Beach	0.88	0.02	1.61	0.34	0.06	-91.75
	Forest land	44.22	0.08	224.96	3.70	4.00	4.50
	Mine area	26.90	0.02	16.68	7.79	4.59	-100.00
	Urban and built-up land	2.58	0.00	0.72	4.64	0.34	316.30
	Waterbodies	0.67	0.00	0.31	0.09	1.09	480.09

Figure 4 (Figure below) in the period 1973–2022 shows a significant change in the mine area on the banks of the Takua Pa River in 1973, Tamtua, Takua Pa, Bang Muang and the coastal area of Khuek Khak sub-district. The Mine area was transformed into an agricultural area of up to 26.90 km^2 becoming forest land, urban and built-up land, and water bodies of 16.68 km^2, 7.79 km^2, 4.59 km^2 respectively. It can be seen that the proportion of the mine area being replaced is because the mines were shut down, as tin ore was mined in declining quantities, and the valuation of tin began to decline in the global market demand, and iron ore was increasingly used in industrial sectors as a replacement for tin. In addition, the government's policy directly affected the reduction of the tin mining area. The 4th National Economic and Social Development Plan (1977-1982) was the beginning of the transformation from a tin mining industry to a tourist city. The government has used the potential of the coastal areas and the Andaman Triangle provinces (Phuket, Phang Nga, Krabi) to link the development strategy of world-class tourism together with the conservation of marine attractions, resulting in a change in land use from mining areas to agricultural and tourist areas.

The condition of the study area shows mining traces of the dredged wells become mostly water bodies, appearing on both banks of the Takua Pa River and the coastal area near Khao Lak in Khuek Khak sub-district, which is now a resting place and Resorts. In addition, traces of a large ancient ore suction ship can be found at Ban Nam Kem pier (Figure 5A), which works like a large vacuum cleaner sucking minerals and sand on board, then filtering and separating tin, considered very modern 20-30 years ago. Traces of injected mining were found in the land, by spraying the soil with tin to collapse, thus appearing clay pits and wells in the present. However, due to environmental pollution and changing tin demand, the mining activity was canceled in 1993, thus transforming the mining area from being sold to resort hotels, palm and rubber plantations; various garden plants; and shrimp ponds widely in the area. Coastal tourist city of Takua Pa district that still maintains the identity of the local community can define zoning for tourism into 3 important areas: Zone-1 Eco Tourism, Zone-2 Cultural Tourism, and Zone-3 High-end Tourism, based on zoning classification criteria (Kay and Alder, 1999) (Figure 5) as follows:

Zone-1 Eco Tourism is the northern area of Takua Pa District. Due to the nature of the area which is mostly evergreen forest and mangrove forest, it makes biodiversity. Ecotourism is suitable for the northern area of Takua Pa, studying the mangrove nature path can be seen from the boat tour Sang Ne Canal community. It is a famous place for biodiversity of Takua Pa District, called The Little Amazon. This place has a hundred-year-old Banyan forest for tourists to canoe into the Sangne canal (Figure 5B). There is also a mangrove study trail in Kho Khao island and a walking trail in the savannah forest which is a beach forest, mangrove forest, swamp forest, grasslands, shrubs, alternative social plants, and rare orchids. Kho Khao island has a flat terrain formed by the deposition process of ancient tsunamis to become a bio-diverse sandy sediment island, becoming an eco-tourism destination community today. There is also important archaeological sites as the Khao Phra Noe Archaeological Site and the Thung Tuk Archaeological Site, both areas were the source of ancient civilization in the Dvaravati period 2500 years ago.
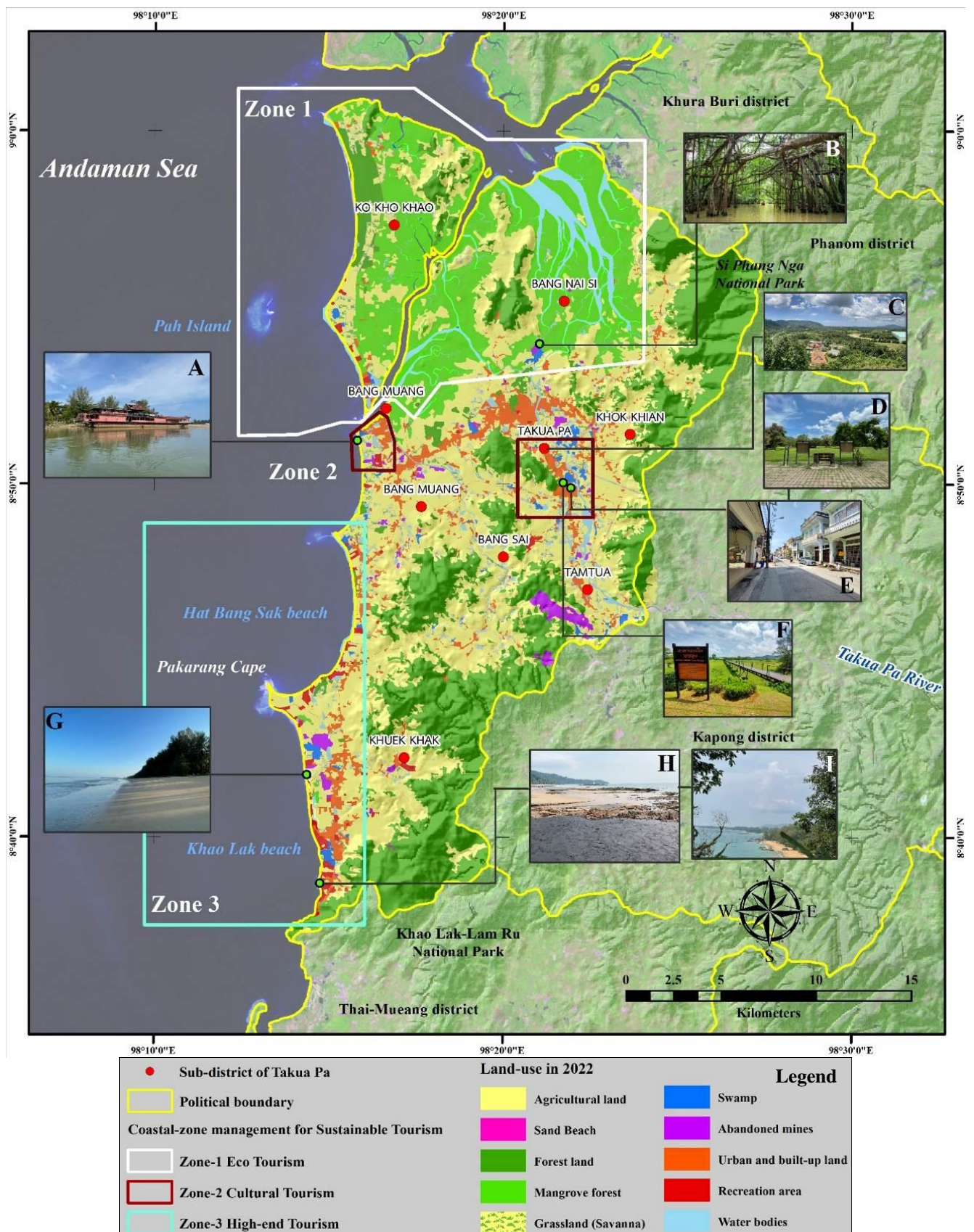
Figure 5. Zoning map for Takua Pa coastal tourist city spatial management planning (Source: collected and processed by authors). (A) Ore suction ship in Ban Nam Kem pier, (B) Sangne canal, (C) Takua Pa river, (D) Takala Old Town Wall, (E) Takala Old Town, (F) Boonsoong Iron Bridge, (G) Khuek Khak beach, (H) Nangthong beach, and (I) Khao Lak beach (Photo source: field survey, April 2022)

Zone-2 Cultural Tourism has two important areas: The Big Market and Ban Nam Kem, both areas have important highlights. The Big Market area, which is the site of the ancient Takola community, is located on the left bank of the Takua Pa River (Figure 5C). It is an ancient community developed from Chinese merchants in Takua Pa who came to trade, and

was an important source of tin mining since King Rama V era. There are many important places in this area, such as Takala Old Town Wall (Figure 5D), Sri Takua Pa road, which is a road in the middle of the big market community. It is the center of the community with the architecture of Sino-Portuguese buildings. There is also Tao Ming School, the first Chinese language school in Takua Pa District, and Guan Yu Shrine, a place of worship and the spiritual anchor of the Takua Pa community (Figure 5E). In addition, traces of tin mining from 30 years ago were also found, such as Boonsoong Iron Bridge (Figure 5F). Ban Nam Khem is an old community along the southern coast and is an important fishing community of Takua Pa. Ban Nam Khem Tsunami Memorial Center is also a place of remembrance and mourning for the great loss of the 2004 tsunami, and Ban Nam Khem pier is also an important port that can travel to Mu Ko Surin Marine National Park as well.

Zone-3 High-end Tourism is a regional zone in the southern part of Takua Pa District. The area has been developed from the former tin mining area into a world-famous recreational facility, Khao Lak. The area is home to many high-end hotels along the lines of Nangthong beach, Khao Lak beach, Khuek Khak beach, Hat Bang Sak beach, and Hat Thap Tawan beach (Figure 5G). These 5 beaches are very picturesque, especially Nangthong beach (Figure 5H) and Khao Lak beach (Figure 5I) which are very romantic as they have white beaches that are perfect for relaxing and watching the sunset all year round. And there are also fresh seafood restaurants spread widely along this coastline. In addition, Takua Pa District has an economic system that still has a very affordable cost of living, so it is popular with both Thai and foreign tourists.

Takua Pa District is also a place with high tourism potential. With Landsat satellite image processing techniques over the past 50 years, it presents the context of land-use change and past history by providing spatial data for tourism planning to support future visitor traffic. Organizing important tourism zoning for the Takua Pa community is to understand and realize the economic system that is changing from mining activities to become a world-renowned tourist city. In line with the principles of the United Nations Sustainable Development Goals (SDGs), in particular Goal 14, it addresses to conserve marine resources for sustainable development (Rees et al., 2018), scoped to sustainably handle with coastal ecosystems for the resilience restoration, to prepare for future changes of coastal tourist city as Takua Pa district that should have spatial evolution in conjunction with the conservation of coastal environments. This is for the government, the private sector and people in the Takua Pa community to participate in the management of the area to support tourism, especially the management of land-use in a systematic and orderly manner in the use of recreational areas. The land-use should be monitored to prevent expansion beyond its capacity to the extent that it may affect natural resources and coastal tourist city areas in order to maintain sustainable marine tourism in the future.

CONCLUSION

Over the past 50 years in Takua Pa District, there has been a huge change in land-use patterns. By tracking changes based on high-performance Landsat satellite imagery, land cover data can be extracted and analyzed to obtain land-use data to solve problems and plan land-use in Takua Pa District. Such spatial data can be used for effective tourism planning management and can be used to organize zoning to plan tourism in various ways in accordance with land-use. This is to allow the government, private sector and local communities to participate with each other in conserving the resources of the Takua Pa District area. Natural resources such as moist evergreen forests, mangrove forests, beach forests or estuary water bodies appearing in the Takua Pa River, in the north of the study area and east of the biodiverse Kho Khao islands, and man-made resources, whether it is the ancient community in Khao Phra Noe Archaeological Site and Thung Tuk Archaeological Site which is an ancient city over 2500 years old, Talad Yai community in the center of Takua Pa district with Sino-Portuguese architecture, and a memorial sites for the 2004 Tsunami. For this reason, Takua Pa or Takola has a long history of thousands of years. Participation in preserving local resources should be managed in land-use planning to be effective and consistent with the livelihood of people in the community supporting tourists to generate concrete income for the community with clear spatial goals for better actions in the future, in order to comply with the principles of the United Nations Sustainable Development Goals (SDGs) and to maintain tourism attractions in the future.

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FACTORS AFFECTING ECOTOURISM LOYALTY WITH THE MODERATING ROLE OF SOCIAL INFLUENCE - EMPIRICAL EVIDENCE IN VIETNAM

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Abstract: Today, ecotourism has become more common and attractive for tourists who love to explore nature and experience the cultural heritage. In the 4.0 age of technology, social networking not only helps visitors find suitable destinations to visit easily but also provides visitors with a place to leave comments or reviews after the trips. This study aims to qualify the relationships between electronic-worth-of-mouth (eWOM), social influence (SI), destination image (DI), tourist satisfaction (SAT), and ecotourism loyalty (EL). The study applied the PLS-SEM model to estimate 499 observations at ecotourism sites in Vietnam as empirical evidence. The research results show that all the factors in the research model have positive and significant effects on EL. In particular, DI and SAT, directly and indirectly, affect EL; while eWOM and SI only have direct effects on EL. Additionally, it was found that the effect of eWOM on EL increased with the moderating role of SI.

Key words: electronic-word-of-mouth (eWOM), ecotourism loyalty, destination image, tourist satisfaction, social influence

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INTRODUCTION

As a new trend in modern life, ecotourism has become more attractive and interesting activity for people who want to escape the crowds. Factors that influence ecotourism have been explored in several studies. Mainly, tourism loyalty involves psychological attachment between the tourists and their preferred destination (Oppermann, 2000). This psychological commitment is usually developed when tourists leave the destination with a positive experience. In addition, existing research recognizes that the tourist experience is a broad field that ranges from the behaviour of their host and other interactive features of their destination. According to Kim and Brown (2012), most tourists' experience is determined by four aspects: entertainment, education, escapism, and aesthetics. These authors also explain that entertainment is mainly the ability of destinations to entertain tourists. It involves how hosts treat tourists and how the destination features fulfilled tourists' emotional appeal. In the field of tourism, the concept of loyalty is mentioned in many scientific studies and is often affected by factors such as destination image, tourist satisfaction, and word of mouth (Li et al., 2021a; Li et al., 2021b; Ramseook-Munhurruna et al., 2015; Jalilvand et al., 2012; Chi and Qu, 2008; Prayag and Ryan, 2012). For Vietnamese tourism, almost all studies discuss tourism in general or focus on tourists' intention to return and loyalty (Vinh and Long, 2013; Cong, 2021).

Practically, few studies discuss the loyalty factors in ecotourism in Vietnam. Furthermore, tourists who visit a particular destination get the experience as expected to develop the destination image of that specific destination (Baloglu and McCleary, 1999). Several factors influence the image of the destination of a tourist. For Beerli and Martin (2004), most of these factors depend on the experience tourists develop from their visited destinations. A good experience is obtained by fulfilling the expectations of the tourist. When expectations are met, satisfaction is obtained, which leads the tourist to develop a positive destination image of the place they visited. Most tourists tend to do pre-visit research about their destinations to create expectations of their particular destinations (Chon, 1990). However, the first-hand information that tourists usually give their hosts tends to change their views and perceptions about that destination. This kind of information builds their expectations that later translate to experience (Bosque and SanMartín, 2008). When this information generates a good experience, tourists will be satisfied and loyal to that destination. Furthermore, there are still gaps in research on the relationship between eWOM factors with destination image, tourist satisfaction, and tourist loyalty in Vietnam.

Therefore, conducting this research is essential to supplement the academic knowledge of existing studies in tourism. At the same time, the research findings are expected to provide several novelty values of ecotourism when the first time SI is studied as a construct moderating the effect of eWOM and EL in the 4.0 technology era.

Theoretical Framework

1. Ecotourism characteristics

Theoretically, the definitions of ecotourism are still debated (Blamey, 2001) although Ceballos-Lascurain (1987, p.14) suggests that ecotourism means "travelling to relatively undisturbed or uncontaminated natural areas with a specific objective of studying, admiring, and enjoying the scenery and its wild plants and animals, as well as any existing cultural manifestations (both past and present) found in these areas". While Fibrianto (2021) claims that ecotourism is related to the conservation of ecosystems and nature and maintains the cultural integrity of the local community. Nowadays, ecotourism, as a kind of enjoyment in the natural environment or ethnic communities, is one of the common trends to allow tourists to experience ecology and biodiversity (Ulfy et al., 2021) and enrich knowledge of wildlife, nature and cultural inheritance (Nguyen, 2020).

2. Destination image

However, a destination image is defined as the composition of people's beliefs and impressions of a tourist destination (Baloglu and McCleary, 1999). Besides, it is the overall perception of an individual's impression of a place (Phelps, 1986). It is also considered a mental portrait of a destination (Alhemoud and Armstrong, 1996). Destination images are diverse and different based on tourists' experiences (Dann, 1996; Lee et al., 2014). Milman and Pizam (1995) describe the destination image as consisting of three components: (i) the product, (ii) the behaviour and attitudes of people at the destination, and (iii) the environment: weather, landscape, and facilities. The image of the destination in the minds of tourists plays an essential role in their tour purchase decision and subsequently in stimulating their intention to visit (Oppermann, 2000; Pike, 2004). Many previous studies have also shown that destination image is one of the most critical factors for eliciting the intention to revisit a place they have been (Bigné et al., 2001; Alcaniz et al., 2005). Ecotourism is defined as going to relatively undisturbed or unpolluted natural areas to study, contemplate, and enjoy flora and fauna landscapes and cultural experiences (Ceballos-Lascurain, 1987; Ryan et al., 2000). Therefore, the image of an ecotourism destination is reflected in many aspects of the landscape, people, culture, and local economic activities.

3. Loyalty of customers in the tourism industry

Customer loyalty is generally defined as a deep psychological commitment to continuously repurchase or reuse a preferred product or service in the future, and only to purchase or use repeatedly products or services of the same brand despite various marketing efforts or effects to switch shopping behavior (Oliver, 1997). According to Dick and Basu (1994), customer loyalty is formed through a process involving a variety of evaluation and psychological processes and derived from the assessment of these services. Additionally, customers' loyalty should be considered in terms of both behaviour and attitude (Gremler and Brown, 1998a, 1998b). Tourism loyalty is often studied as loyalty to the destination, since tourists enjoy a destination as a product or brand; thus, they are likely to return to these destinations in the future (Yoon and Uysal, 2005). Loyalty can be measured in different approaches, with most destination loyalty measured as a repeated visit or the intention to return (Cong, 2021).

4. Tourist satisfaction

The most commonly accepted theory to explain the customer satisfaction mechanism is the expectation-confirmation theory, developed by Lewin (1938). Customers can compare the perceived performance of a product or service with their expectations. Positive attitudes or satisfaction arise if perceived performance exceeds expectations. Then researchers consider customer satisfaction to be the overall evaluation of a product or service provider (Johnson and Fornell, 1991), consumer feedback on product or service features; or whether the product or service itself satisfies consumers or not (Oliver, 1997). Satisfaction is an indicator of matching what customers expect (Reichheld, 1996) or exceeding their expectations (Grisaffe, 2001). These definitions provide the implications for customer satisfaction in tourism and dimensions of tourist satisfaction in particular (Pizam et al., 1978).

5. Electronic word of mouth

Word of mouth (WOM) is an informal form of communication that allows consumers to share information regarding products and services (Hawkins et al., 2010). With the vigorous development of the Internet, a new WOM method appears, which is eWOM. The traditional form of WOM has evolved into a new form of information sharing on various online platforms. eWOM is a written memo on the Web, usually posted by experienced or former consumers (Abubakar and Ilkan, 2013; 2014). Memory makes it easy to diffuse information because it can be accessed anytime, anywhere and relayed to other computers (Abubakar and Ilkan, 2013; 2014).

6. Social influence

Social influence is a significant idea that can impact all of our decisions. It is described as "actors" playing a direct role in moulding an individual's views and conduct (Crano, 2000). Nowadays, there is confirmation of increased engagement in and effect of essential communities, which positively impacts communal influence (Bagozzi et al., 2002). According to a study, virtual communities have the power to alter people's perceptions and actions (Chen and Tsai, 2007). The rise and expansion of the social network, particularly Facebook, is perceived as an influential phenomenon that boosts users' social impact (Hvass and Munar, 2012). According to US Department of Commerce research, social media motivated 31% of the 25.4 million holiday travelers in 2015. Similarly, research from Liu et al. (2021) shows that tourists commonly use social media to confirm post-activity approvals from friends and family. According to reports, 52% of tourists altered their original travel plans due to social media remarks (Yüksel and Yüksel, 2007).

RESEARCH HYPOTHESIS AND MODEL
1. Research hypothesis
1.1. Destination image and tourist satisfaction
The relationship between destination image and tourist satisfaction has been mentioned in many scientific studies, and most of them agree that the destination image has a positive impact on satisfaction. Li, Liu and Soutar (2021a; 2021b) suggest that travel experience, destination image, and satisfaction positively influence tourist loyalty to the ecotourism sector in Western Australia. Ramseook-Munhurrun et al. (2015) show a positive relationship between destination image and perceived value with tourist satisfaction, affecting their loyalty to destination visited. Therefore, it is hypothesized that:
H1: Destination image (DI) positively influences tourist satisfaction (SAT).

1.2 Destination image, tourist satisfaction, and eWOM
Some argue that customers will feel satisfied with a service, are more likely to buy or use it again, and recommend it to others through eWOM (Lam et al., 2004; Kanwel et al., 2019). Alhidari et al. (2015) also believe that tourist satisfaction with the overall image of the destination will create positive eWOM (Jeong and Jang, 2011; Pantelidis, 2010). In addition, some other studies show that destination image is quite important and has a substantial impact on tourists' intention to return and positive eWOM (Fakeye and Cromton, 1991; Lee et al., 2014). From there, the authors propose the hypotheses as follows:
H2: Destination image (DI) positively affects eWOM.
H3: Tourist satisfaction (SAT) positively affects eWOM.

1.3. Ecotourism loyalty
Destination image and ecotourism loyalty
The relationship between destination and tourist loyalty has been mentioned in many studies, but the results are not always consistent. Some previous studies support the view that destination image is an essential factor and has a significant positive impact on the intention to return to the destination of tourists (Bigné et al., 2014; Alhidari et al., 2015; Fakeye and Cromton, 1991; Lee et al., 2014; Li et al., 2021a; Li et al., 2021b). However, the study of Ramseook-Munhurruna et al. (2015) did not support this positive relationship. Therefore, the authors propose the hypothesis that:
H4: Destination image (DI) positively affects ecotourism loyalty (EL).

Tourist satisfaction and ecotourism loyalty
Satisfaction is one of the driving forces that leads to referrals and repurchase intentions. Customer satisfaction leads to greater customer loyalty (Bolton and Drew, 1991). Similarly, Ganesan (1994), Mittal et al. (1998), and Mittal and Kamakura (2001) indicate that consumer satisfaction is a significant factor influencing customer loyalty. Many studies in tourism have also found that satisfaction influences the future intention behavior of tourists (Chi and Qu, 2008; Prayag and Ryan, 2012). And positive experiences in terms of services, products, and other resources are the factors that lead to positive eWOM, i.e., recommending positive things about the destination to others or returning by themselves (Yoon and Uysal, 2005; Chi and Qu, 2008). According to Li et al. (2021a) and Li et al. (2021b), loyalty to ecotourism is influenced by the travel experience of the tourists, the satisfaction of the general image of the destination. This concept is consistent with the consumption theory that consumers who have a positive evaluation of a brand are more likely to repurchase the brand's products (Libai et al., 2009).
H5: Tourist satisfaction (SAT) positively affects ecotourism loyalty (EL)

eWOM and ecotourism loyalty
The topic of eWOM has attracted the attention of many industries such as marketing, consumer behavior, tourism, hospitality, etc. eWOM has been shown to influence prepurchase intention strongly and is considered an essential factor in predicting company service (Keiningham et al., 2007; Morgan and Rego, 2006; Reichheld, 2003). Tourism products and services are often not properly known until the point of experience, that is, the risks and uncertainties associated with it are increased, so potential visitors will access and refer to online reviews. Potential tourists use the service through recommendations from friends, family members, or social networks (Casaló et al., 2015). According to Bickart and Schindler (2001), eWOM has the potential to help tourists reduce the risk, uncertainty, and ambiguity associated with a product or service. Many studies demonstrate that eWOM has a significant influence on tourists' decisions, in which eWOM has a considerable impact on the destination image, attitude, and intention to return to tourists (Abubakar et al., 2014; Jalilvand et al., 2012). Therefore, the hypothesis put forward is:
H6: eWOM positively affects ecotourism loyalty (EL).

Social influence, eWOM, and ecotourism loyalty
Social influence initiates when others impact an individual's attitudes and behavior. Previously, social influence was studied in three distinct approaches: judgment (Asch, 1951; 1956), small group interaction (Hopkins, 1964), and persuasive communication (Hovland and Weiss, 1953; Hovland et al., 1953). Early studies looked at these directions together to assess the far-reaching effects of social influence (Kelman, 1968). Social influences include normative and informational influences (Deutsch and Gerard, 1955). Normative influence refers to how individuals are influenced by their desires to conform to the expectations of others. In informational influence, individuals are influenced by the desire to act according to the appropriate view of reality (Turner, 1991). Liu et al. (2021) found that virtual communities or social networks positively influence eWOM. Therefore, the hypothesis put forward is that eWOM and social networks are believed to

significantly influence consumer engagement (Dholakia et al., 2004; Liu et al., 2021). Evaluation of a new product on social networks has a positive effect on customer attitudes and encourages them to actively spread eWOM. It also means that positive impact on the intention of users to accept the product (Phung et al., 2020). In addition, through the Internet and social networks, a positive image of a destination significantly impacts tourist satisfaction and their intention to revisit the destination (Alhidari et al., 2015). Most studies support the view that social influence positively impacts eWOM and consumers' intention to experience services. Therefore, the author put forward the following hypotheses:

H7: Social influence (SI) positively affects ecotourism loyalty (EL).

H8: A combination of Social influence (SI) and eWOM positively affects ecotourism loyalty (EL).

2. Research model formulation

The research model is formulated based on the expectation-confirmation theory, developed by Lewin (1938) and the literature review with the relevant hypotheses. The model presents the directly and indirectly causal effects of DI, SAT, and eWOM on EL with the moderating effect of SI on the relationship between eWOM and EL.

RESEARCH METHODS
1. Methodology

From the summaries of the theoretical overview, the study analyses the impact of DI, SAT, and eWOM on EL. Furthermore, the influence of these variables under the moderating role of SI variable on the loyalty of ecotourism has also been investigated.

Figure 1. Proposed research model (Source: The authors' works)

The PLS-SEM model has been considered one of the effective models applied in many studies in marketing management (Hair et al., 2017a). Previous studies on tourism also often use the PLS-SEM model to test the relationship between the variables related to SAT, DI, eWOM, and EL. Therefore, the PLS-SEM model will also be utilized in this study.

2. Research sample and implementation process

The study applies a convenient sampling method through a questionnaire survey conducted in two groups of subjects, including international tourists and domestic tourists. The questionnaire is designed in Google Doc form which can be answered on PC or smartphone. The target group of the respondents is visitors to ecotourism sites, who are mainly guests of Vietnamese tourism companies and who have just experienced ecotourism services. Especially, tourists participating in the survey should usually use social networks (e.g., Facebook or Twitter) or over-the-top applications for communication transfer (e.g., Viber, Whatsapp, Zalo) for information of destinations in Vietnam before traveling and to provide suggestions or comments after the trip. The total number of observations was 499 visitors; the sample number of observations was suitable for analysis using the PLS-SEM model (Hair et al., 2017a; Hair et al., 2017b; Goodhue et al., 2012a, Goodhue et al., 2012b). The authors used Smart PLS software version 3.0 to analyze the data and estimate the results in this study.

3. Scale and measurement

With the survey questions, visitors are asked about the ways and sources of eWOM references before deciding to go to the tourist destination, the criteria for assessing the destination image such as environment, beautiful scenery, cultural events, infrastructure, activities, perceived tourist satisfaction, and loyalty through intention to return, willingness to recommend and return to a destination, desire and plan to discover other ecotourism sites. Observed variables are measured using a 5-point Likert scale, ranging from 1 (Strongly disagree) to 5 (Strongly agree).

ANALYSIS AND RESEARCH RESULTS
1. Relevant tests
1.1. Multicollinearity, convergent and discriminant values of the variables test

Table 1 shows that the scale loading factor ranges from 0.718 to 0.837, higher than the threshold of 0.7. In addition, all factors have the Cronbach's Alpha coefficient above 0.7 and range from 0.772 to 0.820. The analysis results show that the factors' composite reliability (CR) is also over 0.7 and ranges from 0.853 to 0.881, which means that the scales have good internal consistency reliability. The coefficient of average variance extracted (AVE) results ranging from 0.564 to 0.649 satisfy the threshold of 0.5 (Wong, 2013; Hair et al., 2017a; Hair et al., 2017b). So, it proves that each scale shows a good convergence value. Variance inflation factors (VIF) are all within the acceptable range and range from 1 to 3 and below 5 (Lowry and Gaskin, 2014). Therefore, there is no multicollinearity in the research model.

1.2. The model's discriminant validity test

We used the heterotrait-monotrait (HTMT) ratio to test the model's discriminant validity. Table 2 results show that all HTMT indices of each structure are less than 0.9 (Henseler et al., 2015). Therefore, the scales used in the model are valid in terms of construct validity.

1.3. Model fit

According to Henseler et al. (2016), the SRMR index as a very suitable measure for the PLS-SEM model is used to avoid
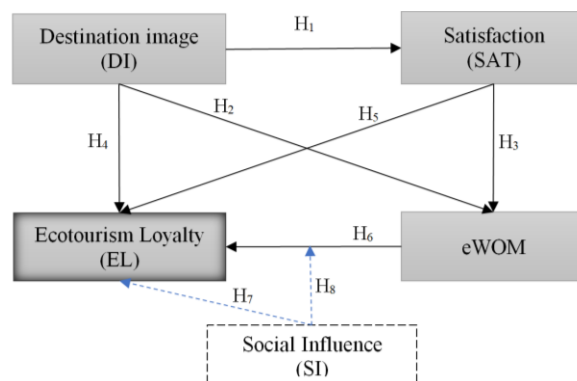
skewing the parameters in the model. From Table 3, it is easy to see that Chi-square = 922.505 and SRMR = 0.068 < 0.1 (Bentler and Bonett, 1980) and NFI = 0.798. Therefore, it proves that the model is completely consistent with the research data.

Table 1. Summary results of load factors in the PLS-SEM model (Source: The authors' works)

Construct & Measurement items		Factor loading	Cronbach's Alpha	CR	AVE	VIF
Electronic-word-of-mouth (eWOM)			0.782	0.859	0.605	
eWOM1	To make sure I choose the right place. I often read other ecotourism tourists' online travel reviews	0.792				1.591
eWOM2	I often consult other ecotourism tourists' online travel reviews to help me choose a good ecotourism destination.	0.755				1.639
eWOM3	I frequently gather information from tourists' online travel reviews before traveling to a specific ecotourism destination.	0.724				1.425
eWOM4	When I travel to an ecotourism destination, tourists' online travel reviews make me confident in traveling to the destination.	0.837				1.893
Destination image (DI)			0.809	0.866	0.564	
DI1	Travel environment (safe. clean environment; friendly and peaceful)	0.799				1.733
DI2	Attraction (Scenic Mountain, spectacular scenery, natural attraction)	0.718				1.551
DI3	Event (History and heritage, variety of entertainment. exciting cultural events and festivals. colorful nightlife. special cuisines)	0.729				1.677
DI4	Infrastructure (wide selection of accommodation. cuisine. Shopping, etc.)	0.744				1.438
DI5	Sport (exciting sports activities, an excellent place for walking, picnics, outdoor recreation, etc.)	0.761				1.600
Tourist Satisfaction (SAT)			0.820	0.881	0.649	
SAT1	This trip is worthwhile	0.829				1.765
SAT2	I am satisfied with this trip	0.818				1.884
SAT3	This trip is meaningful	0.794				1.796
SAT4	I feel favourable about this trip	0.780				1.598
Ecotourism Loyalty (EL)			0.814	0.869	0.571	
EL1	I intend to revisit this place soon.	0.795				1.712
EL2	I will recommend this destination to others	0.712				1.631
EL3	I am willing to spend time and money to revisit this place	0.766				1.669
EL4	I want to visit other ecotourism sites in Vietnam	0.722				1.668
EL5	I plan to visit other ecotourism sites in Vietnam	0.779				1.554
Social influence (SI)			0.772	0.853	0.593	
SI1	How many friends do you have on your social network (Facebook, Zalo, etc.)	0.807				1.605
SI2	The social network has become part of your daily routine	0.784				1.533
SI3	You regularly update your status on social networks, i.e., Facebook. Zalo.	0.745				1.559
SI4	You regularly update photos and reviews after each trip on social networks	0.741				1.360
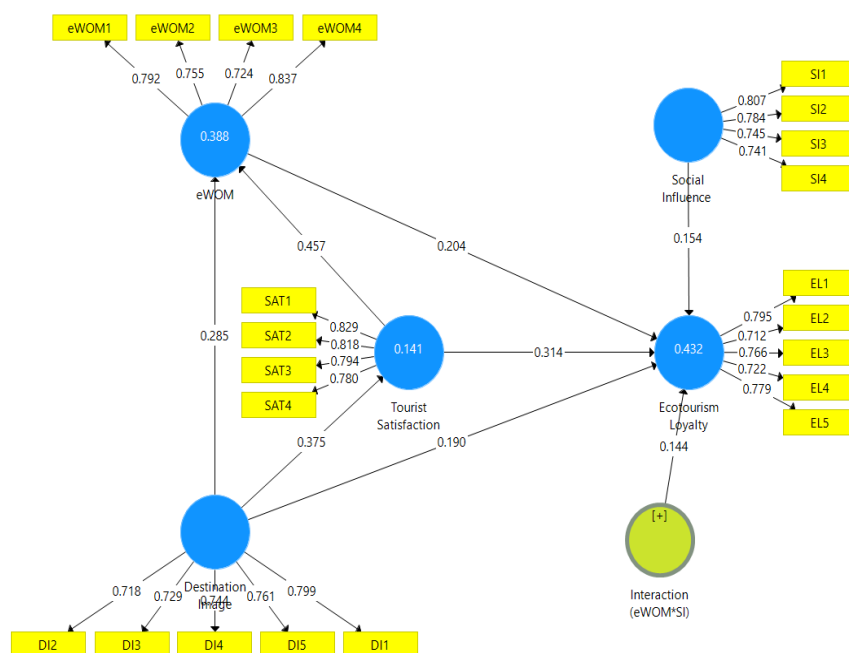
Figure 2. Result of the Research model (Source: The authors' works)

Table 2. Heterotrait-Monotrait ratio of correlations (HTMT) (Source: The authors' works)

	DI	EL	SAT	SI	eWOM
DI					
EL	0.535				
SAT	0.434	0.656			
SI	0.525	0.597	0.827		
eWOM	0.561	0.583	0.699	0.675	

Table 3. The model fit (Source: The authors' works)

	Saturated Model
SRMR	0.068
d_ULS	1.176
d_G	0.314
Chi-Square	922.505
NFI	0.798

2. Estimation results of the PLS-SEM model

The evaluation of the statistical significance of the effect of independent variables on dependent variables in the

structural model is examined by the bootstrapping method (Hair et al., 2017a). According to Hair et al. (2017a), bootstrapping is an iterative sampling technique to estimate standard error without forwarding distributional assumptions. It is used to calculate the significance of the t-statistic related to the path coefficients (Wong, 2013). However, according to Erceg-Hurn and Mirosevich (2008), when analyzing the impact of the independent variable on the dependent variable, we should consider the relationship and the meaning of the relationship and consider the weak and robust effects to build the benchmark for assessment. After the bootstrapping analysis, the results of the PLS-SEM estimation model are shown in Figure 2 and Table 4.

Table 4. Results of the relationship between the structures in the research model
(Source: The authors' works) Note: significance of 10%; (**): significance of 5%; (***): significance of 1%

Relationship between variables	Original weight	t-value	Significance level (P-value)	Degree of influence
H1: DI → SAT	0.375***	8.535	0.000	Medium impact
H2: DI → eWOM	0.285***	5.407	0.000	Medium impact
H3: SAT → eWOM	0.457***	9.498	0.000	Great impact
H4: DI → EL	0.190***	3.160	0.002	Small impact
H5: SAT → EL	0.314***	4.336	0.000	Medium impact
H6: eWOM → EL	0.204***	3.045	0.002	Medium impact
H7: SI → EL	0.154**	2.269	0.023	Small impact
H8: Interaction variable (eWOM*SI) → EL	0.144***	2.837	0.005	Small impact
	R^2	Adjusted R^2		
EL	0.432	0.426		
SAT	0.141	0.139		
eWOM	0.388	0.385		

The structural model was tested by non-parametric bootstrapping with 5,000 replicates. The results in Table 4 and Figure 2 show that the predictors are confirmed to have a positive and direct impact on EL and are statistically significant, specifically destination image ($\beta = 0.190$, $p < 0.01$), satisfaction ($\beta = 0.314$, $p < 0.001$), eWOM ($\beta = 0.204$, $p < 0.01$), social influence ($\beta = 0.154$, $p < 0.05$). Besides, the combination of eWOM with SI has a statistically significant positive impact on EL ($\beta = 0.144$, $p < 0.01$). Therefore, hypotheses H4, H5, H6, H7, and H8 are accepted with different influence levels (Table 4). In addition, predictive factors that were confirmed to have a positive and direct impact on eWOM include DI ($\beta = 0.285$, $p < 0.001$), SAT ($\beta = 0.457$, p). < 0.001). Therefore, hypotheses H2 H3 are accepted. Finally, DI has a statistically significant positive effect on SAT ($\beta = 0.375$, $p < 0.001$), so hypothesis H1 is also accepted. The combined results in Table 5 show that DI has the most significant total impact on EL through both direct and indirect influence. Similarly, SAT is the second most influential factor. The remaining factors, including eWOM and SI, only directly impact EL. The study proves the SI modifier's positive and relatively strong effect on the relationship between eWOM and EL (Table 6).

DISCUSSIONS

The research results clearly show that DI has the greatest influence on EL, with $\beta = 0.455$ (Table 5). It proves that the better domestic and foreign tourists have discovered and experienced an ecotourism area, the greater the intention to return and introduce others to the good things about ecotourism. This conclusion is consistent with the findings of Artuğer et al. (2013), Dewi and Abidin (2021), and Prayag and Ryan (2012). Furthermore, intermediate variables, including SAT and eWOM, significantly increase the impact of destination image on the loyalty to ecotourism. The finding demonstrates that SAT and eWOM fully mediate the effect of DI on EL. However, the direct impact of DI ($\beta = 0.455$) is still greater than its indirect effect ($\beta = 0.32$). Additionally, the study also reinforces empirical evidence on the direct and indirect effect of SAT on EL. The level of direct impact

Table 5. Summary of the impact of variables on loyalty to ecotourism (EL) (Source: The authors' works)

Item	Factor	Direct effect	Indirect effect	Total effect
1	DI	0.190	0.211	0.401
1.1	DI->EL	0.190		
1.2	DI → SAT → EL		0.118	
1.3	DI → eWOM → EL		0.058	
1.4	DI → SAT → eWOM → EL		0.035	
2	SAT	0.314	0.093	0.407
2.1	SAT → EL	0.314		
2.2	SAT → eWOM → EL		0.093	
3	SI	0.154		0.154
4	eWOM	0.204		0.204

Table 6. Moderating effect of the moderating variable (SI) on the relationship between eWOM and EL (Source: The authors' works)

Item	Variables and effects	Total effect
1	Independent variable (eWOM → EL)	0.204
2	Moderator variable (SI → EL)	0.154
3	Interaction variable (eWOM*SI)	0.144
4	Independent variable with moderating effect	0.399

of SAT on EL is $\beta = 0.293$ (Table 5), similar to the studies of Chi and Qu (2008); Coban (2012); Prayag (2009); Prayag and Ryan (2012); Lemy et al. (2020); Williams and Soutar (2009) on SAT has a positive effect on tourist loyalty to the destination. The results also show an indirect positive influence of SAT on EL through the mediating variable eWOM. When tourists feel satisfied with the tourist destination, they will recommend it to relatives and friends and intend to return (Bayih and Singh, 2020a; 2020b; Kozak and Rimmington, 2000; Rivera and Croes, 2010). Thus, the satisfaction of domestic and foreign tourists combined with positive eWOM about ecotourism in Vietnam will increase their loyalty or return. The results of the research indicate a direct positive impact on EL, including eWOM, SI. In which, eWOM has a moderate impact with $\beta = 0.2696$ (Table 5), while SI has a rather small effect with $\beta = 0.146$ (Table 5). However, the intervention of the moderator variable SI on the relationship between eWOM and EL will increase the degree of dynamics very high in EL with the addition of $\beta = 0.130$. These positive findings enrich the existing literature on factors influencing ecotourism loyalty. Recorded by AsiaPac Net

Media (2020), Vietnam is the 18th country in the world regarding the percentage of people using the internet, up to 68.17 million people (accounting for 70% of the population), and the number of social network users is 65 million (accounting for 67% of the population). Vietnam is one of the ten countries with the highest number of Facebook and YouTube users globally, with young people accounting for a large proportion (AsiaPac Net Media, 2020). Therefore, taking advantage of SI, especially social networks such as Facebook and Zalo, to discuss or spread information and images about tourist destinations has become popular, easy, quick, and valuable to stimulate visitors to come or return to ecotourism sites.

CONCLUSION

This study has investigated the influence of factors on EL in a Vietnam context as empirical evidence. The results confirmed that the factors that have a statistically significant positive impact on ecotourism loyalty (EL) according to the level of influence are the following (i) image of the destination (DI), (ii) tourist satisfaction (SAT), (iii) eWOM, and (iv) social influence (SI). Additionally, the findings illustrate the significant mediating roles of SAT in the relationships between DI and EL and between DI and eWOM. Similarly, eWOM also mediates the relationships between DI, SAT, and EL. Intersetingly, the study also discovers the strong effect of the SI regulatory variable to increase the relationship between eWOM and EL. Theoretically, the study has demonstrated that the image of the destination, tourist satisfaction, eWOM have strong links between pairs of them and, together, support tourists' loyalty to ecostourism. The findings also support and expand the expectation-confirmation theory (Lewin, 1938) with supplementation of SI as a moderator to the effect of eWOM on EL. For practice, the research results allow suggestions that business organizations, maketers and policy makers in tourism should strenghten the destination image through communication campaigns to enhance eWOM and social influence in ecotourism in digital era. It is one of the key effective approaches to motivate tourists to visit or revisit the ecotourism destinations because more and more people use social network (e.g., Facebook, Instagram, Twitter, etc.) and "Over-the-top" application for information transfer (e.g., Zalo, Viber, Telegram, etc.) for pre- and post-visiting. However, this study still has certain limitations when only evaluating the field of ecotourism, not a general survey of all tourism. In addition, many other factors affecting tourist loyalty are neglected. Therefore, future studies may consider investigating other factors related to the quality of tourism services, the relevance of people with social influence and the differential influence between social backgrounds to gain a deeper understanding of these relationships with the loyalty to ecotourism in future research directions.

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UNDERSTANDING EMPLOYEE VOICE USING MACHINE LEARNING METHOD: EXAMPLE OF HOTEL BUSINESSES

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Abstract: Online reviews are used in tourism research to understand tourist behaviour. However, online comments made by hotel employee have not yet been adequately researched. The study aims to determine on which topics the employees express their ideas, thoughts, and opinions, that is, on which topics they are voice 11,115 comments written by the employees of a chain hotel were analysed. In this study, the latent Dirichlet allocation (LDA) topic modelling method was preferred for the analysis of online comments made by employees. Because of the study, the themes of salary and benefits, management behaviour, service quality, work-life balance, career development, work time, work environment, social rights, career opportunities, food and beverage facilities, ability development were determined. Among the negative comments, the themes of hotel management behaviour, work time, salary and benefits, work-life balance, and career opportunities were determined.

Key words: online employee review, employee voice, hotel management, machine learning, topic model

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INTRODUCTION

Online travel platforms have the potential for the consumers to share their experiences and managers can develop insights about these experiences. This concept, which was examined in the marketing literature and named E-WOM (electronic word of mouth marketing), was also evaluated in terms of examining the comments made by the employees about the organizations. However, studies on this topic are still in their infancy (Symitsi et al., 2018; Stamolampros et al., 2020; Symitsi et al., 2021). Organizational behavior studies in the tourist industry are becoming increasingly important. Previous study has looked at the connection between employee conduct and performance. Performance has been linked to teamwork (Phuong and Huy, 2022); transformational leadership (Idris et al., 2022); organizational citizenship and organizational commitment (Pham et al., 2021); servant leadership (Fatoki et al., 2021); psychological empowerment (Al-Makhadmah et al., 2020); and work environment (Jawabreh et al., 2020). Employee pro-environmental behavior (Fatoki et al., 2021) and green performance (Pham et al., 2021) have recently acquired prominence as the notion of sustainability has been examined. In addition, the impact of customer relationship management characteristics on performance was investigated (Sanasam et al., 2022). On the other hand, research on organizational voice behavior is rare.

We begin our investigation of employee voice factors in the study by using structured and unstructured data from online employee reviews. Then, we demonstrate the knowledge gains from utilizing the obtained information in hotel business human resource processes. As a result, we anticipate how this information will be used and profited from by industry representatives and hotel businesses in terms of strategic human resource management. This study determines the positive and negative opinions of the employees about the hotel management, especially within the scope of the concept of employee voice. According to Miles and Mangold (2014), using information obtained from online reviews can provide organizations with a strategic advantage. Finally, we assess the economic relevance of this information for Hotel Businesses, as well as the gains it generates when used in an investment plan.

Our study contributes to some currents in the literature. First, we contribute to the literature examining the value of online comments for the operational structure of hotel business human resources processes and management decisions. Managers still have limited knowledge of the benefits of big data (LaValle et al., 2011). Analyzing and using big data for hotel businesses offers insights to increase performance and thus ensure competition (Xu et al., 2016). However, applications related to the use of big data are not yet supported by academic studies (McAfee and Brynjolfsson, 2012). That's why we show how online employee comments can be valuable for key managerial issues like employee voice.

Second, this study presents the benefits of examining online reviews with machine learning and content analysis applications. Specifically, we show how hotel managers can use online texts and gather insights from big data to run their decision support mechanisms. For this purpose, we set a goal that will allow business practices to progress in a sustainable way and provide competitive advantage with the data obtained from online reviews. The topic modelling method can analyses the comments made by the employees on online platforms. A limited number of topic modelling methods have been preferred in studies in the field of accommodation and tourism (Kim et al., 2019; Bi et al., 2019; Mazanec, 2017). In terms of detecting the voice of the employee, no study was found in which this method was used. With this method, it is possible to determine the issues on which employees express their thoughts and opinions and the hidden meanings

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underlying these thoughts and views. The potential utility of the topic modelling method in studying the voice behaviour of employees has not gone unnoticed. Therefore, this study fills the gap in the literature by providing a framework for employee voice based on the topic modelling. In the study, firstly, the opinions of the employees about the hotel business were investigated and the data were obtained from the online employee comments. It was determined on which topics they expressed positive and negative opinions. The analysis is based on the topic modelling method, which examines texts through word frequencies and information contained in a dataset of 11,115 employee comments.

Third, we contribute to studies examining the content of information from platforms where online comments can be written. There are studies in which sales and performance forecasts are made using big data (Kulkarni et al., 2012; Chen et al., 2014). Our study adds to the literature by examining online employee comments and predicting information cues for employee voice behaviour. Studies on employee voice in the field of tourism were conducted using the survey technique (Liu et al., 2021; Liu et al., 2021; Yu et al., 2021; Kaya and Karatepe, 2021; Elsetouhi et al., 2018). Employees may not be able to fully express themselves in the structured forms offered by researchers or organizations. The online comments created by the employees can have meaningful results in terms of the decision mechanisms of the managers, as they are filled voluntarily without any limitations. Commenting by both current and former employees is important in terms of comparing the current and former situation of the organization and determining the issues on which employees express their opinions. Additionally, thanks to online comments, different organizations can be compared (Stamolampros et al., 2020).

Recent studies have shown the importance of evaluating employees' online comments for the organization (Symitsi et al., 2018; Stamolampros et al., 2020). In this study, the comments of a hotel business were evaluated in terms of employee voice by using topic modelling and its importance for the tourism sector was discussed. The study differs methodically from other studies. The study aims to determine on which topics the employees express their ideas, thoughts, and opinions, that is, on which topics they are voice. 11, 115 comments written by the employees of a chain hotel were analysed. In the first part of the study, the concept of employee voice and current studies is included. In the second part, the method of the study, the findings of the study in the third part, and the conclusions and recommendations in the last part are presented.

LITERATURE REVIEW
1. Employee Voice
Employee voice refers to all the ways and means by which employees express their thoughts about their jobs and workplaces and try influencing their work in this way (Morrison, 2014; Wilkinson et al., 2019). According to another definition, working voice is the optional communication of ideas, suggestions, concerns, and negativities on business-related issues to conduct organizational regulatory activities (Morrison, 2011). Voice can emerge as a concept that organizations encounter in many issues such as working conditions, remuneration, policies, procedures, and working methods (Wilkinson et al., 2019). Employee voice is commonly a critical factor for identifying problems before they occur and for the organization to identify alternative ways to solve problems (Chen and Hou, 2016; Lu and Lu, 2020). Employee voice is divided into two as supportive and obstructive. Supportive audio is for the employees to present ideas and develop suggestions for the development of the organization and increase productivity.

The blocking voice is defined as employees' voicing their concerns about problematic business processes, critical success factors, and employee abuse (Liang et al., 2012). Dyne et al. (2003) make another distinction. According to the authors, there are three types of employee voices: prosocial, defensive, and accepting voices. Prosocial voice has been defined as the verbal expression of ideas, information, and opinions with a positive motivation to make collaborative contributions to the organization. The defensive voice is the expression of ideas, information and opinions expressed to protect oneself about the business or organization. If the voice is accepting, it is less expression of opinions and ideas because of feeling unable to make a difference or feeling that there will be no change (Dyne et al., 2003).

In studies on employee voice, it has been determined that employee voice has a positive effect on the performance and productivity of the organization (Frazier and Bowler, 2015; Ng and Feldman, 2012). In empirical studies, it has been stated that factors such as the personality traits of the employee's voice, self-efficacy, self-esteem, gender, and tenure are determinants (LePine and Van Dyne, 2001; Premeaux and Bedeian, 2003; Tangirala and Ramanujam, 2008). Additionally, the functioning of teamwork and the size of the team, organizational support, and leadership characteristics are also factors that affect the emergence or inhibition of employee voice (Dutton et al., 2002; Ashford et al., 2002; Gao et al., 2011).

2. Online Employee Reviews
Online employee reviews are a type of word-of-mouth marketing defined as e-WOM in the marketing literature. Employees can make positive or negative comments about the services and behaviour patterns offered by their companies on human resources platforms. Since the user at their own request creates these comments, they provide more information that is reliable. Recently, interest in such platforms has increased (Ladkin and Buhalis, 2016). Employees who are interested in technology, social media, and digital environments generally comment on such platforms, hence higher quality employees. Understanding employee voice behaviour in human resources platforms is important in terms of developing positive employee relations and encouraging potential employees to be attracted to the company.

Employees express their feelings, thoughts and ideas, suggestions, and concerns on human resources platforms. Recently, employee reviews have been examined to determine employee satisfaction in studies including tourism and hospitality literature (eg Stamolampros et al., 2020). Examining the collective vocal behaviour of employees on these platforms may reveal important results (Morrison, 2011). In this study, the views of the employees on the human resources platform about the focus company were examined and the level of employee voice behaviour was tried to be determined.

MATERIALS AND METHODS

1. Research Design

In this study, the human resource platform website was used to examine the comments made by the employees. This platform is an organization operating in the United States, which has been used to search for jobs and express opinions about companies since 2008. On this platform, employees can express their opinions and evaluations about institutions. In the study, 11,115 English-language reviews of a hotel chain, about which comments were made, were downloaded on this platform. Comments were obtained through a web-scraping program from September to October 2021. The comments obtained include the comments between 2008, the year the platform started operating, and October 2021.

In addition to the comments, variables such as the points given by the employees to the company, their status as current and former employees, the number of employees in the company, and the income of the company were thus obtained. The data were transferred to the excel environment. Then, it was transferred to Rapidminer 9.3 program to make topic modelling. This program, with its text mining analysis and LDA module, separates all comments into separate words and determines the topics of these words. The topic modelling method has started to be used in tourism studies as probabilistic latent meaning analysis (Hofmann, 1999) and latent dirichlet allocation (LDA) analysis (Blei et al., 2013).

LDA is the most powerful and widely used method because it has a distinguishing feature of the distribution of topics and words in topics. The LDA method is a method that classified several related words from the word basket in the comments and creates the topic-word distribution. The analysis of key issues from large volumes of unstructured text data is possible using LDA (Guo et al., 2017). The research process is shown in Figure 1.

Data Scraping-Data filtering and normalization-Data pre-processing
⬇
Exploratory data analysis-Data cleansing based on visualizations
⬇
Applying LDA Topic Modelling-Content Analysis
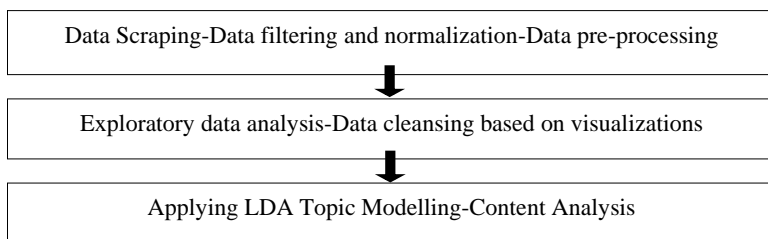
Figure 1. Research Process

2. Topic modelling with LDA (Latent Dirichlet Allocation) Method

After downloading the comments about the hotels, the text-mining phase was started. Rapid Miner program was preferred for text mining analysis. The Rapid Miner program includes several operators that can be applied to different types of data, including text documents. It has two aspects: design and result. The design view creates a visual model with operators by the drag and drop method. Detailed graphics and statistical tables are presented in the result view. It is a suitable program for data analysis (Hofmann and Klinkenberg, 2016). The resulting Excel file was transferred to the Rapid Miner program. A model was prepared for separating individual words in comments, extracting word frequencies, and LDA (Latent Dirichlet Allocation Analysis). The design view of the model created in the data pre-processing and LDA phase is shown in Figure 2.
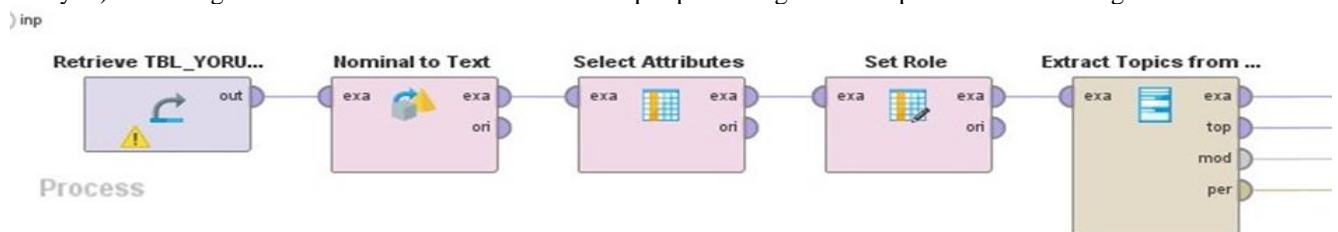
Figure 2. Data pre-processing and LDA analysis design view (Rapid miner program Screenshot)

Figure 2 shows the operators of the model created in the Rapid miner program. These operators perform the operations of nominal to text, select attributes, set roles, extract topics from. Additionally, a distinction is made according to the topics by classifying the related words with the LDA topic modelling operator. With the LDA topic modelling method, it is extracted the dimensions of employee voice. Because of the analysis, 10 topics related to positive comments and the first 10 words in each topic, 5 topics for negative comments, and the first 10 words in each topic, and their relative weights were determined. The naming of the topics was first carried out by a researcher. It was later confirmed by another expert. The naming of topics is based on identifying the logical connection between the most frequently used words for a topic.

Table 1. Descriptive Characteristics

	f	%
Total Number of Comments	11.115	
Number of Former Employees	5.514	49.61
Current Number Of Employees	5.601	50.39
Year of Study		
Less than 1 year	1.252	11.26
More than 1 year	2.080	18.71
More than 3 years	1.293	11.63
More than 5 years	787	7.08
More than 8 years	380	3.42
More than 10 years	587	5.28
Year not Specified	4.736	42.61
Hotel Features		
Employee Number	10000+	
Revenues	10+ billion $	
Establishment Year	1927	

RESULTS AND DISCUSSION

In this section, the results of the data analysis are presented. The descriptive features obtained are shown in Table 1. All 11,115 reviews of the hotel chain have been downloaded on the human resource platform website. 49.61% of the commenters are former employees and 50.39% are current employees. It is seen that 18.71% of the employees have

worked for more than 1 year, 11. 63% for more than 3 years, and 11.26% for less than 1 year. The chain hotel, which constitutes the sample, is a countless business with more than 10,000 employees and revenue of more than 10 billion dollars. The hotel business has been operating in the tourism sector since 1927.

1. Employees' Hotel Management Scoring

In addition to making comments about the hotel, the employees evaluated the hotel by giving points. The highest score is 5 and the lowest is 1 point. The ratings of the employees regarding the chain hotel are presented in Table 2. When Table 2 is examined, it can be said that in general, all employees give high points to the chain hotel (5 points = 37. 26 %; 4 points = 32.05 %). It is seen that the rates of those who give low scores are at a low level (2 points = 6.28 %; 1 point = 5.23).

Figure 3. Word Cloud for Employees' Headlines in Comments

Table 2. Hotel Management Ratings of Employees

Point	f	%
5 point	4.141	37.26
4 point	3.562	32.05
3 point	2.133	19.19
2 point	698	6.28
1 point	581	5.23
Total	**11.115**	

2. Topic Modelling Method

Employee comments on the human resource platform website are presented in the form of headlines, positive and negative comments. The topic modelling method was used in the analysis of the comments. This model is a model that classifies texts and determines topics according to word frequencies. In this study, the topic modelling method, which is used in the marketing and tourism sector, which can make classifications from the whole of the texts and provides information on the determined topics, was used. The analysis was conducted by loading the comments into the analysis program separately. The analysis was conducted in three steps. In the first step, the texts were prepared, in the second step they were loaded into the Rapid Miner program and analysed, and in the last step, the words were associated with the topics together with two experts. A word cloud was created using the Word cloud website in the word analysis made on the titles of the comments made by the employees. The word cloud created in Figure 3 is presented.

When Figure 2 is examined, it has been determined that words such as "company, good, great, work, place, manager, experience" come to the fore in terms of employee voice. The prominence of the words "good" and "great" can show that there is a positive perspective on the hotel business. In Figure 4, the word frequencies for positive comments are presented.

Table 3. Topic Resolution for Positive Comments

Salary and Benefits	Management Behaviour	Service Quality	Work-life Balance	Career Development
good	culture	service	like	experience
pay	training	customer	family	skills
benefits	company	experience	really	lot
Good	values	high	people	learning
great	associates	standards	work	learn
decent	strong	training	make	good
Great	management	excellent	working	tasks
job	corporate	industry	Good	clients
Benefits	well	guest	job	guest
salary	Strong	provide	well	different
Work Time	**Work Environment**	**Social Rights**	**Food and Beverages Facilities**	**Ability Development**
hours	friendly	insurance	free	opportunities
flexible	community	benefits	food	company
schedule	fair	health	Free	growth
work	Family	medical	lunch	great
Flexible	atmosphere	dental	meals	career
working	training	insurance	provided	Great
home	service	paid	cafeteria	opportunity
school	helpful	benefits	shift	training
scheduling	Opportunities	time	nice	advancement
schedules	Staff	discounts	meal	benefits

When Figure 4 is examined, it is seen that the words "great, work, benefits, good, company, hotel, discount, opportunities and share" are used the most; It was determined ÇHat the words "training, life, like, schedule, culture, balance, hours, experience" were used the least. When examined in terms of employee voice, it is seen that the most information is given about the benefits, opportunities, and payments in the hotel business. The least mentioned topics are education, working hours, and experience. In Table 3, topic modelling of the positive comments of the employees is presented.

Figure 4. Word Frequencies for Positive Comments

Because of the topic modelling regarding the positive comments in Table 4, 10 themes were determined. The themes are "salary and benefits, management behaviour, service quality, work-life balance, career development, work time, work environment, social rights, career opportunities, food and beverage facilities, ability development". The first theme is salary and benefits. When the Salary and benefits theme is examined, it is seen that the words that make up this theme consist of words such as "good, share, benefits, great, decent, job, salary". Below are some of the employee comments:

-*"Good salary, good benefits"*-*"Organized, Good salary for management"*-*"High paying job with great benefits"*-*"competitive salary, solid structure, good core values"*-*"Decent benefits and decent salary with experience"*

When the comments are examined, it can be said that the hotel management offers good and sufficient opportunities in terms of salary and benefits. The second theme is the hotel management behaviour theme. Words that make up the theme of management behaviour are "culture, training, company, values, associates, strong, corporate, well". Below there are some comments made by the employees.

-*"Strong company culture and values. Sustainably focused."*-*"Putting people first has always been their value."*

-*"Great people, good company values"*-*"Good company core values and benefits"*-*"Great values and culture. Excellent employee benefits."*

When the comments are examined, it can be stated that the hotel management has a culture that embraces working together, attaches importance to values, and offers educational opportunities. The third theme is the service quality theme. The words that make up the theme of service quality are "service, customer, experience, high, standards, training, excellent, industry, guest and provide". Some comments from the employees are presented below

-*"Great opportunity to learn customer service skills and meet people from worldwide.-"Good customer service experience gained"-" Strong network of associates, reputation as one of the best in industry, high standards of guest service and cleanliness"-"Excellent quality experience from X Hotel Management and great learnings especially in Managed properties."-"Great learning experience, and great coworkers"*

When the comments are evaluated, it can be said that the hotel management has created a learning and self-development environment to provide high-quality service for its guests. The fourth theme is Work-life balance. The words that make up the theme of work-life balance are "like, family, really, people, work, make, working, good, job, well". Below are some of the employee comments.

-*"Career growth opportunities, numerous locations and cities, discount perks, "work family" feel"*-*"Hotel discounts for associates and family"*-*"Great work-life balance."*-*"Flexible schedule. Great work/life balance."*

-*"Managers (all the ones I've had) seem to understand the work/life balance dynamic."*-*"Good work-life balance, Nice benefits, Not stressful"*

When the comments are examined, it can be said that an excellent environment that provides a work-life balance for the employees is provided. The fifth theme is the career development theme. The words that make up the theme of career development are "experience, skills, lot, learning, learn, good, tasks, clients, different".

-*"Benefits many new skills to learn"*-*"Great market to hone your skills"* –*"Company has great benefits and there are opportunities to learn different skills."*-*"I learned great communication and customer service skills and how to always make sure the customers happy."*-*"Some of the best reasons to work for this company is to be able to get the best out there and share skills you already have also"* -*"The program is fast-track to a management-level position if you have a passion for the hospitality industry. You will develop leadership and customer service skills as you will manage large departments."*

It can be concluded that learning environments where the skills of the employees are developed are created. The sixth theme is the work time theme. The words that make up the theme of work time are "hours, flexible, schedule, work, home, school". Some comments made by the employees are presented below.

-*"Flexible, benefits, you get good discounts on hotel rooms, salary is competitive. What I like the most is the culture, the ability to grow, the sponsored training."*-*"Good pay, good teamwork, and flexible schedules"*

-*"Teamwork between departments, level of talent, the dedication each employee brings to the table to increase the guest experience, use of local products to stay sustainable, atmosphere positive, ability to be flexible, one on one with guest service"*-*"Flexible Great Management Team Good Work Environment"*-*"Health benefits, room specials, flexible schedule, family-style environment. Opportunities to move within Marriott all around the globe because of how large the company is."*

It is stated that the hotel management implements flexible working systems for the employees and the employees are satisfied with this situation. The seventh theme is the work environment theme. The words that make up the theme of the work environment are "friendly, community, fair, family, atmosphere, training, service, helpful, opportunities, staff". Some comments are presented below.

-*"Friendly, fair, nice, workable, beneficial"*-*"You learn to better interact with people! Friendly work environment. Good job to have in college."*-*"Great perks Guest satisfaction Friendly working environment"*-*"The company provides a great work environment with helpful tools for success."*-*"Benefit packages are helpful employees"*

It can be said that the hotel management adopts a helpful and friendly management style and creates a family atmosphere for the employees. The eighth theme is the social rights theme. The words that make up the social rights theme are "insurance, benefits, health, medical, dental, paid, benefits, time, and discounts". Some comments from the employees are presented below.

-*"Great pay and the best insurance policies ever!"*-*"Weekly pay Great benefits (especially outside of medical, dental, and vision)"*-*"Great place to work. They take care of you. Medical dental the works. Also, have a cafe for the employees"*-*"The benefits are great (full medical/dental/vision for only $4 to $5 weekly), fair salary, plenty of opportunities to grow."*-*"Great benefits loved the time and half pay on holidays, birthday pay, good hotel discounts, and medical insurance."*

It can be said that the hotel management offers health and insurance opportunities, discounts, and some opportunities for its employees and that the employees are satisfied with the opportunities offered. The ninth theme is food and beverage facilities. The words that make up the theme of food and beverages facilities are "free, food, lunch, meals, provided, cafeteria, shift, nice and meal".

-*"People who work there, nice environment, room to move up, free lunch/dinner, many benefits."*-*"Discount, benefits, free lunch"*-*"Opportunities for relocation and advancement if you are determined and hard-working Free meals on lunch breaks Discounts on hotels and services"*-*"Great pay, coworkers, and employee benefits. While working all meals were provided at no cost to the employees. Free Starbucks to those of us in the cafe."*

It can be stated that the hotel management offers free and successful food and beverage opportunities for its employees. The last theme is the ability development theme. The words that make up the ability development theme are "opportunities, company, growth, great, career, training, advancement, benefits". Some comments from the employees are presented below.

-*"Benefits, great property, many growth opportunities."*-*"Excellent training and reinforcement programs"*

-*"Great benefits, flexibility, opportunities for grown, extensive training & supportive corporate culture."*-*"Good training and awesome technology up to date on all equipment needed to do your job effective and efficient."*

-*"Promote advancement from within and training"*

It can be said that the employees have career development and advancement opportunities in the hotel business. In Figure 4, the word frequencies for negative comments are presented.
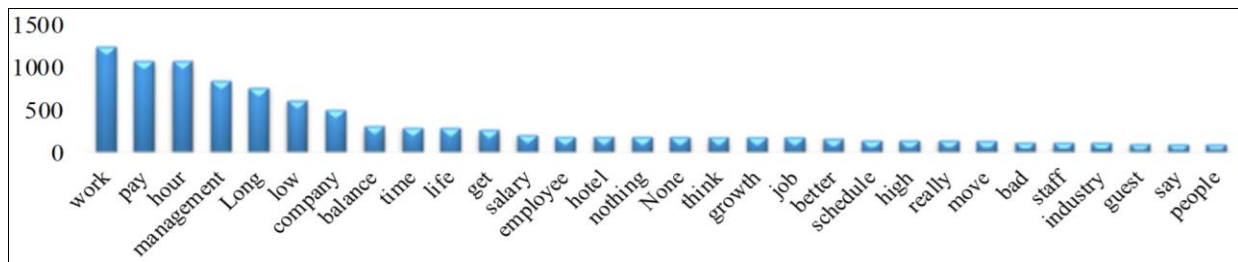
Figure 5. Word Frequencies Regarding Negative Comments

When Figure 5 is examined, the words that are mentioned the most are "work, pay, hour, management, long, low, and company". It has been determined that the words "people, say, guest, industry, staff, and bad" were used the least. In Table 5, the topic analysis of the negative comments made by the employees about the hotel is given.

Table 4. Topic Analysis for Negative Comments

Hotel Management Behaviour	Work Time	Salary and Benefits	Work-life Balance	Career Opportunities
management	hours	pay	work	much
management	work	low	balance	growth
employees	time	Low	life	room
staff	Long	Pay	bad	opportunities
training	long	salary	Work	career
poor	lot	could	Nothing	job
lack	working	better	industry	advancement
team	think	benefits	due	little
lack	cons	Salary	equal	outside
communication	None	little	say	limited

Because of the topic modelling in Table 4, 5 themes were determined. The themes are "hotel management behaviour, work time, salary and benefits, work-life balance, career opportunities". The first theme is the hotel management behaviour theme. The words that make up the theme of hotel management behaviour are "management, employees, staff, training, poor, lack, team, communication". Some comments from the employees are presented below.

-*"Poor upper management and no leadership"*-*"Very poor management, and employee appreciation."*-*"Poor communication. Supervisors with little to no experience in the field."*-*"Poorly managed and run down"*

-*"Management lacks leadership skills."* It has been stated that hotel managers have an inadequacy in their leadership skills and lack of communication. The second theme is the work time theme. The words that make up the theme of work-time are "work, time, long, lot, working, think, none". Some comments are presented below.

-"Long hours and inconsistent schedules"-"Low salary long hours no prestige"-"Hours can be long, especially with conferences!"-"The hours are long most likely going to have to sacrifice a lot of personal time"-"A lot of work and obstacles to get the work done." It can be stated that the working hours of the employees are long and they work at an intense working tempo. The third theme is salary and benefits. The words that make up the theme of Salary and Benefits are "pay, low, salary, better, benefits, salary, little". Some comments from the employees are presented below.

-"Pay is on the lower side"-"Lower pay compared to the industry."-"Low pay, long hours, low pay"

-"Ridiculously low wages. People must work like animals to make a decent salary. Meanwhile, directors that walk around delegating their job make all the money."-"The yearly salary percentage increase is low considering the amount of work we do."

It has been determined that the employees find salaries low and the opportunities offered are limited. The fourth theme is work-life balance. The words that make up the theme of work-life balance are "work, balance, life, bad, work, nothing, industry, equal, say". Some comments are presented below.

-"May work 7-10 days in a row Bad work/life balance"-"No management support, and bad scheduling"-"No work/life balance, low wages"-"The work vs life balance is not equal."-"Lack of work-life balance"

It has been stated that there is a negative situation in terms of work-life balance. The fifth theme is the career development theme. The words that make up the theme of career development are "much, opportunities, growth, room, career, job, advancement, little, outside, limited". Some comments from the employees are presented below.

-"Limited career advancement, a very structured environment that does not allow for creative thinking"- "The growth opportunity is limited"-"Advancement opportunities can be limited"- "If you don't work at HQ, leadership opportunities are limited."- "New hires sometimes have limited guidance, difficult to integrate into culture"

-"Career growth opportunities limited in some departments"

According to these comments, it has been stated that the career opportunities offered by the hotel management are limited and few.

DISCUSSION AND IMPLICATIONS

1. Theoretical implications

This study adds to studies in the tourism and hotel management literature that look at the human resource management of employees. Several important insights emerged as a result of the analysis in terms of determining the factors that cause employee voice and employee voice in the tourism and hospitality industries. The highlights of this study's implications for research in this critical dimension of tourism and hospitality literature are provided below.

The study's original theoretical meaning is that it is the first to evaluate the relative value of employee voice based on the knowledge content of online employee reviews. Although multiple studies have explored various elements (satisfaction, staff turnover), online employee reviews have not been addressed. Most research to date has investigated the association between a specific element and employee voice results. The study ensured that the themes relating to employee voice were highlighted. Employees' voice behaviour on a variety of subjects, including hotel working conditions, salary, policies, processes, and working methods, has been determined. The findings of the study back up the findings of Wilkinson et al. (2019). The study's second theoretical addition is that it is compatible with subject modelling, where employees can easily express their opinions, as opposed to rating studies, which limit information to specific scales. Employees showed good attitudes toward pay and benefits, managerial behaviours, career and advancement prospects, and talent development, according to the study's findings. They also discussed the issues that have arisen in the tourism and lodging industries (low salary, long working hours, work-life balance, career and promotion opportunities). The findings of Liang et al. (2012) and Dyne et al., (2003) research confirm the categorization proposed in their studies.

The study's last theoretical contribution is the analysis of online reviews as a trustworthy data source, with methodological advances over known measurement scales. Because employee voice is multidimensional, a single assessment tool cannot account for all characteristics of industry-specific employee voice. As a result, human resources researchers in the tourism and hospitality industries can study employee feedback stated on human resources web pages, which include highly representative and reliable information.

2. Management implications

The information value of online employee reviews to corroborate the measurement results of earlier investigations was disclosed in this study. It validates other measuring results since internet platforms provide researchers with limitless information. As a result, it is critical to expose online evaluations, employee voice behaviour, and characteristics associated with this notion, to know employees in the tourism and accommodation business, and to assist research that utilizes primary data. Given the study's findings, managers must take action to address employee voices and perspectives, as well as the negative concerns they focus on. The feedback offered by the human resources platform in the realm of management was used to provide managers with precise directions. We give recommendations for tourism and lodging organizations using the issue modelling technique described in the results section. Regarding the unfavourable opinions of the workers, five themes were identified. These are the themes: "Hotel management behaviour, working hours, compensation and perks, work-life balance, and career chances". It has been discovered that hotel managers have unfavourable views about their personnel as a result of poor communication abilities. This might be attributed to a lack of communication training, as well as a lack of required norms and methods to govern such conduct. To address such issues, managers should provide feedback systems via which workers may voice their dissatisfaction with the conditions they face. To ensure open communication, it is also vital to build a conversation and discourse atmosphere.

By definition, the tourism and hospitality industries have lengthy and intensive working hours, as well as a shift system. Employees expressed their dissatisfaction with this situation. Managers should engage in activities that motivate staff after a hard day's work. Overtime compensation, extra premiums, and extended leaves are all important for employee incentives.

Employee opinions revealed that low wages and improved compensation should be rewarded and that efforts should be rewarded. Firms in the tourism and hospitality sectors frequently do not monitor their employees' financial situations and do not take into consideration the employees' financial and personal issues. Because these businesses cannot foresee that contented workers would lead to satisfied consumers, they do not develop solutions in this area. Managers must understand their workers' expectations from their firms and devise an incentive scheme to meet those expectations. These incentives should not just be based on salary, but also on a system that rewards them for their success. Because of the company's characteristics, firms in the tourism and hospitality sector have a strong working tempo. Employees occasionally find it challenging to strike a work-life balance. Furthermore, the lack of career and advancement options available causes employees to feel unsatisfied and to communicate their dissatisfaction. According to the research, there are negative attitudes on this subject. Managers that are concerned about this issue provide on-the-job training, coaching, webinars, and other resources to their staff. Through programs, they should encourage staff growth and open up new job opportunities. Managers should examine their workers' requirements and goals before developing training programs to meet those expectations.

CONCLUSION

The study examined employee comments regarding hotel businesses on digital platforms via the viewpoint of employee voice. The responses gathered are critical for managers to gain insights into their personnel and determine their management styles. Positive and negative employee opinions were evaluated using topic modelling analysis in this study, which examined 11,115 employee comments. Employee ratings, comment titles, good remarks, and negative comments were analyzed in the study. According to the findings of the study, employees are satisfied with the overall state of the hotel industry based on their scores. The scores were decided to be 4 and 5 points. The use of the terms "good" and "great" as a result of the title analysis demonstrates that the employees have positive feelings about the organization. It was determined that employees remarked the most on benefits, opportunities, and salary, and the least on education, working hours, and experience.

Ten themes emerged from the positive comments of the employees. The themes are "salary and benefits, management behaviour, service quality, work-life balance, career development, work time, work environment, social rights, career opportunities, food and beverage facilities, and ability development." Employees have good and sufficient opportunities in terms of salaries and benefits, have a culture that embraces working together, values, and offer educational opportunities, learning and self-development, work-life balance, flexible working, health, and insurance, free food and beverage opportunities, and it can be said that they offer their ideas, opinions, and suggestions within the scope of the employees' voice about adopting a helpful and empowering culture. There were five themes identified in the employees' negative comments. These themes are "hotel management behaviour, work time, salary and benefits, work-life balance, and career opportunities." If managers of tourism and lodging companies want to know what their employees think about their businesses, how satisfied they are, and what problems they are having, they should look at the factors that emerge in online employee reviews.

Several future research directions could be pursued to expand on this work. For example, the manager's role in employee voice should be investigated further. It is possible to determine which managerial behaviours have a positive or negative impact on employee voice behaviour. Furthermore, employee voice behaviours based on positions and demographic characteristics of employees within the company may result in intra-sector differences. Only one hotel chain is considered in our sample. This is due to data collection time and cost constraints. In future studies, larger amounts of data can be collected. Furthermore, because the determined hotel chain is located in different regions and cultures, a study can be conducted in which cultural differences are discussed. Finally, it will be interesting to investigate the issue of employee voice in terms of sectoral differences in the tourism and hospitality industries, as well as other industries.

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POTENTIAL FOR SUSTAINABLE DEVELOPMENT OF RURAL COMMUNITIES BY COMMUNITY-BASED ECOTOURISM A CASE STUDY OF RURAL VILLAGE PASTANGA, SIKKIM HIMALAYA, INDIA

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Abstract: Poverty is one of the most pressing global problems of the world today. One promising option to provide employment opportunities for the inhabitants of underdeveloped rural areas is the development of 'pro-poor tourism'. Poverty alleviation tourism can generate environmental benefits in addition to economic, social and cultural ones. This study aims to discuss the possibilities of poverty alleviation of rural communities through the development of community-based ecotourism. The introductory part of the study briefly defines the theoretical frameworks of the concept of poverty and ecotourism in the context of sustainable development. Using the specific example of the Mid-Himalayan Rural village of Pastanga (India), show the potential areas for developing community-based ecotourism with respect to the local development opportunities. In the same way that is draw on our own research as well as available statistical data from the East Sikkim and Questionnaire Survey-2021. The case study presents the current extent of adventure trekking tourism and highlights the trends, characteristics and significance of trekking in Pastanga-Khedi eco-trail. The paper also propose strategies for exploring the trekking potential through the emphasis on ecotourism in the study area. In conclusion, we propose solutions for the regulated development of the area in a participatory way by the concerned stakeholders by implementing activities related to the Community-Based Ecotourism.

Key words: Pro-poor tourism (PPT), ecotourism, sustainability, poverty, community-based ecotourism (CBET), Sikkim Himalaya

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INTRODUCTION

Poverty is one of the most serious global problems in these days. It mainly affects developing countries. Research approaches to poverty have evolved from economic reductionism, according to which poverty is mono-dimensional in nature, to a generalist approach that emphasises poverty's multidimensional nature. These approaches are subsequently

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reflected in the policy approaches to the poverty. The multidimensional approach also emphasises a multidimensional policy response, encompassing a variety of strategies supporting employment, health, housing, etc. At the same time, it favours the view that the implementation of solutions in one area (e.g. housing support) will not be sufficient to compensate deficits in other problem areas (Bodnárová et al., 2005; Cattarinich, 2001; Chigora et al., 2020).

Poverty is one of the most serious global problems today. It particularly affects developing countries. Research approaches to poverty have evolved from economic reductionism, according to which poverty is one-dimensional, to a general approach that emphasises the multidimensional nature of poverty. These approaches are subsequently reflected in policy approaches to poverty. The multidimensional approach also emphasises a multidimensional policy response, which includes various strategies to promote employment, health, housing, etc. At the same time, it favours the view that implementing solutions in one area (e.g. housing support) will not be sufficient to compensate for deficits in other problem areas (Ashley et al., 2000; Bodnarova et al., 2005; Cattarinich, 2001). The deficiency in question may relate to insufficient income, consumption or assets, status, rights or security. In this respect, tourism is one of the few sectors of the economy, has an impact on many of the aspects of living standards and is therefore a suitable mechanism for the socio-economic development of underdeveloped rural areas. In this context, many forms of tourism specifically aimed at supporting poor communities (especially in rural areas and in the hinterland of major tourist destinations) are being discussed (e.g. Ashley et al., 2000; Andereck and Vogt, 2000; Booyens and Rogerson, 2018, 2019; Chigora et al., 2020; Hoogendoorn et al., 2020; Mkono, 2016; Torabi et al., 2020).

UNWTO together with UNCTAD, in 2002 at the World Summit on Sustainable Development in Johannssburg, initiated the ST-EP Programme (Sustainable Tourism- Elliminating Poverty, or also PPT - Pro-Poor Tourism), which aimed to support the achievement of the Millennium Goals set by the United Nations (UNDP 2002). This project was supported by 44 projects in 31 countries with the aim of promoting socially, economically and environmentally sustainable tourism and supporting poverty reduction in the world's least developed countries. In 2004, with the objective of poverty reduction, UNDP implemented the programme "the Endogenous Tourism Project for Rural Livelihoods" in rural India (UNWTO, 2004). Another program, for example, was the TPRP, under the auspices of the ITC, which aims at creating linkages between local producers and the tourism market that can help export local products (Spenceley et al., 2009; Torabi et al., 2020).

The issue of supporting underdeveloped and poverty-stricken areas is thus also discussed in the context of the environmental unsustainability of economic activities. Therefore, recently also the discussion on ST-EP or PPT has shifted to the level of finding solutions that will not only benefit local communities economically but at the same time will be safe from other aspects of unsustainability as well. This has created a new branch of so-called alternative approaches to tourism development in peripheral areas. Alternative approaches have emerged as a critique of post-war development and modernisation strategies that they consider unsustainable (Ashley and Haysom, 2006; Telfer and Sharpley, 2002). They are a reaction to environmental degradation, the high cost of materialism and the loss of culture (De Kadt, 1990 in Scheyvens, 2011; Smith and Eadington, 1992 in Scheyvens, 2011). These approaches support tourism initiatives at the local level, aimed at helping poor communities, with an emphasis on minimizing negative impacts on the environment, which is part of economic systems (Barbier, 1989 in Telfer and Sharpley, 2002).

Good guest-host relationships and community participation in the development process are encouraged (Krippendorf, 1987 in Scheyvens, 2011; Whyte et al., 2011). Gradually, alternative forms of tourism such as green tourism, volunteer tourism, fair tourism, altruistic tourism, ecotourism or community-based tourism (CBT) have started to emerge (Ashley et al., 2000: 1). According to Jafari (2001), these forms represent a relatively small part of the interest because they are more difficult to manage, less profitable and less invasive (Scheyvens, 2011). According to Harrison (2008), a weakness of these forms of tourism risks diverting attention away from the question of the extent to which tourism can alleviate poverty, as it erodes the existing cultural and environmental base, which is at odds with alternative forms. This is where pro-poor tourism begins to emerge, as the impacts on the lives of the poor, their needs or interests have generally not been considered, and the human element has gradually been marginalised within responsible and sustainable tourism, as the vision of profit has been at the forefront (Ashley and Haysom, 2006; Chok et al., 2007; Mkono, 2016; Torabi et al., 2020).

In this context the study aims to suggest the conceptual frameworks of the poverty issues in local communities and the possibilities of their reduction through the development of sustainable forms of tourism. One of the promising options for employment opportunities to the inhabitants of underdeveloped rural areas is the development of 'pro-poor tourism' (the concept of pro-poor tourism - PPT). What is more, in line with a multidimensional policy response, poverty alleviation tourism can also bring environmental benefits in addition to the economic, social and/or cultural benefits (Booyens and Rogerson, 2018; Kuzyshyn, 2018). From this point of view, the study discusses the possibilities of poverty alleviation of rural communities through the development of community-based ecotourism (CBET).

The introductory part of the study briefly defines the theoretical frameworks of the concept of poverty and ecotourism in the context of sustainable development. Using the specific example of the Mid-Himalayan Rural village of Pastanga (India), we show the potential areas for developing community-based ecotourism with respect to the local development opportunities. We draw on our own research as well as available statistical data from the East Sikkim and Questionnaire Survey-2021. The case study presents the current extent of adventure trekking tourism and highlights the trends, characteristics and significance of trekking in Pastanga-Khedi eco-trail. We also propose strategies for exploring the trekking potential through the emphasis on ecotourism in the study area. In conclusion, we propose solutions for the regulated development of the area in a participatory way by the concerned stakeholders by implementing activities related to the Community-Based Ecotourism (CBET). The main motive is to find sustainable ways of developing forms of tourism that enable local communities to avoid mass tourism development and reduce pressure on the natural environment.

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THEORETICAL BACKGROUND OF THE STUDY

Defining poverty as a social phenomenon depends significantly on socio-historical conditions and the content of this concept changes in time and space (Ashley et al., 2000; Chigora et al., 2020; Filipová and Valná, 1995: 118). For these reasons, Townsend (1979: 28) considers poverty as a dynamic concept. While in early research (early 19th century) the poverty was associated with physical survival (lack of resources for basic food), along with the development of society it has been also understood as a cultural and social concept encompassing an increasingly broader range of living conditions. Throughout the historical cross-section of poverty, we see a shift from emphasising the poverty as an expression of the class-cultural stratification of society to the poverty as a deprivation of lifestyle and the need to secure the minimum income necessary for an adequate standard of living, which is characterised by the way of life in a given country (Michálek, 2000: 233).

At present, the concept of poverty is one of those that are largely controversial, both in theory and in practice, and have no exact, universally accepted objective definition yet. Different institutions apply different approaches to the defining poverty using very different quantitative dimensions of this phenomenon in society. The reason for this inconsistency is, among other things, the fact that poverty has not only its individually experienced form, but also social, national, international and global one (Ashley et al., 2000; Ondrejkovič, 2010: 31). In this respect, the concept of poverty takes on a spatial aspect. Consequently, as Michálek (2000: 233) also states, "*the content of the concept of poverty changes significantly due to the influence of spatial dimensions*". Currently, there are significant differences between poverty in Third World countries, advanced economies and post-communist countries in transition. While the concept of absolute poverty (failure to meet basic needs necessary for survival) is a problem of developing countries, the content of poverty in economically developed countries is a relative concept, i.e. poverty determined in relation to the generally accepted standards of living in a given society (Michálek, 2000: 233). In general, the purpose of the definition of poverty is to provide an analytical tool to promote a better understanding of the issue, or to promote debate on theoretical and practical issues related to its measurement and policy strategies to address the problem. The most of economists promote the understanding of poverty as a one-dimensional concept based on the consideration that different individuals have different (lower or higher) standards of living. Statistics in the most of calculations also use a simpler one-dimensional concept based on the degree of access to the economic resources. Thus, people are considered poor if their access to the economic resources (compared to their needs) is significantly low (Bodnárová et al., 2005: 5).

Sociologists and some economists see living standards more than a multidimensional "*way of life*". Consequently, they see poverty as a multidimensional disadvantage and find the one-dimensional concept incomplete. They understand poverty as a multidimensional phenomenon, a deficit of certain things on which a human health, well-being and autonomous functioning in society depend, including the ability to meet basic needs (food, housing, clothing, etc.; Cattarinich, 2001: 1; Chigora et al., 2020). The aforementioned deprivation may relate to an insufficient income, consumption or assets, status, rights or security. The ability of the poor to influence decisions that affect their lives, vulnerability or resilience to unexpected events, access to services and property, the strengthening or erosion of social ties, are all important factors that should and are taken into account when assessing poverty. Based on the above, it can be concluded that "*the poverty is not a result of the lack of one thing, but of a number of interrelated factors that cluster in the experiences of the poor and in definitions of poverty*" (Narayan et al., 2003 in Scheyvens, 2011: 20).

Other authors, Chambers and Conway (1992: 6) understand the reality of the poverty in relation to the various life strategies adopted, considering skills, assets and activities as the necessary means for living. The poor are particularly vulnerable to risks and strains if they do not possess a wide range of life strategies, capabilities and assets. The resilience of the poor to risks and stresses is generally determined by the diversity of life strategies, one of which may be the tourism we consider. Sustainable living approaches seek to enhance poor communities' resilience by focusing on community participation and activities. Sen (1999: 30) describes a similar multidimensional approach and emphasises freedom by explaining that the poor have limited access to the resources that enhance human well-being. People should have the freedom and opportunities to improve their life, uplift their living standards, and avoid lack of education, hunger, etc. (Payne, 2018). Also important in Sen's (1993: 30) views is the concept of capability, which refers to "*the actual ability of persons to achieve various valuable tasks as part of existence: therefore, what people can do is much more important than who can possess what*". The rights-based approach to the development presented by UNDP (2000) is closely linked to Sen's views mentioned above. Its central idea is that the poverty represents a denial of fundamental human rights (a right to food, health, education, etc.). Consequently, the UNDP proposes ensuring the access to resources and opportunities as the best way to combat poverty, arguing that it is the right of every citizen. "*Human development is about expanding people's possibilities*", and if we want to ensure development and empowerment, it is imperative to ensure opportunities and choice (Acharya et al., 2022; UNDP, 2002: 8; Torabi et al., 2020).

Poverty alleviation through the development of sustainable forms of tourism

At the same time, the dominant approach to tourism use pursues regional economic growth as the primary objective, while poverty reduction is seen as only a partial objective or natural outcome of regional development (Acharya et al., 2021; Zhao and Ritchie, 2007). It is expected that once the whole region develops and reaches a higher level, through multiple channels, the effects of development will be felt by the local poor - e.g., increasing employment, building infrastructure, etc. (Zeng et al., 2005 in Zhao and Ritchie, 2007: 10; Susilo et al., 2021). Consistent with this philosophy is the conventional tourism system, which is based on the development paradigms of modernisation theory, dependency theory, and neoliberalism (Matlovič and Matlovičová, 2015, 2020; Stiperski et al., 2021; Zhao and Ritchie, 2007). It

focuses primarily on increasing visitation, assuming that the benefits will eventually 'trickle down' to the poor over time. In this case, policymakers usually pay more attention to the expansion of the tourism sector and not to the real issue, i.e. to the what extent tourism development contributes to poverty alleviation in practice (Chritie, 2002 in Zhao and Ritchie, 2007: 10; Kolesárová, 2014; Matlovičová et al., 2016a, 2016b; Saberifar and Mishra, 2022).

One of the promising options to provide employment opportunities for the inhabitants of underdeveloped rural areas is local development through the promotion of tourism (Saberifar and Mishra, 2022). In this case, we are primarily referring to a specific form of tourism management the most of income from the related activities, will be used for the support and development of poor communities. As Ashley et al. (2001a, 2001b) note, in the optimal case, the tourism aimed at poverty alleviation can generate other than economic benefits, which is consistent with the multidimensional approach to poverty alleviation discussed above. Concepts discussed in the literature in this context are the concept of pro-poor tourism (PPT) and the concept of community-based tourism (CBT) and based on this, the concept of community-based ecotourism (CBET). A comparison of the PPT and CBT concepts has been addressed by Saayman and Giampiccoli (2015). According to them, PPT differs from CBT in that it emerged in the 1990s and has accepted the current neoliberally oriented economic discourse (Harrison, 2008 in Saayman and Giampiccoli, 2015: 166). Thus, PPT remains a part ofconceptualisation and practices controlled and guided by neoliberal logic and does not represent an alternative development process that seeks to transcend the boundaries set by neoliberalism (Saayman and Giampiccoli, 2015: 165). Unlike PPT, the concept of CBT has its roots in the 1970s paradigm of alternative local community development, which brought people-centred development to the fore. Thus, development meets the needs and expectations of local communities. Another feature is the participation of community members, i.e., development exploits the predominantly endogenous potential of local communities. The basic feature of CBT is that the Community owns, i.e. fully controls and manages, the local tourism business (Chigora et al., 2020; Giampiccoli and Mtapuri, 2012).

Ecotourism is a concept that integrates conservation and economic development (Baral, 2014; Dincă et al., 2012; Viturka et al., 2021; Tătar et al., 2017). Many resources attempts to formulate its definition (Fennell, 2001). Already Buckley (1994) defined four basic dimensions of ecotourism within his theoretical scheme: its base is nature, it promotes nature conservation, it is managed sustainably and it has an educational effect on environmental awareness. Wallace and Pierce (1996) added to these attributes two characteristics that relate to the local communities: ecotourism empowers them to make their own decisions and brings them direct economic benefits. From these considerations, the concept of community-based ecotourism (CBET) has evolved. It is a specific form of the concept of community-based tourism (CBT), in which the emphasis is on protecting the natural environment in line with the principles of ecotourism (Pookhao, 2014). CBET builds on access to the areas and sites of natural value that have hitherto been inaccessible to tourists. In this case, the products are usually of a local, regional or at most national character without any significant impact of the demand side.

However, this demand represents an interesting source of income for poor local communities, which can potentially have a major impact on the development of communities in tourist destinations. Given that most of the nature-valued areas are under the competence of the state, the eventual development of ecotourism cannot be achieved without its participation and support (Matlovicova et al., 2015). In terms of ecotourism organisation, its scope and seasonality should be adapted to the conditions of sustainable development, considering the territory's possibilities and the adequacy of its resources. Regarding ecotourism trips, small groups of visitors are usually preferred, with minimal negative ecological and socio-economic impacts. The aim is not to develop mass tourism aimed at fast and comfortable travel and visits to areas of high natural value and inhabited by exotic ethnic groups (Ceballos-Lascurain, 1996). In this case, in terms of the authenticity of the experience, we can speak of a rather negative phenomenon, referred to as the commercialisation of wilderness. Indeed, the label "eco" is here narrowed down to a mere common stay in a natural environment (Matlovičová et al., 2015; Torabi et al., 2020). From the perspective of organising poor community-based ecotourism, it is important to sensitively adjust the intensity and nature of immediate contacts between tourists and local communities. CBET should be developed in the context of the principles of alternative approaches in tourism, either through external intermediaries (touroperators) or also directly through local community representatives. Examples include commercial trekking, ecotourism trips for cruise participants or even different forms of travel aimed at exploring and interacting with wildlife or exotic cultures.

MATERIALS AND METHODS
Study area

Pastanga-Khedi Eco-Trail (PKET) is located in the catchment of Taktsom Chu River, occupying an area of 35.42 km² in the East district of the Eastern Himalayan state of Sikkim, India. For PKET, Pastanga, Assam Lingzey is the starting point, about 30 km from Gangtok crossing Ranipool in East Sikkim District. It (PKET) extends from an altitude of 1,400 m - 2,800 m. It takes 8 hours of an adventure trek from Pastanga village uphill to Khedi Tar (Figure 2 and 3). The village is an very good place to witness Mt. Kanchendzonga (the third highest mountain in the world) renowned Rumtek monastery on the hill opposite to the village. Both of these are worth seeing from Pastanga (Lama, 2014). The Pastanga village is inhabited by three ethnic communities, namely Rai, Bhutias and Lepchas, with a total of 112 households constituting around 500 people (Primary survey, 2021). However, most of the population are predominantly farmers and earn the livelihood through traditional organic agriculture. Besides, horticulture practice and dairy farming are also practiced. The notable attractions of the village includes *Cymbidium* orchids, rhododendrons *(Rhododendron arboretum; R. grande* etc), and various species of birds such as Sikkim treecreeper *(Certhia discolor)*, Blue-fronted Redstart *(Phoenicurus frontalis) etc*. The village has been one of the main producers of large cardamom *(Amomum Subulatum)* and ginger *(Zinziber officinale)* in the state of Sikkim (Primary survey, 2021).

Except for a few natives, the trail's historical significance of the village is that it served as a shortcut route for minor business people from Tibet and Sikkim before 1962. Before 1942, it was also a vital commerce route between Sikkim and Tibet (Arora, 2013). The area is serenely covered with dense virgin forest, verdant pastures at certain points, bamboos (*Bambusa nutans; Dendrocalamus sikkimensis etc.*) and is rich in trees diversity such as *Schima wallichi*, *Macaranga pustulata etc.* The NGO Khedi Ecotourism and Ecodevelopment Promotion Society (KEEP) was established to promote the protection of the local surrounding valuable environment. An important point from CBET's point of view was the fact that local residents participated in the establishment of the office (donated the land on which the office was built). In the initial phase (2004), a website (www.sikkimhomestay.com) was also set up to raise the profile of CBET's activities not only in Pastanga but also in the surrounding villages with similar programmes (focusing in particular on an initiative called Sikkim Himalayan Homestay). The success of the Sikkim Himalayan Homestay initiative is evident from the fact that nearly 47% of families in Pastanga participated (Peaty, 2009). It was an interesting form of assistance for the locals. They were not discouraged by the Rs. 100 per year fee and the membership fee of Rs. 500 that had to be paid (Peaty, 2009). This initiative was organised by the Ecotourism Conservation Society of Sikkim (ECOSS) with the support of UNESCO.

The design of the study was based on our own field research in the Pastanga-Khedi eco-trail situated in the Sikkim State of Eastern Himalayan, India. The study utlilizes the primary field data which was also supplemented with data from the Forest and Environment Department, Government of Sikkim, http://www.sikkimforest.gov.in/ and other publicly available sources. The base map was prepared after collecting Ground Control Points (GCP) using ArcGIS software. Standard processing methods using Geographical Information Systems tools were used at the preparation of the maps. The ancillary / collateral information was integrated with the primary data, and basic statistical analysis was done to derive the results. The flowchart of methodology is presented in Figure 1.
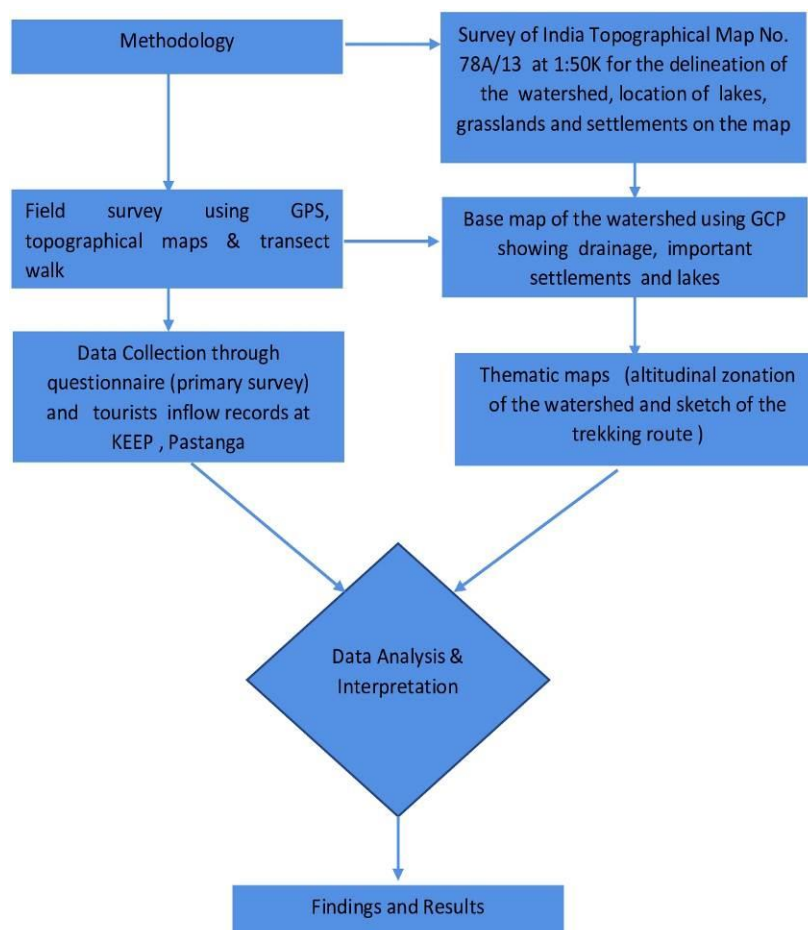
Figure 1. Methodology adopted for the present study

RESULTS AND DISCUSSION
Sikkim Case Study

The contribution of tourism to the mountain economy in the Indian Himalayan Region (IHR), is quite significant (Sharma et al., 2009) and increasing substantially. The diverse landscapes and rich cultural heritage of the Eastern Himalayan Indian state of Sikkim have attracted tourists, pilgrims, naturalists, explorers, trekkers, mountaineers and adventure travellers (Uprety and Sharma, 2012). Tourism in Sikkim mainly thrives on high-altitude landscapes, alpine lakes and biodiversity associated with the high-altitude geologically fragile area and sensitive habitats (Joshi et al., 2012). In other words, tourism in Sikkim is more or less natural or culture-oriented (Rai et al., 1998).

Nature-tourism is based on travels to relatively undisturbed or uncontaminated natural areas and constitutes about 15% of all tourism (Adams, 1995). The main goal of adventure tourism is to seek unusual tourist experiences, adventure associated with travelling to unusual, little explored places or visiting other cultures. Travel in this case is exploratory in nature. The key differentiating aspect is the emotional experience stimulated by the experience underpinned by intellectual activity (Buckley, 2007; Matlovičová et al., 2015; The Economic Planning Group of Canada, 2005).

It has been previously reported that the eco-tourism performance in Sikkim has achieved economic, social and ecological dimensions of sustainability (Bhattacharya and Kumari, 2004). There is an ever-increasing emphasis on ecotourism because of its relevance and imperative need for protecting fragile character of the environment in its specific mountains stations (Chakrabarti, 2009). In the 1990s, there was an increasing emphasis on the tourism in Sikkim, a number of village tourism sites was developed and they wereentrusted to community control (Joshi and Dhyani, 2009). Subsequently, due to increasing importance of ecotourism, the Government of Sikkim has been taking pro-poor, pro-community and pro-environmental initiatives to develop adventure, cultural and pilgrimage tourism and

also rural and domestic tourism as part of a wider view of ecotourism (Dahal, 2015). As far as adventure tourism in Sikkim is concerned, it includes mountaineering, trekking, mountain biking and water rafting.
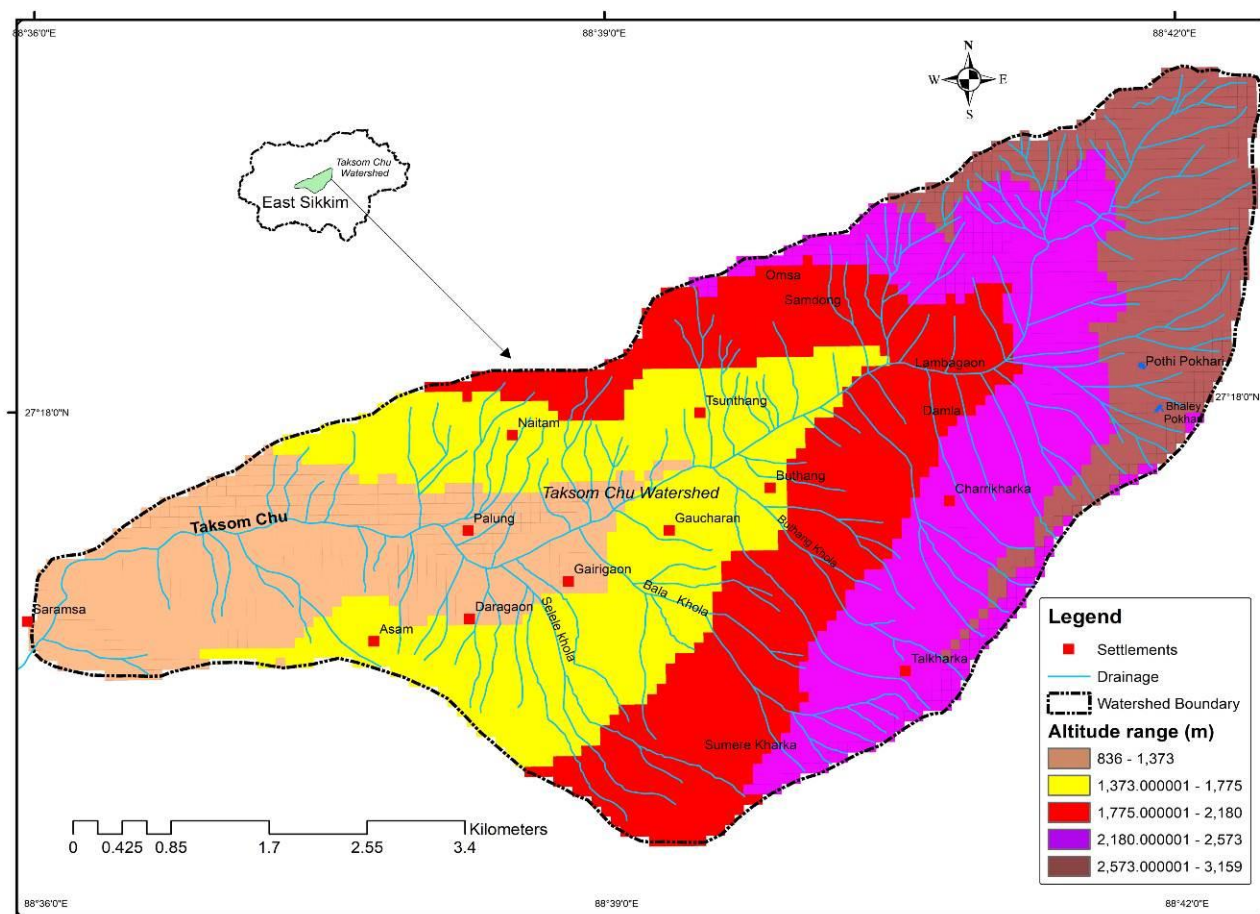
Figure 2. Location of Khedi Pokhori in Sikkim (Source: prepared by Dilli Ram Dahal)

For few decades in the past, many inhabitants of Sikkim have found a new opportunity to host tourists as guests in their homes. Such kind of tourism, commonly known as "Community Based Ecotourism" is gaining popularity and offers the opportunity to experience the local culture, cuisine and interaction with the Community for a reasonable price. Pastanga-Khedi eco-trail (alt. 1,400 m - 2,800 m) in Taktsom Chu valley, East Sikkim is one of the ecotourism destinations for contributing and sustaining the Community based rural tourism. The Khedi Eco-Tourism and Eco-development Promotion Society (KEEP), Pastanga based non-governmental organisation has been maintaining and organising the eco- treks along the trail since its inception in 2000-2001.

Figure 3. Pastanga village (1,423 m) - Take off point to Khedi Pokhari
(Source: Photo by Santosh Sharma, October 17, 2021)

Trekking from Pastanga Village to Khedi Pokhari

The importance of PKET to domestic and foreign tourists has already been highlighted by researchers and the locals (Sharma et al., 2009; Verma, 2012). Khedi (2,700 m) is a huge undulating stretch of land on the top of a ridge. The five-day trek to Khedi Pokhari starts from Pastanga and after passing through multiple tourist destinations of halt such as Bothong, Damla, Chowri kharka (pasture land), Gorujuray, Rametay and Dobato, Dhungel Kharka (pasture land), Tal kharka (pasture land) and Dudiley Tar (pasture land) - finally Khedi Pokhari can be reached (Figure 4). This high forest near Gorujurey belt has been known for breeding groundof Red panda (*Ailurus Fulgens*) in Sikkim.

These multiple tourist destinations are yet to be registered in the tourism map of Sikkim. It is to be noted that from the Chowri Kharka the vegetation profile changes dramatically from subtropical to temperate forests. Between Gorujurey and Khedi Menla, there are two lakes located little away from each other. The end destination for any visitors

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is reaching Khedi Menla which is close to Tsomgo Lake in East Sikkim from various pathways. Assam Lingzey, Gaucharan Pastanga and Parakha Rolep Rongli provide a takeoff point for the visitors foraying into the high forest trekking. Towards the Khedi Chawri kharka site, the river Taktsom Chu originates; besides various other rivers such as Bala khola, Tharo Khola and Seleley khola emanate from these high forest areas and provides drinking and irrigation water sources for the villagers downstream such as Namrung, Pastanga, Lingzey etc.
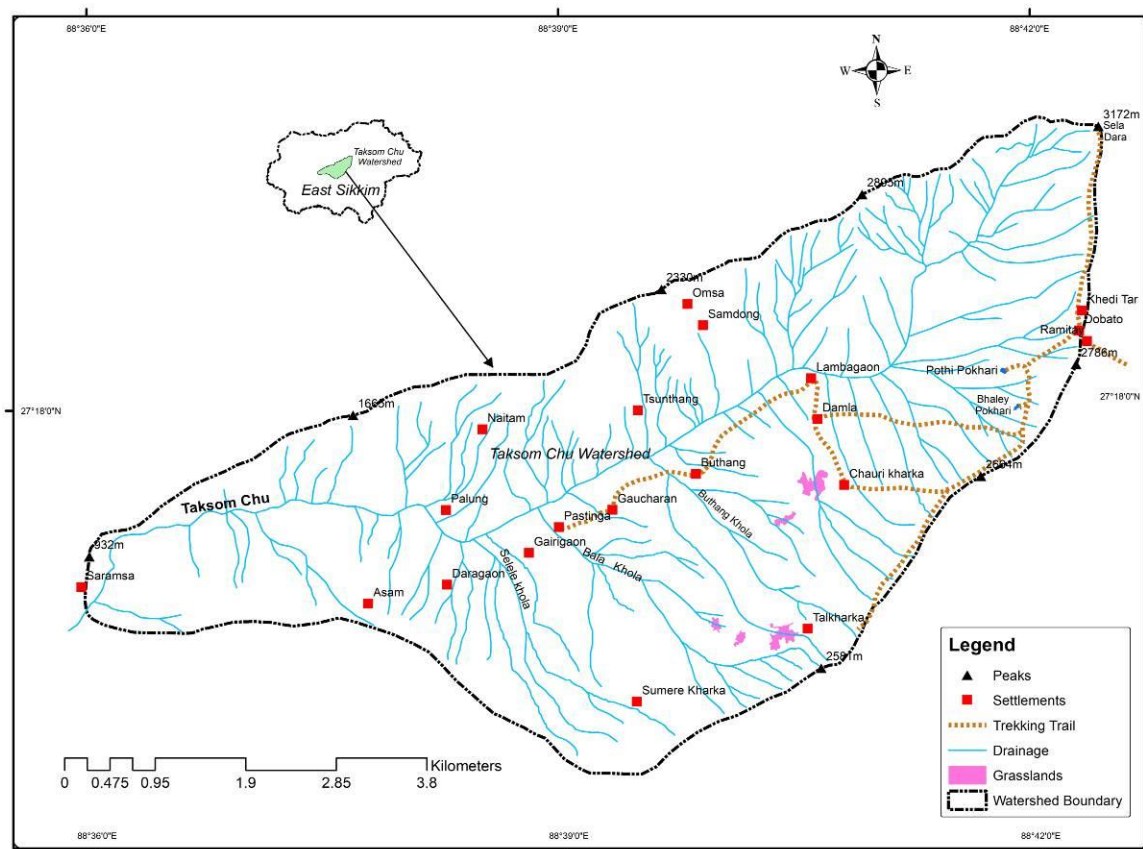
Figure 4. Trekking route of the Khedi Pokhari from the Pastanga Village (Source: prepared by Dilli Ram Dahal)

Khedi Pokhari and its Significance

The Khedi Lake can be reached by an adventurous uphill trek of 8 hours from Pastanga village. Located in the midst of the dense bamboo forest at an altitude of 2,627 m above mean sea level (amsl) in the North Eastern corner of Taktsom Chu Watershed (Figure 4), It consists of two lakes locally known as Bhaley Pokhari (male) and Pothi Pokhari (female) fed by natural streams and snow melt (Figure 5).

Pattern of Trekkers Visiting Pastanga-Khedi Lake

Every year the local trekkers prefer to trek along Pastanga-Khedi Lake on the Hindu festival: "Ram Navami" to offer the prayers to fulfill their wishes. A temple of goddess Durga and a line of colourful prayer flags on the banks

Figure 5. Khedi Pokhori (Lake) – High-altitude natural lake, East Sikkim (Source: prepared by Santosh Sharma, October 17, 2021)

of the sacred lakes mark their sanctity. The water of both lakes has been feeding the turbulent Taktsom Chu. Figure 5 shows that the trekking to Khedi is mainly of the domestic kind (Indian tourist). On an average, the foreign tourists who have trekked to Khedi comprise only 18.11% of the total trekkers from 2002-2021. An analysis of the tourist's data revealed a fluctuating trend from 2002 to 2009. There was a steep rise in the number of trekkers (both domestic and international) from 2002 to 2003 (83.15%). In the year 2004, 2005 and 2006 there was a declining trend (negative growth rate) of - 35.14%, - 32.02%, - 84.33% respectively. In 2007 and 2008 there was again a gradual rising pattern (21.69%, 23.74%) followed again by a sharp decline of - 54.44% in 2009. The number of visitors from 2010 to 2021 declined sharply with less than 25 visitors mostly domestic, while less than 5 visitors on annual basis (Figure 7).

Figure 6. Domestic Tourist trekking to Khedi Pokhari, 2002-2021(Source: KEEP, Pastanga, Assam Lingzey, East Sikkim and Questionnaire Survey-2021)
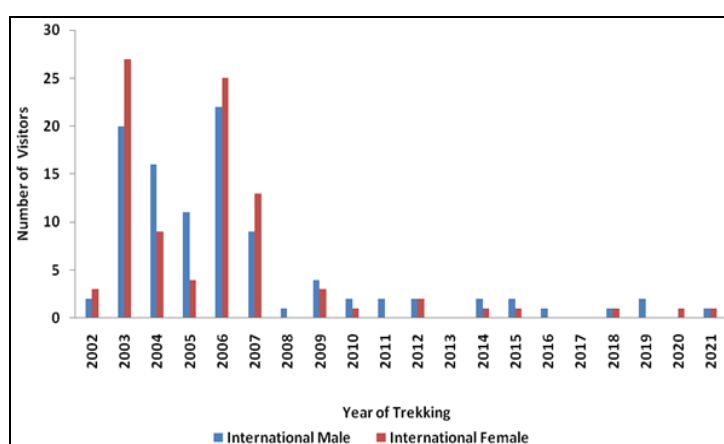
Figure 7. International Tourist trekking to Khedi Pokhari, 2002-2021 (Source: KEEP, Pastanga, Assam Lingzey, East Sikkim and Questionnaire Survey-2021)

Table 1. Domestic and foreign trekkers to Khedi Pokhari from 2002-2021 (Source: KEEP, Pastanga, Assam Lingzey, East Sikkim and Questionnaire Survey-2021)

Statistical Parameter	Trekkers statistics	
	Domestic	Foreign
Mean	53	9.6
S.D.	66.33	14.59
Min.	02	00
Max.	226	47

Almost all countries have been planning to promote Community Based Tourism, especially in rural areas, for the well-being of local people (Chaudhary and Lama, 2014). Tourism and Civil Aviation Department (T&CAD), Government of Sikkim (GoS) has identified and recognised several eco-treks in the state of Sikkim such as Yoksom-Dzongri-Goechela eco-treks West Sikkim, Tholung-Kishong inDzongu Valley, North Sikkim, Golitar-Tinjurey and Pastanga-Khedi eco trails in Rongni and Taktsom Chu valleys, East Sikkim.

The Pastanga-Khedi adventure trekking was being managed in a sustainable way by increasing the awareness of conservation issues amongst domestic and foreign tourists. The visitors were accommodated in a home stay and treated as family members. They were able to understand the local traditions, and food habits, observe their lifestyle, and participate in the celebration of festivals, dances, rituals and other forms of cultural expression. Homestay was offered to serve the guest on rotation basis, so the economic benefits could be gained by every family. Apart from the pleasure of being amidst a peaceful and serene environment, tourists could also enjoy the traditional folk dances and music presently the local men and women in their colourful traditional dresses. The highlights of this trek are that there are lush green thick rain forests and, thick bamboo vegetation, rich wildlife. There are altitudinal vegetation changes that take place from thick conifers to Rhododendron forests. Huge rock cliffs and caves are seen all along the way, and birds are found in every creek. Panoramic views of Third highest Peak Mount Khangchendzonga (8,598 m) and Paro Valley of Bhutan can be seen from Khedi.

From the Sela Pass (3,150 m) view of Chhangu glacial lake (3,780 m) and Kupup area (world's highest golf course, 3,980 m) can also be witnessed. The Khedi Ecotourism and Eco-development Promotion (KEEP) Society in the village facilitates the trekking of visitors in a responsible way by providing with all essential items, trained discipline guides and porters to extend all help to make journey memorable and environment safe. It has developed Home Stays with the help of the villagers. It is an ideal example of ecotourism in a small scale in which local Community is involved.

Khedi Pokhari with its surrounding watershed is pristine and has its longevity in terms of its health. There is no or very little fuel wood removal at various points along the trekking trail. The trekking trail has not disturbed and degraded the vegetation type, structure, species regeneration and bird and butterfly richness. There is no impact of tourism especially on the camping sites and the pastures by pack animals. Further, there is abundance of various species of flora and fauna, so it is the destination for naturalist and nature lovers. A migratory bird species Brahminy Duck (*Ruddy Shelduck*) and Red state animal of Sikkim Panda (*Ailurus fulgens*) could be sighted during the course of the trek. The presence of numerous species of rhododendrons such as *Rhododendron grande*, *R. arboretum*, *R. barbatum and R. vaccinioides* is special characteristics of the vegetation around the lake.

To accelerate the development of the Pastanga-Khedi T&CAD and GoS eco-route, a wide footpath has been constructed from Pastanga village to Khedi Tar. Mela (social gatherings) were organized to promote and increase awareness in the Khedi Tar eco-route. The promotional activities were successful (between 2002 and 2009 the eco-trail was able to attract numerous groups of domestic and foreign tourists). Pastanga village was identified as among successful case studies of rural tourism in the evaluation studies of the Government of India (Ministry of Tourism, Government of India, 2012). However, there was no trekking along Pastanga–Khedi Eco-trail during 2010-2020. It has been reported that an area's trekking status depends on the status of attraction, accommodation, accessibility, amenities and administration (Premangshu and Sadhukhan, 2018). Additionally, satisfaction of visitors with the ecotourism experience is essential to long-term viability of the ecotourism industry (Oommen, 2016). It needs to be noted that 80%

of the visitors to Sikkim come for general sightseeing, principally to see its nature and the spectacular mountain views and snow (Rizal and Asokan, 2014). They are specially the domestic tourists. Whereas foreign tourists visit Sikkim especially for river rafting, trekking, mountaineering and research, this is mainly possible in the winter season (Rizal and Asokan, 2014). The visitors travelling to Sikkim from various parts of India and abroad prefer the local sightseeing places such as Honey falls, Rajapokhari, Molaso viewpoint, *Cymbidium* Orchid Centre, Saramsa Garden etc. which are in close vicinity to the Pastanga village. It seems the main reason it seems, was lack of marketing on the part of KEEP and the decline of interest in trekking by the visitors. It is argued that community-based ecotourism enterprises are failing because of several obstacles, such as unequal allocation of economic benefits, little or insufficient marketing skills, and insufficient infrastructure (Regis and Matikiri, 2015). During 2010-2020, there has been the formation and development of many private home stays such as Malingo, Pahunaghar, Yakchiri, Streamland etc. Due to lack of international and domestic visitors trekking to Khedi from Pastanga, the role and significance of KEEP has declined during this period (2010-2020). However, during the survey it was found that the number of trekkers from the state of Sikkim has increased in the forest areas leading upto the Khedi. A lack of 'communities' capacity to take advantage of ecotourism development was the main reason for the declining /no visitor's trend in the study area.

CONCLUSIONS

The tourists trekking to Khedi Pokhari presents a fluctuating trend during 2002-2009 and a declining trend from 2010-2021. On average, foreign tourists who trekked to Khedi comprise only 17.02% of the total trekkers during the study period 2002-2020. During the decade 2010-2021 the trekking to Khedi was insigificant. This could be attributed to various reasons (5As) regarding the trekking status of the study area. It needs to be that the ecotourism potential of the PKET has not been fully converted/developed for the economic, environmental and cultural sustainability point of view, especially considering its proximity to Gangtok, the capital city of Sikkim. Potential capacity barriers to ecotourism development within local communities are as (Strasdas et al., 2007):

a. Potential Capacity Barriers Lack of formal education or literacy skills,
b. Lack of language skills, national or foreign,
c. Variation in ways of handling little, hygiene, and upkeep of infrastructure and buildings lack skills in food preparation catered towards tourists,
d. Different concepts in time and time management,
e. Lack of planning skills concerning possible consequences of tourism and inability to control tourism development.

Possible Causes of Lack of Visitation to Protected Areas and Tourism (Leung et al., 2015):

a. Possible Causes for Lack of Visitation to Protected Areas and Tourism,
b. Lack of market awareness among travellers and the tourist sector,
c. Access to protected areas is difficult and costs significant time and money,
d. Lack of tourism infrastructure,
e. Lack of tourism support services and facilities, such as restaurants and transportation
f. Lack of natural and cultural attractions,
g. Lack of unique selling points compared to competing destinations elsewhere,
h. Poor quality of tourism products,
i. Tourism products not matched to market demand,
j. External factors: political instability, war or conflict, terrorism threats or human rights issues.

Analysis of the survey questionnaire results shows that the Community of the study area is fully aware of the importance of ecotourism in sustaining their livelihood. According to them the visitors love to experience traditional Sikkimese village life in the area. Hence, they perceive Community Based Tourism as the only way which can provide mutual benefits to both the locals and the visitors. The CBT provides not only the employment to the local youths but also helps in generating adequate income sources (Koti, 2019; Nemethova, 2020). The CBT have made them see the value/importance of their locality after the arrival of a visitor from different parts of the world and India. It has made them to realise that apart from the Government Service, the CBT can also help them as a sustainable source of Income for the Community. The main strength of CBT in the study area is that the area is located close to Gangtok which can serve as a base point so that visitors can easily visit their area from /after visiting Gangtok. Secondly, the area is very rich in biodiversity components so that the visitors can also enrich their knowledge on the different biodiversity components of the study area. The study area has falls, ponds and many rivers where the various spots can be identified for renovation so that more and more visitors would be attracted to the place for photography, studying of biodiversity, sustainable fishing etc. As far as trekking is concerned, the main challenge is the lack of infrastructure such as medical aid on the way to Khedi which is the reason why the visitors have been avoiding the trekking from Pastanga to Trekking. According to the villagers, the trekking is meant only for the wildlife enthusiasts and not the common visitors who are with family and likes to cover some sightseeing places in a short span of time and return. The main challenge as has been highlighted by the residents is the lack of health facilities while trekking from Pastanga to Khedi Lake. The trekkers are afraid that in the absence of health facilities, they will be risking their lives while trekking. Besides, there is no place where they can take a safe halt. With tents the trekkers with family members do not feel safe at all.

It needs to be noted that the virginity of the high forest's areas of Gorujurey reaching Khedi Menla and joining the National Highway Road at Kyongnosla side near Tsomgo Lake is going to be lost due to the proposed construction of a

National high-way road being built by the National Highway Corporation of India Limited (NHIDCL) under the Ministry of Roads, Transport and Highways, Government of India, New Delhi for security reasons. Efforts needs to be made so that minimum damage is caused to the ecological integrity of the area for sustaining the trekking and Community-based tourism activities in the study area. The villagers feel that the proposed construction of a National high-way road from Barapathing to Changu Lake via Khedi will pave the way for attracting more tourists in the coming years.

The Sikkim Ecotourism Policy (2011) is in place to be executed by the various stakeholders for achieving economic and environmental sustainability, KEEP can play a pivotal role in promoting PKET as it had done for one decade after its inception. The natural beauty of the Khedi Lake is yet to be explored fully in terms of natural wealth of flora and fauna and should be regulated by the State Government for regular tourism. If promoted properly, the PKET has the potential to provide continuous round-the-year sustainable incomes for everyone. In the recent past (2019), the T&CAD, GoS formulated 'Sikkim Home Stay 'Standard' which contains guidelines and parameters for offering quality homestay experience. It should provide much-needed impetus for revamping the Community based tourism and adventure tourism in terms of trekking the Pastanga-Khedi Eco-Trail. Among different forms of sustainable tourism that can address local reality and are based on Agenda 2030 of Sustainable Development Goals (SDGs), Community based eco-tourism is one such form of tourism that can be considered for this region.

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WHAT DRIVES THE TOURISM INDUSTRY IN SAMARINDA? AN EMPIRICAL EVIDENCE

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Abstract: Currently, tourism activities depend not only on what is visible but on a synergistic effort to attract visitors. If they don't make repairs immediately, their interest will slowly dwindle. This situation has become a high enigma and attracted us to identify the relationship between visitors' bonding, city branding, technology adaptation, innovation and creativity, and market segmentation. It described the explanation with the support of 1,278 informants, where we interviewed them while visiting six popular destinations in Samarinda. Using a convenience sampling procedure, we processed the survey data through multiple regression and IBM-SPSS software, which analyzed two structures (direct path and mediation path). The terms that are significant or not significant are $p < 0.05$ for direct effects, and special moderating effects are $p < 0.01$. Exploration showed official outputs, including a positive-significant relationship from visitors bonding to technology adaptation, innovation and creativity to city branding and market segmentation, innovation and creativity to city branding through market segmentation. Unexpectedly, city branding has a positive but not significant effect on visitors' bonding, technology adaptation and innovation and creativity. The results are negative but significant, and technology adaptation has a negative-not significant effect on market segmentation. The novelty of this paper has implications for strength, opinion, and decomposition that need a discussion on the future agenda.

Key words: destination, tourism industry, convenience sampling, perception, SPSS

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INTRODUCTION

In this 21st era, the world of marketing continues to experience significant transformations, including drastic changes in tourism management that pay attention to the wishes and responses of visitors through revitalizing the image of the tourist destination itself (Priatmoko et al., 2021). The tourism industry will never stop presenting the latest breakthroughs to attract people to travel (Ramadania et al., 2021). Therefore, trends need to be created to evaluate theoretical developments and improve tourism management for the better (Stankova and Vassenska, 2017). Referring to the concept of economic development, tourism is the only service sector that comes from nature or is made by humans that contributes inclusively to economic growth (GDP) in a country (Bushati, 2017). They can use this potential from the presence of the tourism industry, and its sustainability depends on the will of the local community, the attention of the government, and the attention of the world. If they do not clean up immediately, their interest will slowly dwindle.

GDP growth has a unidirectional causality affecting the tourism sector in the long run. Both relationships emphasize business improvements and modifications to improve economic performance within the framework of expansion in the

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tourism sector (Lee and Chang, 2008). Launching from Data Books (2016), Cambodia is the region with the highest contribution of the tourism sector to GDP in ASEAN, up to 29.9% in 2015. This achievement beats nine other countries such as Thailand (20.8%), Laos (14%), and Vietnam (13.9%), which respectively ranked 2nd, 3rd, and 4th. Specifically for Indonesia, this sector's contribution to GDP is the lowest and places Indonesia in 7th position. With a contribution of only 9.6%, the tourism sector gains in Indonesia are smaller than in Singapore and Malaysia, where the two countries achieved added value from the tourism industry of up to 10% and 13.1%, respectively. However, the value of revenue from the tourism sector in Indonesia is the most dominant, collecting around IDR 1,070 trillion. On the other hand, tourism, which is the mainstay sector in Thailand and is a tourist destination that is the prime destination in ASEAN, only penetrated Rp. 1,060.80 trillion. After the outbreak of Covid-19, one sector affected is tourism. Globally, the tourism industry's contribution to GDP fell drastically and only picked up 3.7% throughout 2020.

According to Data Books (2021), the area hardest hit by the slump in the tourism industry was the Caribbean. As is well known, tourism is one sector hardest hit by the pandemic tsunami. This also happens all over the world, including Indonesia. Northeast Asia, Southeast Asia and the Middle East also hit, packing 56%, 53% and 51%, respectively. Interestingly, Southeast Asia suffered significant losses because of the Covid-19 crisis of US $146 billion.
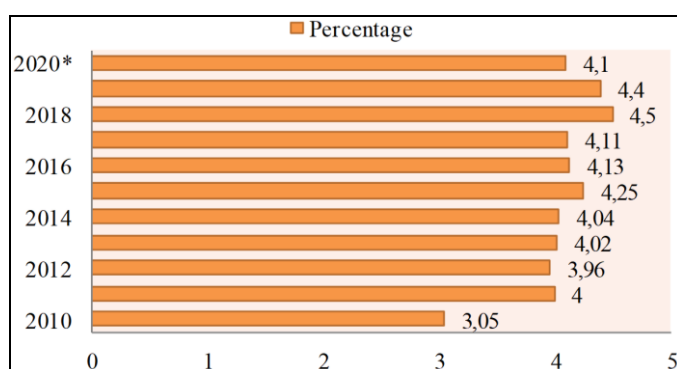
Figure 1. Tourism sector trends to GDP, 2010-2020 (Source: Data Books, 2021; *projected figures; **Label: X-axis is growth & Y-axis is period)
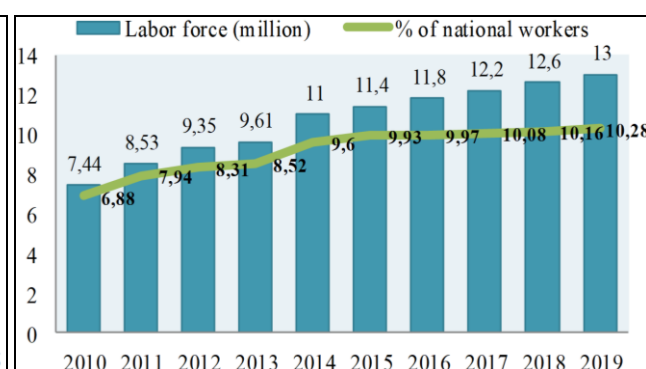
Figure 2. Employment in the tourism sector, 2010-2019 (Source: Data Books, 2021; *Label: X-axis is period & Y-axis is growth)

Negative stigma continues to emerge if you see that the tourism industry in Indonesia is only stagnant and is projected to lose to revolutions in other sectors (such as agriculture, manufacturing, and trade) if there are no bright ideas in creating competitive added value (Zarkasyi et al., 2021). As an illustration, those who are engaged in travel, hospitality, and restaurants are under great pressure and fear making choices by firing employees, reducing salaries, or closing their businesses. It noted that the escalation in the role of the national tourism industry over the past decade had experienced difficulties. Figure 1, which highlights its contribution to GDP performance, is also not very encouraging (Data Books, 2021). There was 4.05% (on average) contribution of the tourism industry to the national GDP during the 2010-2020 period. The most serious thing is in 2020, since Covid-19, the tourism sector requires a long recovery process and time.

Orîndaru et al. (2021) predict that it is likely that the conditions of the tourism industry will return to normal in 2024, where the contribution will be approximately around 4.5% from lax policies to attract tourists' attention through the promotion of flights, cheap lodging, visa waivers, and discounting entry tickets. In 2019, the tourism industry's contribution to the national GDP was 4.7%. So far, the growth of the tourism industry in Indonesia has never reached 5%.

The proportion of workers in the tourism industry to employment from 2010 to 2019 reached 9.7% from 10.69%. We should note that the labor force in question is defined as those who have been absorbed in the labor market from various economic fields and classified in the productive age, that is, 15 years - 64 years (Rahmatika et al., 2020; Hidayati and Faiz, 2020). In 2019, employment of 13 million people. The number increased by 4.17% compared to 2018. Turning to August 2019, there were around 10.28% of workers in the tourism industry as compared to 13% of national workers. This proportion has been increasing since 2010. Something has actually contained the exact scenario in the 'market share concept' which is practiced as a way and how to bring about the desired change, including in the tourism industry (Bolarinwa and Obembe, 2017; Edeling and Himme, 2018; Setini et al., 2020).

Great attention has been paid to the tourism industry in Indonesia by devolving its management down to the smallest (regional) level. Darma et al. (2020) concentrate on the key factors that affect the intensity of tourist visits, where they assess five elements, including income, attractions, travel costs, facilities, and time. Citing Aldianto et al. (2019), Mareque et al. (2021), and Richards (2011) that the inability of the government and local communities to encourage city branding, technology adaptation, innovation, and creativity, has the potential to trigger market segmentation and negative visitor bonds in assessing the feasibility of certain tourist destinations. Ideally, ineffective handling of tourist destinations will give rise to poor reactions and enthusiasm from visitors reactions (Roy et al., 2021).

There are monumental challenges and opportunities in the tourism storefront. From a business perspective, we need a synergistic stage with studies that concentrate on marketing and branding, which are the questions in this paper:
- Research Question 1–What is the relationship between visitors bonding and technology adaptation?
- Research question 2–What is the relationship between city branding and visitors bonding?
- Research question 3(a)–What is the relationship between technological adaptation and innovation and creativity?
- Research question 3(b)–What is the relationship between technology adaptation and market segmentation?

- Research question 4(a)–To what extent are innovation and creativity related to city branding?
- Research question 4(b)–To what extent are innovation and creativity related to market segmentation?
- Research Question 5–What is the relationship between market segmentation and city branding?
- Research Question 6–To what extent is visitors bonding related to innovation and creativity through the role of technology adaptation?
- Research Question 7–To what extent is innovation and creativity related to city branding through the role of market segmentation?

LITERATURE REVIEW AND CONCEPTUAL
Visitors bonding

The visitor bond is a new embodiment of the 'customer bond' theory, which is reviewed as a dynamic zone referring to the demands of the times. Cann and Burger (2015) suggest that to achieve a higher level of customer emotional attachment, combining their intentions and significant means to lead to professional maintenance and long-term commitment is necessary. The relationship between the seller and the buyer gave birth to a new concept widely reviewed and developed by academics and practitioners. In the tourism industry context, visitor bonds often empower public facilities provided by destinations, such as tourist attraction information, maps, and social media, to continue to adapt and allow them to have fun (Heimtun and Abelsen, 2011). The motive of time and money invested cannot be replaced by the level of satisfaction. This makes them share experiences with family and friends in the future. Environmental psychology talks about how communication can be two-way. The place factor supports a positive atmosphere to represent social bonds in individual relationships to adjust communal bonds through people's interactions (Ramkissoon et al., 2014). Innovation and creativity do not arise. Therefore, the visitor bond must adapt to technology enthusiasts who are quick in their role in creating a systematic impact that is enjoyed by all, including the goal of producing a sustainable effect (Zhao, 2005; Becker et al., 2017). We plan the two hypotheses below:

Hypothesis 1–Visitors' bonding has a positive and significant effect on technology adaptation.

Hypothesis 6–Visitors' bonding has a positive and significant effect on innovation and creativity through technology adaptation.

City branding

Castillo-Villar (2019) defines 'city branding' as a tool to package competitive advantages for cities to increase tourism attractiveness, expand local identity, minimize social exclusion and investment interest. Bonakdar and Audirac (2020) continued that the approach to city branding is more appropriate to support the city's image effectively. The current discussion places more emphasis on two strategies. The first is an urban landscape design and public analysis of the city's image. They need a proper conceptual framework to link the two indicators into a single process representing social forces and human interaction. It urged cities to create something valuable and widely recognizable as a 'brand'. It has largely ignored the interest of the city authorities in supporting the aspirations of the population, as it tends to only the 'city brand'. In reality, city's branding strategy leads to successful operations in every political campaign, without thinking about the benefits of local wisdom, community identity, competitive bridges, and conversations with tourists (Kusakabe, 2013; Ginesta et al., 2020). Jojic (2018) views that politically based parties have underestimated the meaning of pre-history and local culture owned by the population. They undermine the intent and purpose of the city's natural strategy. Indeed, this is unrealistic, increasing the wishes of the population ignored, thus ignoring their true identity. A real phenomenon that cannot be avoided is tourists' perceptions influenced by residents' attitudes. This is tied to where they work, play, and home. One hypothesis is formulated:

Hypothesis 2–*City branding has a positive and significant effect on visitors' bonding.*

Technology adaptation

Taherdoost (2018) understands the meaning of the future with its 'technology adaptation model'. The early stages of any business need to learn about personal acceptance and recognition of each need to provide future solutions. The emergence of debates from academics about things that are rejecting or encouraging acceptance of technology is an issue that is always viral until now. They have adapted several frameworks to describe new technologies. Users can, of course, receive all relevant information in different parts of the world. Literacy on technology adaptation is about reviewing the 'concept of technology adoption'. Along the way, it applied this conceptualization with 'technology theory' for future researchers to understand and differentiate from the limitations of previous technologies (Lai, 2017).

The key to using technology is to generate brilliant ideas. Hence, rapid technological transformation, changing people's creativity and generating innovation offer competitive advantages (Acar et al., 2019). Although efforts towards innovation and creativity are constrained by deadlines, scarce resources, rules, and regulations, they still attract great interest in marketing management, industrial organization, organizational behavior, organizational management, entrepreneurship, and information. An integration mechanism that brings about transitions in innovation and creativity can facilitate cross-disciplinary learning to set the stage for the future.

Market segmentation is better driven by innovation and creativity, referring to 'entrepreneurial theory'. The perspective of these two hierarchies is a must in the business sustainability process. A semi-formal process from the institution enhances creativity and innovation to realize market success. Components of market segmentation are not always purely connected. Business literacy must complement success with foresight through innovation and creativity (Juliana et al., 2021). Referring to theoretical and empirical assumptions, we propose the following two hypotheses:

Hypothesis 3(a)–*Technological adaptation has a positive and significant effect on innovation and creativity.*
Hypothesis 3(b)–*Technology adaptation has a positive and significant effect on market segmentation.*

Innovation and creativity

Masson et al. (2017) analyzed three differences between innovation and creativity. First, innovation is not necessarily a new thing in the organization, but usually as adoption, creative reactions, and processes that arise from imposed restrictions. Second, creativity can involve various generations with creative ideas, but they do not have to be implemented in a system. Instead, innovation must practice and introduced 'deliberately' in better or new ways. Third, in its application, innovation must refer to the principle of benefit at a certain level of analysis, but this does not apply to creativity in certain cases. Thus, the inherent components of innovation and creativity can relate depending on the organisation's values or goals.

The competitive environment serves to produce contemporary cities. Comparative advantage is success in implementing various strategic instruments. We cannot separate the attractiveness of a tourist destination from effective branding. Therefore, penetration is needed by strengthening innovation and creativity (Dudek Mańkowska and Grochowski, 2019). Branding strategies most often use these two things. The potential of local wisdom is a way to package innovation to present positive attributes. The 'smart city concept' also arises from a series of diffusion in innovation and creativity. As expressed by Ayu et al. (2020), if the understanding of stakeholders in the current era has optimized clustering techniques that are concentrated on the 'creative economy. It efficiently realised the importance of awareness to form a new face in line with the desire to improve city branding. On this occasion, they consider economic restructuring through creativity as the initial foundation to prove the city's image expectations for making strategic plans. Rodrigues and Schmidt (2021) present a valuable proposal that the forging factor is a component of the 'branding' discipline, whereby city policies are based on high relevance to tourism and hospitality management. In fact, in a 'creative city', it is more interesting to relate it to its contribution to a city's brand identity by making a breakthrough in marketing.

Most cities across Europe have improved by incorporating marketing methods, philosophies and administrative techniques into their governments. The causes of misalignment and city operational difficulties are supported by transferring marketing knowledge. Cities are assets that have the potential to be marketed. Branding a city is the right way to implement and describe a city (Kavaratzis, 2004). The starting point depends on communication, image management, and city construction. The concept of 'corporate branding' can change to apply to cities.

On the one hand, city branding pursues economics, but city identification requires communication channels among city residents. The need for relevance of the framework clarifies a process involving multiple communities to increase investment, competition, tourism and resources. We formed three hypothetical statements:

Hypothesis 4(a)–*Innovation and creativity have a positive and significant effect on city branding.*
Hypothesis 4(b)–*Innovation and creativity have a positive and significant effect on market segmentation.*
Hypothesis 7–*Innovation and creativity have a positive and significant impact on city branding through market segmentation.*

Market segmentation

Danneels (1996) states that a crucial concept in marketing is fixing market segmentation. Although there are few publications on its application to business development, segmentation in higher education is quite popular (Chen and Hsiao, 2009). The world of education has adopted 'marketing segmentation theory' in analyzing each cluster to report individual abilities. Intense business competition causes people to enter a strong 'competition arena'. The behavior of the market adjusts to demand so that the form of supply will target the impulse of repeated interactions.

The point of view on the competitive side is designed with the organisation's involvement to win the competitive market. Sari and Nurhadi (2019) align strategies in market segmentation based on the marketing mix and value. Through the concept of 'positioning', 'segmentation', and 'targeting'. The target market is selected by utilizing social media such as Facebook and Instagram, where consumers will be classified into two groups. As a result, the ad prototype has proven to be effective in stealing their attention, focusing on city branding. From here, it structured the arguments as follows:

Hypothesis 5–*Market segmentation has a positive and significant effect on city branding.*

Design and content

We formed the model for combining the basic content of 'marketing management', 'branding', and 'TAM' in one interior (eg Nistor, 2019; Pantano and Di Pietro, 2012; Galib et al., 2018; Hsu, 2016; Rokka, 2021). The components of the selected variables become a unit. Based on the research questions and proposed hypotheses, nine points are divided into seven problems analyzed directly and two problems investigated by reviewing the role of technology adaptation and market segmentation as mediation (Figure 3).
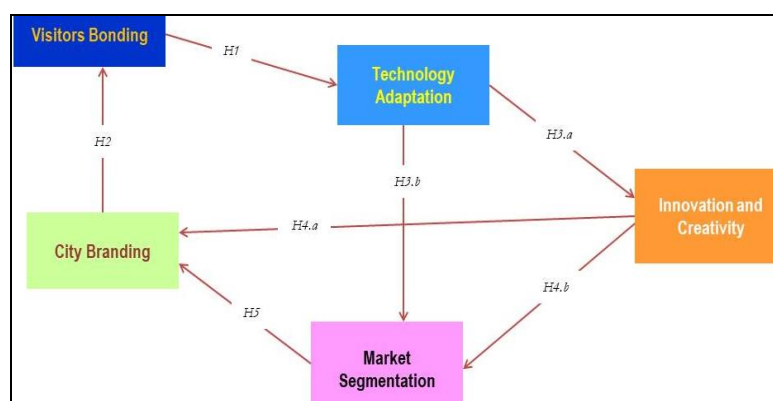
Figure 3. Theoretical framework (Source: author's idea)

METHODOLOGICAL APPROACH
Data collection

Data was collected based on 'participant statements' through the distribution of questionnaires and interviews. The scheme started with planning that involved authors choosing the time of the survey, location, and participants. Before entering the interview session, goals and objectives need to be focused on domestic and foreign visitors based on the current situation of destinations in Samarinda City, where at least they are well acquainted with the current geographic, demographic and cultural situation. Because the characteristics of the informants were known, it was easy to collect data because they are also visitors at all destinations in Samarinda. Convenience sampling is the right solution referring to the urgency of the study, the availability of elements, a coincidental inherent identity, and the ease of achieving it (Etikan et al., 2016). This intended for visitors who met randomly and considered under the guidelines, so that the sample unit not determined by certain formulas such as parameter estimates in population proportions (Salkind, 2010). The special reason convenience sampling is applied is the accuracy of accuracy and we do not accept the exact inflow of tourist visits to Samarinda City in 2021. In addition, because there are certain hours and days imposed on tourists during Covid-19, this technique is the most efficient option, without ignoring health protocols and reducing comfort. The level of understanding of the credibility of the informants makes it easier to answer each statement item.

The composition of the sample was 1,278 visitors spread over fifteen points, including the Desa Budaya Pampang, Kampung Tenun Samarinda, Taman Rekreasi, Lembah Hijau, Rumah Ulin Arya, and Junggle Water World. These popular destinations are in ten sub-districts in Kota Samarinda (for example, Ratnasari et al., 2020).

Analysis instrument

The method of analysis starts with the presentation of the data empirically. In the first scheme is to place the informant's statement into four items (4 = very acceptable, 3 = acceptable, 2 = not acceptable, and 1 = very not acceptable). The second tendency is to tabulate the data according to each variable and the informant's code. Then, we transformed the overall value into the IBM-SPSS software. In many respects concerning empirical testing, statistical assumptions for research of the type of social experiment, ZA et al. (2021), McHugh (2013), and Aslam (2021) recommend standards such as goodness of fit. Descriptive statistics, validity, reliability, partial test, and moderating effect measured the feasibility of the regression model. The conditions, Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO-MSA) and Bartlett's test support the validity, Cronbach's Alpha (CA) determines the reliability, the relationship of the variables directly (H1; H2; H3-a; H3-b; H4- a; H4-b; and H5), and specifically for the moderating effect (H6 and H7) calculated based on the extra program, namely the Sobel test.

RESULTS
Informant experience

These six destination reputations also refer to the daily visit rate compared to other destinations in Samarinda. After we completed the interview stage, we summarized important information from the visitors. Table 1 displays the characteristics of informants based on the regional origin, age, gender, legal status, travel destination, and visiting experience.

Table 1. Sosio-demografis variables (Source: interview result)

	Profiles	N = 1,278	%
Origin	Indonesian	529	41.39
	Asia (outside Indonesia)	384	27.23
	Europe	75	5.87
	South America	40	3.13
	North America	66	5.16
	Australian	162	12.68
	Africa	8	0.62
	Other nationalities	14	1.09
Age	Younger than 20 years	243	19.02
	21 – 30 years	115	8.99
	31 – 40 years	397	31.06
	41 – 50 years	458	35.84
	Older than 50 years	65	5.09
Gender	Female	571	44.68
	Male	707	55.32
Legal status	Skilled worker	313	24.49
	Just visiting	241	18.86
	Domestic worker	558	43.66
	International student	166	12.99
Travel destination	Desa Budaya Pampang	424	33.18
	Kampung Tenun Samarinda	169	13.22
	Taman Rekreasi	200	15.65
	Lembah Hijau	68	5.32
	Rumah Ulin Arya	230	18
	Junggle Water World	187	14.63
Visiting experience	Less than 1 years	548	42.88
	1 – 3 years	169	13.22
	More than 3 years	561	43.90

Table 2. Degree of measurement (Source: compiled from IBM-SPSS)

Variables and dimensions	Update from	SD	Mean	CA
Visitors bonding	Cossío-Silva et al., 2019; Meng et al., 2008; Yap and Allen, 2011	*0.78*	*3.20*	*0.71*
-Destination attribute performance		0.79	3.61	0.72
- Motivate visitors		0.83	3.04	0.79
- Destination satisfaction		0.78	2.85	0.68
- Motivate visitors		0.72	3.28	0.63
Technology adaptation	Sugandini et al., 2018; Arifin et al., 2018; Purwantini et al., 2020	*0.80*	*3.31*	*0.73*
- Human resources		0.84	2.91	0.88
- Knowledge		0.80	3.42	0.65
- Complexity		0.75	3.59	0.66
Innovation and creativity	Cropley et al., 2011; Permatasari et al., 2021; Dziallas and Blind, 2019; Wahyuningtyas et al., 2021	*0.75*	*3.61*	*0.72*
- New product development		0.66	3.64	0.61
- Competitiveness		0.76	2.77	0.63
- Capabilities		0.78	3.83	0.62
- Diagnosis		0.76	3.98	0.87
- Social impact		0.81	3.84	0.85
Market segmentation	Shashkova et al., 2021; López-Roldán and Fachelli, 2021; Utama, 2016	*0.80*	*3.02*	*0.80*
- Goal creation		0.72	3.36	0.81
- Destination image		0.72	3.19	0.83
- Psychographic		0.94	3.22	0.80
- Destination identity		0.93	2.53	0.79
- Comparative typology		0.71	2.80	0.75
City branding	Hereźniak et al., 2018; Moradi et al., 2018; Herezniak and Anders-Morawska, 2015; Shirvani Dastgerdi and De Luca, 2019	*0.75*	*3.49*	*0.76*
- Brand strategy place		0.90	3.65	0.76
- Urban competitiveness		0.64	3.91	0.78
-Cultural and social characteristics		0.59	3.61	0.76
- Brand performance venue		0.83	3.86	0.73
- Infrastructure facilities		0.70	2.87	0.84
- Competitive advantage		0.81	3.04	0.69
KMO-MSA: 0.65; Chi-Square: 68.40; Sig.: 0.03				

Overall, 41.39% of visitors' citizenship status came from Indonesia, with an average age of 41-50 years at 35.84%. Surprisingly, the dominant visitors were male by 55.32%. The enthusiasm for the visit can be seen from their official status as residents, where 43.66% of them were domestic workers. The rest were visitors who have visas as foreign residents or as professional workers in several national and international companies with branches in East Kalimantan to students from various countries taking part in 'student exchange programs with several universities in Samarinda.

Empirical findings

In the first place, Table 2 exposes the feasibility of the model played in three parts, including descriptive statistics examining penetration on standard deviation and mean, criteria for confirmatory factor analysis (CFA) referring to KMO-MSA and Bartlett's test, then reliability revealed by CA values. Guidance for KMO-MSA must be higher than 0.5 because the variable is workable to be predicted and analyzed further, while Bartlett's test presented at a significance level and must be less than 0.05 (for example, Kurniawati and Khairunnisa, 2020). The model packing CFA shows the amazing thing with consistent construct size (*KMO-MSA = 0.65; p = 0.03*). Another impressive record, leading to the success of all variables that collect average points, SD, and CA, is commensurate. The results show for visitors bonding (*SD = 0.78; M = 3.20; CA = 0.71*), technology adaptation (*SD = 0.80; M = 3.31; CA = 0.73*), innovation and creativity (*SD = 0.75; M = 3.61; CA = 0.72*), market segmentation (*SD = 0.80; M = 3.02; CA = 0.80*), and city branding (*SD = 0, 75; M = 3.49; CA = 0.76*). As an illustration, the provision in CA> 0.6 (Taber, 2018; Van Griethuijsen et al., 2015).

Table 3. Causality outcome (Source: compiled from IBM-SPSS, where: **p <0.05 and ***p <0.01)

From	To	Test-statistic	P-values
Visitors bonding	Technology adaptation	1.894**	0.013
Visitors bonding through technology adaptation	Innovation and creativity	1.416***	0.156
City branding	Visitors bonding	0.220**	0.251
Technology adaptation	Innovation and creativity	-2.134**	0.038
Technology adaptation	Market segmentation	-1.683**	0.100
Innovation and creativity	City branding	5.871**	0.014
Innovation and creativity	Market segmentation	9.066**	0.005
Innovation and creativity trough market segmentation	City branding	4.078***	0.000
Market segmentation	City branding	4.567**	0.026

The proportion of each relationship between variables has paid off nicely. As a result, visitors' bonding affects technology adaptation positively significantly (*T = 1.894; p = 0.013*), but technology adaptation does not mediate in the relationship between visitors bonding and innovation and creativity is positive-not significant (*T = 1.416; p = 0.156*). Therefore, technology adaptation has less systematic effect from these two patterns. From Table 3, we know that city branding has an insignificant effect, although it is positive (*T = 0.220; p = 0.251*). Another news is that technology adaptation has a significant effect, but the effect is actually negative (*T = -2.134; p = 0.038*). We should note that on market segmentation, technology adaptation has a negative-not significant impact (*T = -1.683; p = 0.100*). Returning to the output of SPSS, the test findings also contain a positive-significant effect of innovation and creativity for city branding (*T = 5.871; p = = 0.014*) and market segmentation (*T = 9.066; p = 0.005*). Following this fantastic achievement, market segmentation could play an indirect effect between innovation and creativity on city branding (*T = 4.078; p = 0.000*). Market segmentation again presented a positive-significant reaction to city branding (*T = 4,567; p = 0.026*). Market segmentation is the most prominent key variable when compared to other forming variables. Figure 4 shows the paths in each path. Both positive (+) and negative (-) markers showed association for all seven relationships (direct effect). What needs to be emphasized is how strong the construct is in a model. Therefore, we use the coefficient of determination ($R2$) to sharpen the fit and how well several variables in the linear regression equation fit (eg Chicco et al., 2021). Agunbiade and Ogunyinka (2013) categorizes $R2$ into five forms, namely 0 – <0.30 = negligible correlation, 0.30 –<0.50 = low positive correlation, 0.50 – <0.70 = moderate positive correlation, 0.70 –<0.90 = high positive correlation, and 0.90 – 1 = very high positive correlation. From this, we can conclude that the path that links visitors to bonding with technology adaptation is moderately positive. However, technology adaptation actually has a low positive determination towards innovation

Figure 4. Overall estimate (Source: compiled from IBM-SPSS)

and creativity. Another observation that makes a difference, where innovation and creativity on market segmentation and city branding, the determination is high positive. Then, market segmentation has a moderate positive acceptance for city branding and city branding is quite superior in contributing to visitor bonding, which is moderately positive.

DISCUSSION

By carrying out the mission of 'developing tourism destinations and making Indonesia a world-class tourism destination', the Indonesian government, through the Ministry of Tourism and Creative Economy, also covers strengthening the creative economy (Simanjuntak, 2013). Unfortunately, they heard only a few about Indonesia's diversity of culture, historical, and natural heritage (Dewi et al., 2021; Hasibuan et al., 2011; Fitri et al., 2015) popular among tourists such as Lake Toba. (North Sumatra), Kuta Beach (Bali), Derawan Islands (Berau), Borobudur Temple (Yogyakarta), Raja Ampat Islands (West Papua), and Mount Rinjani (Lombok). East Kalimantan will soon become the centre of the Indonesian government in 2024, as if we have not heard it about the tourism industry.

As the capital city of East Kalimantan Province, Samarinda actually has interesting tourist destinations that come from an ancient and artificial heritage. However, the prospects are not as bright as the six tourism that have been reviewed previously that is Desa Budaya Pampang, Kampung Tenun Samarinda Taman Rekreasi, Lembah Hijau, Rumah Ulin Arya, and Junggle Water World. Only some continue to be promoted, but it still limited them to exhibitions at festivals and well known nationally, such as handicraft products (Purwadi, 2015; Indriastuti et al., 2020).

A reputation is at stake in thinking about the development model of the tourism industry in Samarinda City. Referring to BPS-East Kalimantan Province (2021), although Samarinda City has several hotels of all sizes, in terms of accommodation and tourist destinations, it is still far behind Berau. Not only that, when compared to other regencies and cities in East Kalimantan, Samarinda also lags the level of tourist arrivals, where foreign tourists prefer to visit Berau. In contrast, the flow of domestic (local) tourist arrivals chooses Balikpapan City instead of Samarinda.

Whether positive or negative, unforgettable memories by tourists certainly have significant emotional consequences for them at a destination (Ahsanah and Artanti, 2021). A wonderful image depends on what they learn, feel, and remember about a particular object. Thus, social capital is the first thing that must be considered in identifying how those who travel contribute to public recognition, build tourism spaces, and pocket benefits such as social identity (Domi et al., 2019).

City brands that contain 'value equity' collectively represent the emotional, opportunity, social and economic benefits of engaging in activities ranging from special festivals and celebrations to various information. This reminds us that city branding is not only a full-fledged job by the government but also stakeholders in power to convey positive news about the state of the city to tourists (Mujihestia et al., 2018).

It highlighted valuable needs in the bonding of city and tourist brands through strategic design. They certainly have experiences that will be told about tourist trips in terms of operations, history, processes, products, operations, and processes (Mitchel and Orwig, 2002). The involvement of individual loyalty and experience is inseparable from the 'brand bond' which contributes to a more maximum brand value. In the end, the availability of relatively accessible knowledge, along with increasingly fierce competition from tourist destinations, strengthens the relationship between tourists and brands to absorb tourist loyalty. In an informal environment such as tourism, Soares et al. (2021) are more oriented towards a 'care-based technology adoption model' to adopt innovations that have created creativity for many essential discoveries. Straub (2009) suggests that individuals always adapt to time, space, and complex processes in technological development, so that there are social aspects that need to be formed in influencing every decision. The facilitation of technological adaptation must address contextual, emotional, and cognitive issues. The implication is that it focuses on networking involving formal organizations to share opportunities for a wide range of people.

Creativity and innovation are the lifeblood of an organization. In the business world, these two vital keys involve the individual behavior and skills required to explore the 'concept of innovation', whether it is a natural factor or growing by learning and adaptation in an environment oriented towards the 'creativity concept' (Glassman and Opengart, 2016). This is where the essence of the special offer of entrepreneurship seems more practical than the theoretical aspect.

Goyat (2011) does not emphasize the role of creativity in market segmentation. However, Otuedon (2016) actually teaches that it is important to stay creative, because there are different ways to facilitate the market segmentation process. Intense competition in the global market makes customer segments homogeneous because the need for some level of creativity has exceeded jurisdictional boundaries. Sutapa et al. (2017) packs creativity to adjust market segmentation or the correct level of need. Through a true multi-step market segmentation process, it is a testament to market knowledge, creativity, and managerial insight. The right scientific technique to organize the segmentation basis is to produce segments that meet the criteria, including responsive, substantial, accessible, and identifiable. Creativity must get the right market segmentation based on the best innovation potentials.

CONCLUSSION

This paper has the ambition to examine the connection between visitors bonding, technology adaptation, innovation and creativity, market segmentation, and city branding by involving visitors at six destinations in Samarinda City during 2021. The consideration was that Samarinda did not have a magnet for tourists and for several decades considered there is a metamorphosis in the improvement of tourist attractions through attractions, festivals, and various programs carried out by the government to attract their attention. Through a series of statistical procedures in the regression method, we found nine fragments that visitor bonding could grow technology adaptation up to 189.4% (H1 accepted), visitor bonding increased innovation and creativity through technology adaptation reached 141.6% (H6 accepted), innovation and creativity added city branding and market segmentation with a proportion of 587.1% (H4.a and H4.b accepted), innovation and creativity increased city branding through market segmentation by 407.8% (H7 accepted), and market segmentation grew city branding up to 456.7% (H5 accepted). Among other empirical evidence, there are results that contradict the hypothesis. Although the city branding relationship could increase visitors' bonding by 22%, the impact was not significant (H2 rejected). Worse yet,

innovation and creativity fell to 213.4%, if technology adaptation added (H3.a rejected). We can also see inconsistency from the increase in technology adaptation, which actually harms market segmentation by 168.3% (H3.b rejected).

No study is perfect, as with in this case. The drawback of our study lies in the sampling technique. Appropriately, implementing the sample considers the maturity of the informants' insight, for example, by using purposive sampling. That way, the investigation can get a maximum response because those selected are visitors who understand the ins and outs of destinations in Samarinda City, have ideal characters with competent literacy coverage, and the level of interpretation of a terminology in a professional way. Therefore, further work will continue to develop. Elaboration of the study based on the expansion of variables and dimensions also recommended.

Future agendas need to integrate the implications of this research. Therefore, changing perspectives from practical and theoretical contributions is difficult. We hope the results will continue to strengthen aspects related to city branding to visitors bonding, and technology adaptation to innovation and creativity and market segmentation. It contained all stakeholders in the 'five helix concept' (academics, business actors, media, communities, and, of course, the government). These parties must make contemporary breakthroughs that can modernize destinations by changing the 'face of the city' not just a cursory project, making it possible to provoke the desire of tourist visits.

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THE IMPACT OF ELECTRONICALLY TRANSMITTED WORD OF MOUTHE (E-WOM) ON THE MARKETING OF TOURISM SERVICES IN JORDAN: A CASE STUDY OF JERASH & AJLOUN CITIES

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Abstract: After the repercussions of the global health crisis (Covid-19 pandemic) on the global economy and its various sectors, the word transmitted electronically has become a reality and affects social, economic, marketing and media life (Giddy et al, 2022). From this point of view, this study aims to: know the impact of the word transmitted over the Internet in the marketing of tourism services and the extent of its impact on the purchase decision of the tourist consumer. The research relies on the descriptive approach "the survey method". The researcher designed the form and distributed it to the study sample, which consisted of (300) tourists. The results of the study showed that the sites most used by tourists to learn about the tourist services provided in the region are: Facebook, Google and YouTube. The study concluded that providing sufficient information about the tourism services provided via the Internet reduces the expected risks, contributes to enhancing their purchasing intentions, and improves the psychological outcomes of the tourist. Tourism establishments should various credible virtual media content (texts, photos, and videos). Also, it should increase the activity of their websites by providing a constantly updated database that allows beneficiaries to easily access it. Moreover, tourist establishments should raise the awareness of their employees regarding the importance of Internet marketing.

Key words: internet, Jordan, marketing, tourism services, word of mouth

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INTRODUCTION

Tourism is one of the most widespread economic and socio-cultural activities all across the world (Raj et al., 2022).There are also certain types of influences that affect the marketing of their services (Al-Makhadmah et al., 2021). So, Tourism establishments desperately need to market their services using multiple means (Halim and Sumra, 2012). Feng et al (2020) pinpointed that the most important of these means is the word transmitted through networks. For this reason, huge budgets are allocated to the marketing of tourism services through multiple means (Zakky and Imanda, 2019).

Mohsin et al. (2020) mentioned that the Internet and its applications are among the most prominent features of development in the modern era. This technology added to the interactive platforms significant technical updates and communication capabilities (Arminda, 2018). Moreover, the study Yuke et al. (2022) indicated that the number of Internet users reached (4.93) billion, equivalent to (63.2%) of the total world population, and at the same time, the annual growth rate of the Internet reached (8.2%). According to Tham et al. (2019), Asia has the largest number of Internet users with a percentage of (51.8%), followed by Europe (14.8%).

The emergence of social networks such as Facebook, Flickr, Twitter, forums, YouTube, and others has had a great impact on human life (Tham et al., 2019). Statistics indicate that (4.48) billion people use social media, representing (56.8%) of the world's population (Yuke et al., 2022). It is also expected that the number of social network users will increase in the coming years (Tham et al., 2019). According to Yuke et al. (2022), the most used social network is Facebook (44%), followed by YouTube (29%) and WhatsApp (23%). Snapchat (2%) is the least used social network.

Yuke et al. (2022) the establishment's website, a large social base can be built over a 24-hour period that works to create a direct relationship with customers. In addition, tourist establishments can publish tourist offers about the services they provide; which enables the visitor to view them and know their nature easily and at the lowest cost. Moreover, the interaction between each visitor and the Tourist facilities page is done through what is called "Like", which enhances the status of the tourist facilities in the minds of customers. According to Yusuf (2022), the customer no longer receives a promotional message without interaction, but rather has become an influential player. Therefore, this study came to evaluate the means used by tourist establishments in the regions of Ajloun and Jerash to market their services through the word transmitted electronically. And how these tools can contribute to building a direct and continuous relationship between the foundation and the customer through participation, interaction, and admiration.

The importance of this study is embodied in its connection with the following elements:
- Few previous studies have dealt with this topic.

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- This study is a simple contribution to the field of science and knowledge.

- The high correlation of individuals to the word transmitted electronically in order to communicate and take the information.

This study attempts to know the impact of the word transmitted over the Internet in marketing tourism services by answering the following questions:

- What is the degree of dependence of the tourist on the word transmitted electronically through its multiple means?

- To what extent does the word transmitted electronically contribute to the development of knowledge of the tourist about the tourism products and services provided?

- To what extent can the word transmitted electronically contribute to influencing the tourist's purchase decision of tourism products and services?

LITERATURE REVIEW
E-Word-Of-Mouth

Technical development has achieved a qualitative leap in the world of communications (Rifai, 2019). This has led to the global use of the Internet (Feng et al., 2020). This spread contributed to linking the scattered parts of the world to its vast area, paving the way for the convergence of societies and the exchange of ideas and desires between them (Seweryn et al., 2017). The emergence of social networks has also enabled people to connect with one another, unload their emotional charge, and share similar and different perspectives (Nina et al., 2020). This encouraged people to break into the Internet (Roman and Shamaileh, 2020). Rifai (2019) indicates that the word transmitted electronically via (Facebook, YouTube, Instagram, WhatsApp, Tik Tok, Telegram, Snapchat, Twitter, and others) is one of the most important components of the contemporary world that has dominated all aspects of human life, as one of the manifestations of interaction between People (Merabet, 2020). Where a person can communicate with others in a few seconds without barriers (Rifai, 2019). In addition, it allowed its patrons to enjoy free comments, exchange opinions, entertainment, send messages and instant chats, share files, and share photos and videos (Merabet, 2020).

Moreover, the tremendous development in the field of technology and the emergence of many social media platforms, the electronically transmitted word has become the strongest in marketing (Neslihan, 2021). This contributed to the creation of a new form of e-marketing via the Internet (Jaroslav and Blanka, 2019). Rifai (2019) indicated that (50%) of the service users found their needs through the words transmitted from others. In addition, the words conveyed influence the customer to choose his options among the available alternatives due to the consistency between the customer's expectations and what he gets from products and services (Yan et al., 2016). A study Sarbu (2018) indicated that the word transmitted electronically helps convert the potential customer into a positive, satisfied and permanent customer. According to Jaroslav and Blanka (2019) claimed that a satisfied customer conveys the image of his experience to (5-9) other people by talking to them. Thus, it reflects great benefits for companies where the permanent customer represents the company in marketing roles, and this may contribute to reducing costs to attract new customers (Roxana, 2018). Hence, the interest of tourist establishments and destinations in the electronically transmitted word that offer their services achieves the following goals according to Yusuf and Tanvir, 2022, Yuke et al. (2022), Roman and Shamaileh (2020), Arminda (2018), Zakky and Imanda (2019), Sarbu (2018):

- The possibility of reaching the largest number of consumers.
- Maintaining the brand.
- Enhance the customer's purchasing intentions.
- Increase customer loyalty.
- Enhancing the customer's connection with services and products through a positive impression after receiving the service.

Social Networking

Social networks are web pages that allow people to express themselves (Zakky, 2019). Moreover, social networks are an intellectual and scientific system that allows society to get to know each other freely and effectively (Olayiwola and Jegede, 2020). According to Ristova and Dimitrov (2019) discussed social networks allow the creation of groups to build relationships between individuals to collect useful information and share it with others, it also allows users to interact on similar topics. At the same time, social networks are virtual spaces on the Internet that contribute to presenting various topics and ideas and discussing them (Arminda, 2018). Birgit et al. (2018) claimed that social networks are a social electronic structure that is created by individuals, groups, and institutions. Hence, the consumer's engagement with companies through text, images, audio, video, and information (and vice versa) (Olayiwola and Jegede, 2020).

Types of Social Networks

- In 1995, "The Classmates' Web" appeared in the United States as the first social network, which aimed to link classmates from educational institutions at all levels of education (Roman and Shamaileh, 2020).
- Google: It was created in 1998 (Merabet, 2020). Its users can view their communications updates through circles, upload and share photos and videos, as well as participate in group chats and forums (Neslihan, 2021).
- In 2003, MySpace appeared as the first social networking site for exchanging friends and photos (Seweryn et al., 2017). LinkedIn and Skype also appeared in the same year (Tham et al., 2019).
- Facebook, the third most visited site, was founded in (2004) by Mark Zuckerberg (Halim and Sumra, 2012). According to (Jaroslav and Blanka, 2019) the membership of the site was limited to Harvard students only, but then

expanded to include unlimited groups of subscribers, with more than 2.8 billion active users. Rifai, 2019 indicated that Facebook is the king of social media, with only Google and YouTube preceded by it.

• YouTube, founded in 2005, is a site that allows users to upload, watch, and share videos for free (Merabet, 2020). According to Jaroslav and Blanka (2019), there are (2.29) billion monthly active users.

• Twitter appeared in 2006 (Halim and Sumra, 2012).

• WhatsApp website first appeared in 2009 (Seweryn et al., 2017).

• Instagram is a free application for sharing photos and videos classified within social networks. It was launched in October (2010) and is currently being acquired by Facebook (Jaroslav and Blanka, 2019).

Previous Studies:

1. Yusuf and Tanfir (2022). The aim of this study is to identify and address the current social media marketing processes in Bangladesh, and the researchers found that the word transmitted electronically serves to provide information and educate the tourist, as it influences his decision to visit the destination. In addition, the e ase to convey information and photos of destinations to potential customers.

2. Yuke et al. (2022). This paper examined how much tourists trust in the social media when travel (before, during, and after the trip), the results of the study showed that there is a diversity in the use of social media by tourist travelers. in addition, the Social media has an impact on their final travel decisions and actions.

3. Roman and Shamaileh (2020). The study aimed to show the extent of the impact of marketing through social networks, especially Facebook, which is used by hotels. The results showed that social networks are the effective and active mediator between the hotel services provided and the beneficiaries of these services.

4. Nina et al. (2020). The study aimed to show the extent of the impact of marketing through social networks, especially Facebook, which is used by hotels. The study showed that Facebook is the best means used by tourism industry companies to highlight their services and products. The study also showed that the efforts made through this method have a major role in searching for the customer as soon as possible and at the lowest costs.

5. Feng et al. (2020). The results of study showed that word-of-mouth plays a mediating role in the relationship between perceived image and behavioral intentions. The moderating effect of word-of-mouth plays two roles in the mechanism of the perceived image on the behavioral intention: the promotion mechanism and the repression mechanism. Tourists' sense of psychological distance significantly mediates the relationship between perceived image and behavioral intention.

6. Mohsin et al. (2020). The results of study indicate that social media channels have a significant impact on behavioral intention and the actual behavior of tourists (direct and indirect effect). Control–variables related to socio-economic characteristics such as gender and educational level also have a significant impact in determining the actual behavior of tourists.

7. Roy et al. (2019). The finding from the content analysis confirmed that both mixed neutral eWOM and rich eWOM content positively affects online purchase intention. This study has also explored how insights derived from the content analysis of valence and content can help marketers to develop an online marketing strategy.

8. Jaroslav and Blanka (2019). The results of study showed that the most popular Social Network Sites are still Facebook and Twitter. As the findings show, the Social Network Sites used for the travel and tourism purposes provide their users with travel information and facilitate contacts. Among the benefits belong an easy access to various content.

Study Hypotheses

(H.0.1): There is no effective statistically significant relationship between the overall dimensions of tourism services marketing and the overall effectiveness of words transmitted over the Internet. The following hypotheses are derived from it:

(H.0.1-1): There is no effective statistically significant relationship between the overall dimensions of tourism services marketing and the enhancement of customers' purchasing power using electronically transmitted words.

(H.0.1-2): There is no effective statistically significant relationship between the overall dimensions of tourism services marketing and the reduction of perceived risks by using the words transmitted electronically.

(H.0.1-3): There is no effective statistically significant relationship between the overall dimensions of tourism services marketing and the outputs of the recipients of the service using the words transmitted electronically.

Marketing of tourism services using the Internet • Accessibility. • Interaction. • Credibility. • Building brand awareness.	⟹	**Effect of the words transmitted electronically** • Enhance purchasing intent. • Reducing perceived risks. • Outputs for service recipients.
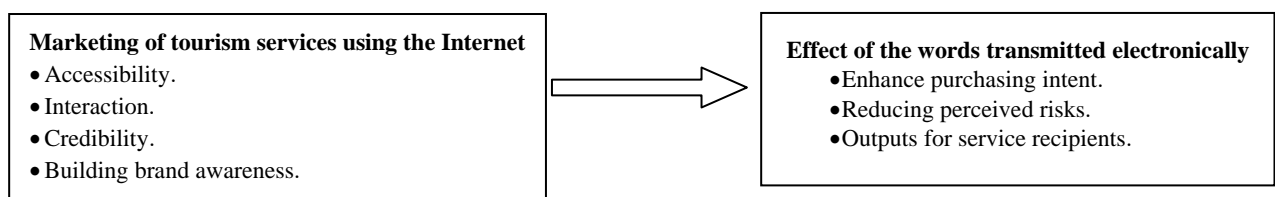
Figure 1. Study Model (Source: developed by the author)

MATERIALS AND METHODS

This study followed the descriptive approach based on data collection, classification, organization and analysis, to study the impact of the word transmitted over the Internet in marketing tourism services provided by tourist establishments in Ajloun and Jerash cities.

Community & sample study: the study population is represented by the establishments that provide tourism services to Ajloun and Jerash cities, while the study sample was represented by tourists who visited the sites of the researched tourist establishments on the Internet, where the study dealt with (300) tourists.

Study tool: The study relied on the questionnaire only as a tool in data collection, consisting of a number of questions distributed into two groups:

- The first group consisted of (18) questions to measure the dimensions of marketing of tourism services, Seweryn et al. (2017) scale was used.
- The second group consisted of (13) questions to measure the dimensions of the impact of the word transmitted over the Internet. Shang and Li (2007) scale was used.

Data analysis tools: The researcher used (percentages, mean and standard deviation) to describe and diagnose the study variables. In addition to; F-test, T-test, simple regression and Stepwise Regression to test the study model and its hypothesis.

RESULTS AND DISCUSSION
Hypothesis Testing

(H.0.1): There is no effective statistically significant relationship between the overall dimensions of tourism services marketing and the total effectiveness of words transmitted via the Internet.

To test the hypothesis, the Simple Regression test was used. Table (1) shows that the relationship between the overall dimensions of tourism services marketing and the overall effectiveness of the electronic words transmitted was strong (R = 0.452). The value of the coefficient of determination was (R^2 = 0.389). This means that (38.9%) of the effectiveness of the words transmitted electronically was due to the marketing of tourism services via the Internet. The test shows that The "F" value was (23.47) at (Sig = 0.000). This indicates that the regression curve is good because the "B" value was (0.436) at (Sig = 0.000). Thus, the researcher rejects the nihilistic hypothesis. However, the researcher accepts the alternative hypothesis: There is a significant relationship between the overall dimensions of tourism services marketing and the overall effectiveness of the words transmitted over the Internet.

Table 1. Simple regression analysis: To show the effect of the overalldimensions of the means of marketing tourism services and the Overall effectiveness of the word transmitted over the Internet (Source: Developed by the author)
R= (0.452); R2 (0.389); F= (23.47); Sig level of P≤0.05

Variable	Average	Standard Deviation	B	T	Sig
Internet marketing methods • Accessibility • Interaction • Credibility • Building brand awareness	4.41	.46735	0.436	23.006	0.000*

Table 2. Stepwise Regression analysis: To show the impact of the dimensions of marketing tourism services in enhancing purchasing intentions (Source: Developed by the author)

Variable	Average	Standard Deviation	B	T	Sig
Accessibility	4.46	0.86437	0.081	1.053	0.301
credibility	3.98	0.97931	0.482	6.293	0.000*
interaction	4.13	0.08827	0.473	6.549	0.000*
Brand awareness	4.02	0.35241	0.714	0.915	0.433

R= (0.731); R2 (0489); F= (43.047); Sig level of P≤0.05

(H.0.1-1): There is no effective statistically significant relationship between the overall dimensions of tourism services marketing and the promotion of purchasing intentions using electronic word transmission.

To test the hypothesis, a stepwise regression test was used. It turned out that the relationship between the overall dimensions of tourism services marketing and the promotion of purchasing intentions using the electronically transmitted word was strong (R = 0.731). The value of the coefficient of determination was (R^2 = 0489). This means that (59.4%) of changes in purchase intent were due to electronically transmitted words. The value of "F" was (43.047) at the significant level (Sig = 0.000). Thus, the researcher rejects the nihilistic hypothesis. However, the researcher accepts the alternative hypothesis: There is statistically significant relationship between the overall dimensions of tourism services marketing and the promotion of purchasing intentions using electronic word transmission. Table No. (2) Shows the most influential marketing dimensions in promoting purchasing intentions, and linking them to the effectiveness of electronically transmitted words.

(H.0.1-2): There is no effective statistically significant relationship between the overall dimensions of tourism services marketing and the reduction of perceived risks using words transmitted electronically.

Table 3. Stepwise Regression analysis: To show the impact of the dimensions of marketing tourism services in reducing perceived risks (Source: Developed by the author)

Variable	B	T	Sig
Accessibility	0.002	0.985	0.095
credibility	0.264	2.598	0.010*
interaction	0.025	0.965	0.085
Brand awareness	0.196	5.231	0.000*

R= (0.461); R2 (0.212); F= (23.045); Sig level of P≤0.05

Table 4. Stepwise Regression analysis: To show the relationship between the marketing of tourism services and the outputs of the service recipients (Source: Developed by the author)

Variable	B	T	Sig
Accessibility	0.372	4.768	0.000*
credibility	0.083	0.984	0.232
interaction	0.245	1.833	0.116
Brand awareness	0.434	4.127	0.000*

R= (0.561); R2 (0.387); F= (18.016); Sig level of P≤0.05

To test the hypothesis, the (Stepwise Regression) test was used. It turned out that the relationship between the overall dimensions of tourism services marketing and the perceived risk reduction using electronically transmitted words was strong (R = 0.461). The value of the coefficient of determination was (R2 = 0.212), which means that (28.2%) of the changes were attributed to the perceived risk reduction due to the electronically transmitted words. The "F" value was (23.045) at the significance level (Sig = 0.000). Thus, the researcher rejects the nihilistic hypothesis.

However, the researcher accepts the alternative hypothesis: There is an effective statistically significant relationship between the overall dimensions of tourism services marketing and the reduction of perceived risks using words transmitted electronically. Table (3) shows the most influential marketing dimensions in reducing perceived risks and linking them to the effectiveness of electronically transmitted words.

 (H.0.1-3): There is no effective statistically significant relationship between the overall dimensions of tourism services marketing and the outputs of service recipients using electronically transmitted words.

To test the hypothesis, the (Stepwise Regression) test was used. It became clear that the relationship between the overall dimensions of tourism services marketing and the outputs of the service recipients using the electronically transmitted words was strong (R = 0.561). The value of the coefficient of determination was (R2 = 0.387). This means that (34.4%) of the changes in the outputs for the service recipients were due to the electronically transmitted words. The "F" value was (18.016) at the significance level (Sig = 0.000). Thus, the researcher rejects the nihilistic hypothesis. However, the researcher accepts the alternative hypothesis: There is an effective statistically significant relationship between the overall dimensions of tourism services marketing and the outputs of service recipients using electronically transmitted words. Table (4) shows the most influential marketing dimensions in reducing perceived risks and linking them to the effectiveness of electronically transmitted words. In order to answer the questions of the study, Table No. (5)

Shows the arithmetic means on all the questions related to the dimensions of the study, along with the standard deviations for each variable. as the hollow study variables in the table below indicate that the general arithmetic mean of the sample members' answers to marketing using social networks amounted to (4.41), which is A high level of approval for the sample members on this dimension, while the average response to the effectiveness of the word transmitted electronically was (4.38), which is a high approval rate. Figure (2) shows the most frequently used websites for tourists to learn about the tourist services provided in the region: the (Facebook) application with a percentage of (34.8%), followed by the (Google) application with a percentage of (25.2%). Then the (YouTube) application was third, with a percentage of (15.6%) while the lowest of these applications was (WhatsApp) with (1.1%).

Table 5. The Characteristics of the Study Variables (Source: Developed by the author)

The dimension	Average	Standard Deviation	Approval degree
Marketing Using Social Media	**4.41**	**.46735**	**High**
Accessibility	4.46	0.86437	High
credibility	3.98	0.97931	High
interaction	4.13	0.08827	High
Brand awareness	4.02	0.35241	High
Electronic word efficacy	**4.38**	**0.45474**	**High**
Purchasing Intentions	4.23	1.01688	High
Risks	4.31	1.60181	High
Psychological output	4.64	0.51599	High
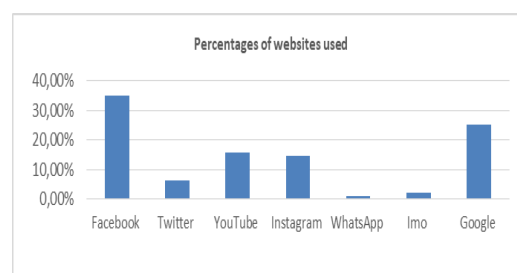
Figure 2. Frequencies and percentages for etermining the websites used (Source: developed by the author)

DISCUSSION

The main objective was to define the relationship between the dimensions of marketing in terms of (accessibility, interaction, credibility, and brand awareness) and the impact of an electronically transmitted word in terms of (enhancing purchase intent, reducing risk, and perceived output). The study found that the success of marketing tourism services is due to the transmission of the word electronically, and this result is consistent with the results of the study (Roman and Shamaileh, 2020) and a study (Yusuf and Tanfir, 2022). On the other hand, a study (Deukhee et al., 2019) dealt with the failure of many tourism companies as a result of neglecting the word transmitted electronically, which is considered the fastest spread compared to other marketing tools.

The main hypothesis showed that there is a statistically significant relationship between the dimension that measures "electronic marketing means" and the dimension that measures "the effectiveness of the word transmitted electronically." The researcher suggests that social networking is an effective and active mediator between the providers of tourism services and the beneficiaries of these services, where the Internet pages enable to identify most of the tourist facilities through electronic images and video clips, exchange information and discussions with friends. Thus, the word transmitted electronically interacts and is transmitted from one beneficiary to another, which results in a benefit for the tourist establishments. This result is in agreement with the results of (Roman and Shamaileh, 2020).

The first sub-hypothesis also showed that there is a statistically significant relationship between the dimension that measures "electronic marketing means" and the dimension that measures "enhancement of purchasing intentions" for the tourist. The researcher believes that electronically transmitted words played the role of mediator in the relationship between satisfaction with services and perceived value, in addition to its direct effects on future intentions. This result is in agreement with the results of (Yusuf and Tanvir, 2022; Roman and Shamaileh, 2020; Yuke et al., 2022).

The second sub-hypothesis showed that there is a statistically significant relationship between the dimension that measures "electronic marketing means" and the dimension that measures "reducing perceived risks" by the tourist. The researcher believes that the formation of a positive mental image of the tourist contributes to reducing the perception of perceived dangers. This result is in agreement with the results of (Roman and Shamaileh, 2020).

The third sub-hypothesis also showed that there is a statistically significant relationship between the dimension that measures "electronic marketing means" and the dimension that measures "the psychological outcomes of service recipients", and this is due to the psychological outcomes of the tourist, which is related to what he sees as credibility as well as the congruence between services. If there is a contradiction between what the tourist knows and the information he has actually seen, where he begins to realize his loss of services that could have been obtained, and this, in turn, can lead him to a state of dissatisfaction. This result is in agreement with the results of the study (Roman and Shamaileh, 2020; Nina et al., 2020).

The study revealed that the (Facebook) application ranked first in terms of the sites most used by tourists to learn about the tourist services provided in the region, and the (Google) application came in second place. Then came (YouTube) application in third place, while the least of these applications (WhatsApp).

While the results of the study (Birgit et al., 2018) stated that Facebook and YouTube are among the most common methods used by young people to obtain information. On the other hand, the results of the study (Jaroslav and Blanka, 2019) stated that the promotional tourism content on Facebook and Twitter succeeded to a large extent in presenting tourist destination in an attractive way. The findings showed that what is published (photos, videos, exchange of information, and discussions with friends) on the Internet has facilitated the delivery of information to tourists about the available tourism services at the lowest costs, which is beneficial to the tourism service providers. In the region. On the other hand, what is published through the word transmitted electronically contributes to increasing the customer's awareness of the services provided by tourist facilities and comparing them without the need for an intermediary. This is also supported by results (Jaroslav and Blanka, 2019; Nina et al., 2020; Olayiwola and Jegede, 2020)

CONCLUSIONS

Recent years have shown that words transmitted over the Internet have become an absolute necessity imposed by technical data. In addition to, the multiplicity and diversity of Internet pages increased the volume of users. Therefore, various credible virtual media content (texts, photos, and videos) should be created about tourism sites and services. Moreover, tourism establishments should increase the activity of their websites by providing a constantly updated database that allows beneficiaries to easily access it and improve their psychological outcomes and purchasing intentions. In addition, to create a positive impression to reduce the perceived risk. Moreover, tourist establishments should raise the awareness of their employees regarding the importance of Internet marketing. At the same time, it should pay attention to the opinions and suggestions of tourists on social networking sites.

Research limitations /implications: This study presents variables to assess the impact of the word transmitted over the Internet on the marketing of tourism services that can be applied to a variety of economic businesses. However, the limited sample size increases the issue of generalization, which should be addressed in future research. Moreover, in this study, quantitative analysis and hypothesis testing approaches were used. Therefore, future studies can adopt a qualitative approach with semi-structured interviews that may further understand and evaluate the importance of electronically transmitted words on the marketing of tourism services.

Practical implications: This research provides valuable information that all enterprises can benefit from because it reveals a new type of marketing pattern. This research also calls for deepening the knowledge about the impact of the word transmitted electronically on the purchasing behavior of the consumer and its contribution to the expansion and development of marketing methods. This research also aims to make academics, researchers, and government officials in the tourism industry aware of the importance of the words transmitted over the Internet.

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MANAGING POST COVID-19 CRISIS IN THE TOURISM AND HOSPITALITY SECTOR THROUGH SUSTAINABLE RECOVERY STRATEGIES

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Abstract: This study aims to formulate effective and sustainable strategies to manage post COVID-19 crisis in the tourism and hospitality industry. Data were collected from 290 respondents using the purposive sampling procedure in which the response rate is 70.7%. The structural equation modeling software, SmartPLS 3.0, is used to analyze the constructs of this study and hypothesis testing. The result shows that among the 6 hypothesized paths, 4 were supported, and out of 32 relationship paths, 25 paths are significant. This study reveals that travel risk management, service delivery system, hygiene and safety are the most influencial factors of travel behavior.

Key words: Travel Risk Management, Service Delivery System, COVID-19, Travel Behavior, Crisis Management, Sustainable Plan

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INTRODUCTION

As the largest in the world, the tourism and travel industry offers tourists and travellers memorable experiences and contributes to community or toruism developments (Lea, 1988; Edgell, 2016). Tourism has grown to become a key global sector that has been fast developing since 1950. However, the tourism industry has faced varied crisis events such as climate change, war and refugee crisis, health and well-being related crisis, and economic depression (Bodrud-Doza et al., 2020). The new decade 2020 has started with full of uncertainty due to the unfortunate incidence of a new infectious disease, SARS-CoV-2, commonly named COVID-19 (Nkengasong, 2020; Kaushal and Srivastava, 2021). The outbeak of COVID-19 has deepened the economic and social imbalances (Jamal and Higham, 2021). Before the outbreaks of COVID-19, the tourism and hospitality industry was operate das one of the world economy's most affluent sectors, accounting for 10% of global GDP and creating more than 330 million jobs globally (IMF, 2020). In a recent report, WTTC (2020) stated that COVID-19 has curved down the growth ofthe tourism and hospitality industry as its contribution to global GDPshrunk to 5.5%, and employment stood for 272 million in 2020. The world is facing the challenges of COVID-19 pandemic whereas its had a negative consequences on global business and economy at a unexpected rate (Ozili and Arun, 2020). The tourism business is vulnerable to risks, such as natural disasters, pandemics, terrorism and economic crises among others, and these risks undesirably affect the countrys' culture, environment and socio-economic conditions. Likewise, Pforr (2009) holds that recreationl destinations of tourists are at risk due to crisis and natural disaster such as transmittableviruses and natural disasters. It is to be mentioned that the SARS outbreak expanded from continent to continent in 2002–2004, infecting over 8000 individuals (Pine and McKercher, 2004). Breitsohl and Garrod (2016) highlightedthat crises and disasters would negatively impact tourism. For instance, China faced six billion dollar loss and 80% guests lost due to the priod of SARS and 60% inbound tourists lost after the epedemic (Hai et al., 2004).

The two most challenging aspects for the tourism business are health problems and climate change. This time, COVID-19 is the most challenging factor for the tourism industry. An emergency on public health, including noteworthy epidemics of infectious disease, was delared by the The World Health Organization (WHO) in January 31, 2020 (Yang et al., 2020). Statistically, world travel and tourism industry is the mostly affected due to COVID-19 (UNWTO, 2020).

Due to the COVID-19 Pandemic, one of the most affected industries in the world is the Tourism and Hospitality Business (UNWTO, 2020). Even the developed regions of the world and their tourism destinations could not stand against this pandemic due to the lockdown measures and health security issues (European Parliament, 2020). All the tourist destinations around the world are currently suffering severely due to drastic fall in the tourists' number. Moreover, the tourism based small and medium scale enterprises, for instance hotels, restaurants, andtourism service providers, are struggling most to survive and continue.Many tourism business owers hadto shut down their businessas they could not bear the initial shock of this crisis.Also, the giant Airlines companies are struggling to continue their operation, and they have grounded their thousands of aircraft in the last three months.Millions of employees in this industry around the world have already lost their jobs and living in a miserable life (UNCTAD, 2020).

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Tourism and Hospitality Industry with all efforts is seeking to turn around after the COVID-19 pandemic. However, numerous studies on the impacts of the SARS, MARS, Swine Flu, and Ebola epidemics on the tourism and hospitality industry found that tourists usually took a long time to be comfortable with the post-crisis period, and they usually go through a series of mental stages to avoid their potential health crisis and to revisit destinations (Smith, 2006; Chen et al., 2007; Lee et al., 2012 and Cahyanto et al., 2016). Compared to other diseases' outbreaks the COVID-19 is far more intense than these earlier crises as the earlier viruses mostly spreaded within specific locations (Haque and Haque, 2018). COVID-19 is very infectious and had a global reach that highlights the importance of understanding its impacts before planning to heal the impacts. Domestic tourism market plays a significant part in the socio-economic sustainability of a destination through job creation, economic escalation, poverty reduction, community welfare, local peoples' capacity building, and creation of a generally better society and economic contribution of a nation.Therefore, the key aim of this paper is to find out the effect of COVID-19 on tourism and hospitality industry in Bangladesh by highlighting domestic tourist; and to propose a recovery and sustainable strategies for managing post COVID crisis. This study suggests a policy framework to overcome the challenges of COVID-19 pandemic to assist tourism industry development.

BACKGROUND OF THE STUDY

A crisis is defined as an "unexpected, widely publicized, and detrimental incident that causes broad and negative opinions among assessors and interferes with the usual operations of an organization"(Bundy and Pfarrer, 2015). In addition,"crisis" depict as the impact of many events on tourist operations at a destination, segment, or worldwide level in the tourism industry. In the last few decades, tourism and hospitality industry has experienced some crisis events, which were highlighted in several studies, for example foot and mouth disease, terrorist attack on 9th September in 2001, hurricane Katrina, SARS and Avian Flu, worldwide financial crisis and the outbreak of swine flu, and COVID-19, had an adverse impact on tourism in the past (Blake et al., 2003; Blake and Sinclair, 2003; Chacko and Marcell, 2008; Kuo et al., 2008; Page et al., 2012; Yang et al., 2020). According to Ritchie and Jiang (2019) previous tourist crisis management research has primarily focused on recovery. As a result, there are five important success criteria for tourist recovery, including a crisis management plan, market segmentation, recovery-marketing plan, and collaboration among the personnel (Mansfeld, 1999; Campiranon and Scott, 2014). However, the integration process of these elements into a company's response tactics is not clearly explained. Hence, developing feasible methods, that will lead tourism businesses in strategically responding to the issue, is difficult to formulate.

Following the global trend, the tourism and hospitality industry in Bangladesh also has suffered a lot during the COVID-19 crisis. In Bangladesh, 300,000 (approximately) employees are directly, and four million people are indirectly employed in this industry. Furthermore, this industry contributes to the livelihoods of 15 million families (The Daily Kalerkantho, 2020). Bhunia et al. (2021) showed that COVID-19 outbreak had a negative impact on the socio-economic factors of working class people in severl ways, such as job lost of daily and migrant workers, increased the cost of living, incomecost of small and medium business in India and Bangladesh. Gobally most of the tourism activity is international, though in reality, tourism sector is dominated by domestic tourism (Cahyanto et al., 2016; Cooper et al., 2008). Studies on the domestic tourism market are especially critical for a country like Bangladesh, where the domestic market primarily dominates the industry (Amin, 2017). Domestic tourism market plays a significant part in a destination's socio-economic sustainability through job creation, economic escalation, poverty reduction, community welfare, local peoples' capacity building, and creation of a better and stable society (Schalkwyk, 2012). Deb and Nafi (2020) reveals that during the stated pandemic period airlines have cancelled flights, hotels are alomost vacant, tourism industry in Bangladesh face huge economic and job losses. Thus, the aim of this study is to analyse the effect of COVID-19 and its potential Post-COVID threats for the tourism and hospitality industry from the domestic tourism market aspect. The study will also provide possible best strategies to overcome the threats and revitalize tourism.

LITERATURE REVIEW
Travel risk perception

Travel from one place to other place or one country to other country at a particular time depends on some specific context.A tourist would likely avoid traveling to that particular destination if there are some risks associated with travel (Sönmez and Graefe, 1998). Likewise, the risk related to travel in the COVID-19 pandemic has influenced tourist travel intentions (Meng et al., 2021). Page (2009) and Rosello et al. (2017) found that infectious diseases are the mentionable general perceived health related risk for potential tourists when selecting a tourist destination.

COVID-19 is the most vulnerable infectious disease in the last century that prevent tourist taking domestic and international travel (Teeroovengadum et al., 2021). Risk is an intrinsic characteristic of traveling decision-making for tourists (Reisinger and Mavondo, 2005).Perceived risk in travel is a crucial factor while visiting a tourism destination (Quintal et al., 2010). Qiu et al. (2018) studied on social impact of SARS outbreak in China in 2013.

The researcher found that lack of official information and spread of rumours have developed and eventually exaggerated social panic all over the society (Qiu et al., 2018). Workers who are losing jobs will have less stable employment (Jarosch, 2015). All the tourist destinations around the world are immensely suffering due to drastic fall in the tourists' number. Tourism based small and medium scale enterprises, including hotels, restaurants; tourism service providers, are struggling to sustain. Hyams et al. (2002) asserted that unknown deadly virus causes stress, anxiety, and fearin the community badly impact on the community people life.

H1: Travel Risk Perception of COVID-19 effect on the Tourist Behavior

Travel risk management

Tourism industry is recognized as a sensitive sector to crises, tragedies and disasters (Ritchie, 2004). To manage travel risk, it is essential to collected information about the activities of travellers and maintain rules and regulation of health guideline (Simons et al., 2021). In this regard, information source reliability is the most desirable thing for the travelers and business operators. Travel industries are susceptible to exogenous vulnerabilities like natural disasters, sociopolitical issues, and risks associated at all industry levels, including business organizations, tourism destinations, and at national level (Williams and Baláž, 2015). However, risk management in travel and tourism henceforth has an essential role in tourism overall competitiveness (Liu et al., 2019). Anxiety at the individual level plays an important role to shape travellers' perceptions regarding travel health risk (Chien et al., 2017), and COVID-19 intensified thiskind of anxiety level. The understanding of risk factors and vulnerability measures are important to take appropriate risk reduction and mitigate measures (Ritchie, 2004), which is a compulsory circumstance to build asustainable destination (Espiner et al., 2017; Meli'an-Alzola et al., 2020). Arbulú et al. (2021) identified that COVID-19 creates a great disruption in supply chain management aspects, and historically seasonality plays as the major risk in tourism business. During and post era of COVID-19 perceived risk or health risk influences tourist travel behavior and tourist's travel decision abefore make a decision to travel a tourist destination (Matiza, 2020). Moreover, countrywide lockdown imposed during the peak time of tourism accelerate the risk of joblessness (Arbulú et al., 2021). Villac'e-Molinero et al. (2021) outlined the decision making procedure to understand the reason of travellers continue or cancel their travel procedures. Also the researcher studied on the variables that effect travellers' travel risk perception under a scenario in which the journeys were still possible in some areas located in European and American countries.

H2: Travel Risk Management of COVID-19 effect on the Tourist behavior

Service delivery system and distribution channels

In COVID-19 situation, tourism and hospitality related businesses get opportunities to adopt innovative approaches for the survival and remain competitive in the market. After resuming operation of tourism and hospitality industry, businesses allowed lesscustomers despite having more capacity to ensure physical distancing among customers (Seyitoğlu and Ivanov, 2020). However, tourism and hospitality industry does not change its basic services but the way the services delivered to the tourists is changing. Essentially, information and communication technologies, such as automation, for tourism and hospitality businesses in marketing, distribution, supply chain management, product design and service design, play a significant task in tourism and hospitality industry (Buhalis, 1998; Benckendorff et al., 2019; Tussyadiah, 2020). At present the outbreak of COVID-19 open the new way for technologies like use of robots in the hospitality industry (Gretzel et al., 2020; Sigala, 2020). This pandemic has changed the behavior of tourists and help to make more cautious about the health and hygience facilities of tourism destination (Wen et al., 2020). Consequently, tourism and hospitality industry needs to provide accurate service delivery systems to meet the customers' demand. Moreover, the competitive advantage of a business depends on the relationship among the internal and external service providers relationship management and distribution systems. The society and stakeholders are concern about the return of capital and socialwellbeing activities from the tourism businessman (Jurgens et al., 2010). Seyitoğlu and Ivanov (2020) found three service delivery systems during the pandemic like robotic, hybrid (offline and online), and physically detached service distribution system to meet the expectation of customers. Lau (2020) expressed that live-stream promotion and conference are familiarized to improve the information quality in the primary stage of the pandemic; and robots, facial recognition, and artificial intelligence are incorporated to the day-to-day operations to improve service quality.

H3: Service Delivery Systems of Tourism and Hospitality in COVID-19 effect on the Tourist Behavior
H4: Distribution Channels of Tourism and Hospitality in COVID-19 effect on the Tourist Behavior

Hygiene and safety intourism and hospitality

Hotels, restaurants, museums, cruise lines, airports, and airlines are revising their safety and health protocols to reducing COVID-19 virus contamination (Seyitoğlu and Ivanov, 2020). To control this situation, protective measures, like masks, gloves and transparent anti-virus helmets, are the essential equipments for tourism and hospitality employees who come in direct contact with customers (Sigala, 2020). Some businesses have implemented robots for the decontamination of accommodations and services with electromagnetic light (Rosen, 2020). Also, facemasks, apparent faceshield, and gloves is considered as a typical equipment for the employees of hospitality industry (Sigala, 2020). Some hotels adopt the benefit of technological advancement, such as disinfect rooms through ultraviolet light using robots (Rosen, 2020). Chemli et al. (2020) stressed that well-known control on highlighting potential travellers'consciousness during the outbreak of COVID as a preliminary source of evidence. Likewise, the risk in psysical concern to people travel alone rather than group. Therefore, this research provides an evidence to the stakeholders and regulatory authority about the service delivery process to manage post COVID crisis and also provide authentic, organized and responsible information during recovery phase.

H5: Hygiene and Safety of Tourism and Hospitality in COVID-19 effect on the Tourist Behavior

2.5 Tourist behavior

From the immediate response of COVID-19, the researchers identified that the travel pattern has changed significantly as the world goes under the new normal situations and the following discussion highlighted on these issues. The risk of virus spread and transmission altered travel behavior as travellers decrease their annual trips (Anwari et al., 2021). De Vos (2020) stated that social distancing is the primary new normal phenomenon in the pandemic situation; different types of outdoor

activities are changed significantly; and travel demand has reduced as people use less public transport.In Switzerland, usage of municipalvehicle has dropped 90% (Molloy et al., 2020), people are using more shared private transport than previous time, and people adopted the concept of "work from home" to avoid the personal contact (Shamshiripour et al., 2020).

During COVID-19, many studies suggested that airways is the most suffered mode of business (Gössling et al., 2020; Shamshiripour et al., 2020). Besides, online based shopping, internet based communication and entertainment media have faced losses during the pandemic (Shamshiripour et al., 2020; Anwari et al., 2021). Several scholars stated that COVID-19 pandemic decreases domestic and international travel trip also have an undesirable effect on human psychology and behavioral pattern (De Vos, 2020; Zhang et al., 2021). Moreover, De Vos (2020); Shamshiripour et al. (2020) and Molloy et al. (2021) suggested to highlight on physical work, such as walking and cycling, and sustainable and resilient infrastructure for transportation, instead of imposing hard restrictive guidelines to protect from COVID-19 (Parady et al., 2020).

H6: Tourist Behavior in Covid-19 Pandemic situation effect on the Tourism and Hospitality industry

Conceptual Framework: The effect of COVID-19 is significant in travel and tourism industry. Škare et al. (2021) stated that the policymakers and tourism stakeholders are not properly understood the adverse effect and losses of pandemic on tourism and hospitality industry. This study focus on China and found that COVID-19 is totally different than previous crisis events and recommended for public private policy support, operationa sustainability, and coordination to overcome the crisis. Rogerson and Rogerson (2020) also stated the importance of coordinated services among all the stakeholders and emphasize on the policy support.

Foo et al. (2020) studied on COVID-19 effect on Malaysia tourism industry and stated that Malaysian government has declared a financial stumulus package for the tourism industry. This study conclude that similar types of incentives will assist to survive the tourism industry during this challenging time is similar suggestions with Deb and Nafi (2020). Deb and Nafi (2020) also emphasized on the renovation of service delivery systems, partnership among stakeholders, policy for minimizing the travel risk, and maintaining the safety procedures for tourists for recovering tourism. Kaushal and Srivastava (2021) studied on COVID-19 effect on Indian tourism and mentioned that travel risk management, maintaining the health and hygiene protocol, developing the service delivery systems will help to minimize the effect of COVID-19. Herman et al. (2016) found that tourist map and touristic planning are significant factors for the development of tourism. Refaat and Arafa (2022) revealed that restriction on travel influences of the travelers decision on destionation choice. In addition, policies for touism development towards service quality and promotional aspects must be supported by good governance (Ariyani and Fauzi, 2022). To design a conceptual framework based on the previous studies and expert survey shows that travel perceived risk, managing capacity of risk, managing delivery systems of services and distribution channels, safety and hygiene are crucial factors. The conceptual framework of this study is presented in Figure 1.
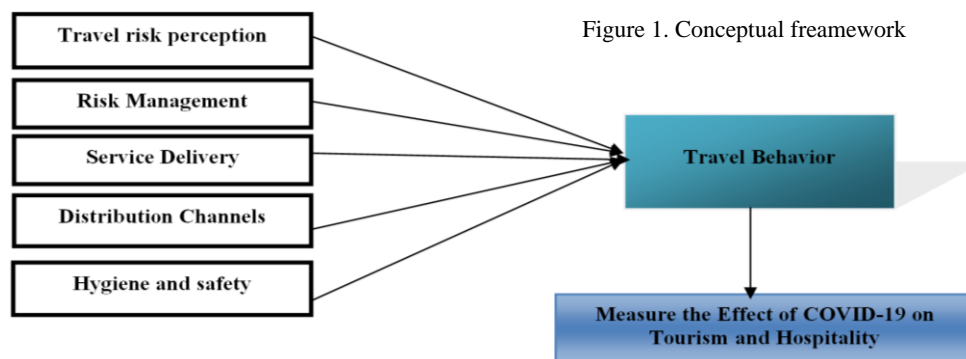
Figure 1. Conceptual freamework

METHODS AND MATERIALS
Data collection

In this study a mixed methods is considered while mixed methods studies combine qualitative and quantitative approaches throughout all the steps of research process for example development of conceptual framework, data collection, and data analysis, and implication (Creswell, 2013). Primary non-disguised methods (focus group discussion and expert interview) were used to identify the pertinent parameters of the study (Malhotra, 2011). A focus group discussion were conducted through a semi-structured questionnaire among the ten menbers to measure the impact of COVID-19 outbreak on the tourism and hospitality industry, and the length of the focus group was one and half hour (90 minutes) in which five (05) experts from tourism industry, two 02) from academia, and three (03) from national toruism organizationa are included. This study also applied a quantitative approach using a structured questionnaire. The questionnaire were divided into two parts whereas intial part is related to the demomgraphic part of the respondents and section part included 32 variables that were recognized and divided into seven groups to meausure the impact of COVID-19 on Tourism and Hospitality industry were answer on 5 (five) point likert scale, with 5 indicating strongly agree to 1 strongly disagree. Afterwards, a self administrative, and face to face survey method was adopted whereas data were collected from domestic tourists. Findings of these steps were compared with the existing literature to identify a refined set of variables to proceed further. Moreover; 300 to 500 sample sizes is are recommended by Roscoe (1975), and whereas 200 to 400 sample size is recommended by McQuitty (2004). To robust of Structural Equation Modeling at least two hundred (200) samples are required (Harris and Schaubroeck, 1990). Gorsuch (1983) suggested that per construct required at least 05 participants and not a lesser amount of 100 persons per data analysis. In this study, 410 questionnaires were distributed, and the amount of

valid survey returns was 380 and response rate was 92.68%. Among the respondents, 320 had visted any tourism destinations within the country or abroad more than two times in a life but rest had not. Hence, the missing data rate were more than 15%. Moreover, Lamb et al. (2014) stated that a dataset if 15% or more remarkableopinion is missing then it should be disregarded. After collecting the survey questionnaire for the respondents, almost 290 questionnaires were applicable (valid response rate 70.7%) for further study. Furthermore, the critical path model analysis required sample size is 200 or more (Kline, 2005). Primarily, a pilot test was conducted to measure whether the initially developed survey instrument captured the constructs or not. The test was undertaken to calculate and to verify the reliability and internal consistency of the questionnaire items by measuring Cronbach alpha (Malhotra, 2011). For the quantitative part, multivariate analysis i.e. Structural Equation Modelling (SEM) used SPSS version 22 along with SmartPLS version 4.0 was used to achieve the PLS-SEM analysis and to analyse quantitative data for conceptual framework justification of the study.

Measures

In business research Chin (1995, 1998) applied and introduced partial least squares structural equation modelling (PLS-SEM). Today, "PLS-SEM has evolved into a stand-alone method capable of investigating real-world problems, rather than being an alternative to covariance-based SEM" (Latan and Noonan, 2017: xi). Wold (2006) stated PLS-SEM method has an exclusive opportunity and strength of model as well as develops a path model. Advanced progresses extending from new estimators (e.g. Dijkstra and Henseler, 2015; Dolce et al., 2018; Schuberth and Cantaluppi, 2017) and model evaluation metrics (e.g. Aguirre-Urreta and Rönkkö, 2018; Henseler et al., 2015). To analyze the data and hypothese testing PLS-SEM is applied in this study. Moreover; Hair et al. (1998) and Byrne (2001) suggested that Confirmatory Factor Analysis (CFA) must be done after Exploratory Factor Analysis (EFA) for validating and authenticating the scales originated from EFA. In addition; all the constructs were measured by Likert scale and collected data through a structured questiomnaire including the items under the constructs are provided in the table.

Table 1. Items used in the study

Constructs	References
Travel Risk Perception	Neuburger and Egger (2021); Jahari et al. (2021); Perić et al. (2021); Hotle et al. (2020)
Travel Risk Management	Rahman et al. (2021); Neuburger and Egger (2021); Kaushal and Srivastava (2021);Oroian and Gheres (2012); Steene (1999)
Service Delivery System	Muhammedrisaevna (2021); Jaaron et al. (2021); Kaushal and Srivastava (2021); Abubakar (2002);
Distribution Channels	Gretzel et al. (2020); Kaushal and Srivastava (2021); Sigala (2020); Wen et al. (2020)
Hygiene and Safety for Tourism	Pendergast (2006); Seyitoğlu and Ivanov (2020); Rosen (2020); Kaushal and Srivastava (2021)
Travel Behaviour	Neuburger and Egger (2021); Matiza (2020); Kim et al. (2021)
Measure the effect of COVID-19 on Tourism and Hospitality	Wachyuni and Kusumaningrum (2020); Xiang et al. (2021); Škare et al. (2021)

DATA ANALYSIS AND DISCUSSION

Socio-demographic summary of respondents

Table 2 displays the socio-demographic summary of the respondents. 64.8% respondents are male and 35.2% respondnets are female in this study. Majority of the respondnets are younger in this study as 67% of the respondnets belongs to the 20 to 40 age group, 43 % of the respondents are completing their graduation and 41% have completed higher secondary. Almost 41% of the respondents state that their monthly

Table 2. Respondents of Socio-demographic profile

	Frequency	Percentage		Frequency	Percentage
Gender			**What is your monthly income (BDT/Rupees)?**		
Female	102	35.2	Below 20,000	81	27.9
Male	188	64.8	21,000-40,000	18	6.3
Total	290	100.0	41,000-60,000	72	24.8
Age			More than 61,000	119	41.0
20-30	102	35.0	Total	290	100.0
31-40	93	32.0	**Travel Pattern during COVID-19 epedemic**		
41-50	54	18.6	Alone	138	47.6
Above 50	39	13.4	Family	140	48.3
Total	290	100.0	Group	12	4.1
Educational status			Total	290	100.0
Primary	3	1.0			
High School	39	13.5			
Higher secondary	120	41.4			
Graduation	125	43.1			
Total	290	100.0			

income more than 61 thousand taka, whereas about 28 % respondents income level is below 20 thousand taka. 48% of the respondents travel with family or alone in this pandemic situation.

Analysis of Measurement Model

The first steps in assessing PLS-SEM results encompass investigative the measurement model including validity and reliability, and structural model analysis (Hair et al., 2019). When measurement model fulfill all the required criteria then researchers move to evaluate the structural model (Hair et al., 2017). Internal consistency of the various variables are being evaluated by the measurement model analysis. Firstly, measurement mode analysis includes investigative the indicators loading. Loading above 0.708 are suggested (Hair et al., 2018). However, table 3 displays that all the indicators loadings exceeded the value of 0.644 as Chin (1998) recommended the value of 0.6. However, Figure 2 presents that the construct's factor loading is greater than 0.7 and the factors loading of all the constructs' are ranging from 0.644 to 0.915.
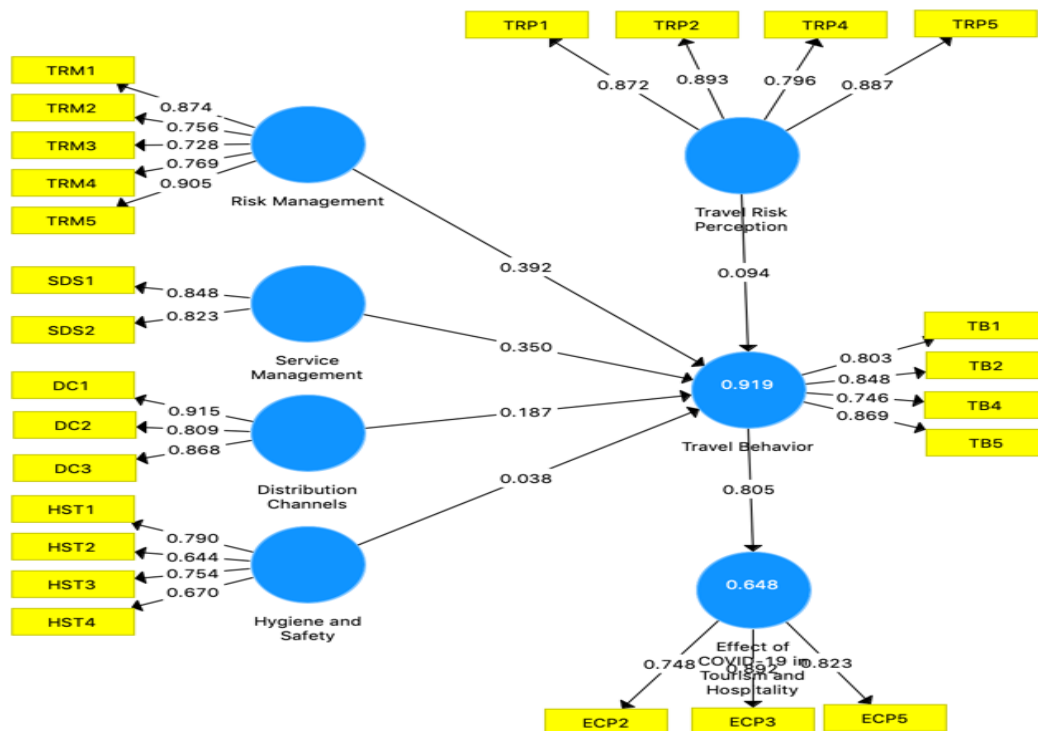
Figure 2. Measurement Model

Table 3. Measurement items and Reliability

Constructs and respective items		Factor Loading
Travel Risk Perception		
The consequence of the COVID-19 outbreak has generated anxiety for travelling to domestic destinations.	TRP 1	0.872
The consequence of the COVID-19 outbreak has formed anxiety for travelling to international destinations.	TRP 2	0.893
I Prefer to travel alone due to the COVID-19 pandemic	TRP 3	Dropped
After COVID-19, I will prefer to travel small cities and rural areas	TRP 4	0.796
I will try to avoid group travel in COVID-19 situation	TRP 5	0.887
Travel Risk Management		
I worry on COVID-19 and how long I will be enble to handle isolation	TRM 1	0.874
I doubt whether we are getting the appropriate information from the government about COVID-19 pandemic	TRM 2	0.756
I search a well infrastructure tourism destionation alongwith medical/health facilities as per the guidelines of COVID-19	TRM 3	0.728
I seek destinations with psychical distance and hygienic facilities as per the guidelines of COVID-19	TRM 4	0.769
Online and contactless service management systems are effective for reducing travel risk management	TRM 5	0.905
Service Delivery System		
I prefer takeout or home delivery service rather than going to restaurant.	SDS 1	0.848
During and after pandemic, I prefer contactless service to minimize interpersonal interaction	SDS 2	0.823
I prefer clean and sanitized service delivery systems	SDS 3	Dropped
Distribution Channels		
Online platform will be more preferable for eReservation and eVisa, ePayment, eShopping and others services related to tourism and hospitality	DC 1	0.915
I prefer online platform for information search, destination selection, and sharing experience.	DC 2	0.809
Using online distribution channels, people can work from home and maintain the social distance	DC 3	0.868
Online distribution channel is effective for go through customer review prior to travel.	DC 4	Dropped
Hygiene and Safety for Tourism		
Post COVID-19, I seek hygiene facilities while travelling different tourism destination	HST 1	0.790
I will prefer to use face mask in public area and tourist destination	HST 2	0.644
Employees personal hygiene and maintaining safety protocol in essential for me	HST 3	0.754
I prefer healthy and hygiene services	HST 4	0.670
I prefer tourism and hospitality medical support in the tourism destination.	HST 5	Dropped
Travel Behaviour		
I think hotels are trying to maintain the proper safety and hygiene guideline	TB 1	0.803
I think transportations are maintaining the COVID-19 guideline	TB 2	0.848
I think tourist are maintaining the COVID-19 guideline (social distancing and use facemask) in the tourist spot	TB 3	Dropped
I think tourism and hospitality employees are maintaining COVID-19 guideline.	TB 4	0.746
I am properly maintain all the safety protocol during my travel in tourist spot	TB 5	0.869
Effect of COVID-19 Pandemic		
I feel psychological stress during the outbreak of COVID-19	ECP 1	Dropped
The outbreak of COVID-19 affect the behavioral pattern of traveller	ECP 2	0.748
I feel apprehensive due to the outbreak of COVID-19	ECP 3	0.892
I feel financial stress due to COVID-19	ECP 4	Dropped
I feel anxiety in my workplace due to COVID-19	ECP 5	0.823

Composite reliability (CR) is the most common and popular indicator to examine the reliability of the internal consistency. Hence, CR should be greater than 0.7 and Average Varience Extracted (AVE) of each latent variable should be greater than 0.5 (Fornell and Larcker, 1981). In this study, the lowest CR and AVE are 0.808 and 0.514 respectively. However, Cronbach's Alpha and rho_A value should be greater than 0.7 (Nunnally, 1978). The lowest Cronbach's Alpha and rho_A value of this study are 0.705 and 0.717. Table 4 shows the results of the measurement model.

Table 5 shows the discriminant validity results of this study. According to Fornell and Larcker (1981) the square root of the AVE of respectively construct is higher than its corresponding correlation coefficients pointing towards satisfactory discriminant validity. Thus, the adequate convergent validity and discriminant validity was in the measurement model.

Table 4. Results of Measurement Model

Construct Reliability and Validity	Cronbach's Alpha	rho_A	Composite Reliability (CR)	Average Variance Extracted (AVE)
Distribution Channels	0.831	0.846	0.899	0.748
COVID-19 effect on Tourism and Hospitality	0.760	0.773	0.863	0.678
Hygiene and Safety	0.727	0.7.36	0.808	0.514
Risk Management	0.866	0.875	0.904	0.655
Service Management	0.705	0.7.17	0.822	0.698
Travel Behavior	0.834	0.839	0.890	0.669
Travel Risk Perception	0.886	0.892	0.921	0.745

Table 5. Discriminant Validity
Note: The square root of AVE in every multi-item construct is shown on the main diagonal

	Distribution Channels	Effect of COVID-19 on Tourism & Hospitality	Hygiene and Safety	Risk Management	Service Management	Travel Behavior	Travel Risk Perception
Distribution Channels	0.865						
Effect of COVID-19 on Tourism and Hospitality	0.853	0.823					
Hygiene and Safety	0.634	0.592	0.717				
Risk Management	0.768	0.717	0.575	0.809			
Service Management	0.702	0.671	0.423	0.777	0.836		
Travel Behavior	0.847	0.805	0.591	0.904	0.868	0.818	
Travel Risk Perception	0.939	0.863	0.643	0.786	0.694	0.846	0.863

Table 6. Results of Structural Model

Hypothesis	Relationships	T Statistics	P Values	Remarks
H1	Travel Risk Perception -> Travel Behavior	0.785	0.216	Not suppotted
H2	Risk Management -> Travel Behavior	9.091	0.000	Supported
H3	Service Management -> Travel Behavior	7.601	0.000	Supported
H4	Distribution Channels -> Travel Behavior	1.413	0.079	Not suppotted
H5	Hygiene and Safety -> Travel Behavior	1.747	0.040	Supported
H6	Travel Behavior -> Effect of COVID-19 in Tourism and Hospitality	16.523	0.000	Supported

Table 7. Results of Path Coefficient

	T Statistics	P Values	Remarks
DC1 <- Distribution Channels	55.959	0.000	Supported
DC2 <- Distribution Channels	23.929	0.000	Supported
DC3 <- Distribution Channels	38.924	0.000	Supported
ECP2 <- Effect of COVID-19 on Tourism and Hospitality	20.034	0.000	Supported
ECP3 <- Effect of COVID-19 on Tourism and Hospitality	47.832	0.000	Supported
ECP5 <- Effect of COVID-19 onTourism and Hospitality	30.008	0.000	Supported
HST1 <- Hygiene and Safety	24.069	0.000	Supported
HST2 <- Hygiene and Safety	10.176	0.000	Supported
HST3 <- Hygiene and Safety	21.662	0.000	Supported
HST4 <- Hygiene and Safety	12.459	0.000	Supported
SDS1 <- Service Management	35.638	0.000	Supported
SDS2 <- Service Management	26.783	0.000	Supported
TB1 <- Travel Behavior	19.425	0.000	Supported
TB2 <- Travel Behavior	32.308	0.000	Supported
TB4 <- Travel Behavior	19.933	0.000	Supported
TB5 <- Travel Behavior	33.629	0.000	Supported
TRM1 <- Risk Management	38.954	0.000	Supported
TRM2 <- Risk Management	16.070	0.000	Supported
TRM3 <- Risk Management	15.536	0.000	Supported
TRM4 <- Risk Management	22.459	0.000	Supported
TRM5 <- Risk Management	39.016	0.000	Supported
TRP1 <- Travel Risk Perception	36.946	0.000	Supported
TRP2 <- Travel Risk Perception	45.321	0.000	Supported
TRP4 <- Travel Risk Perception	23.699	0.000	Supported
TRP5 <- Travel Risk Perception	42.812	0.000	Supported
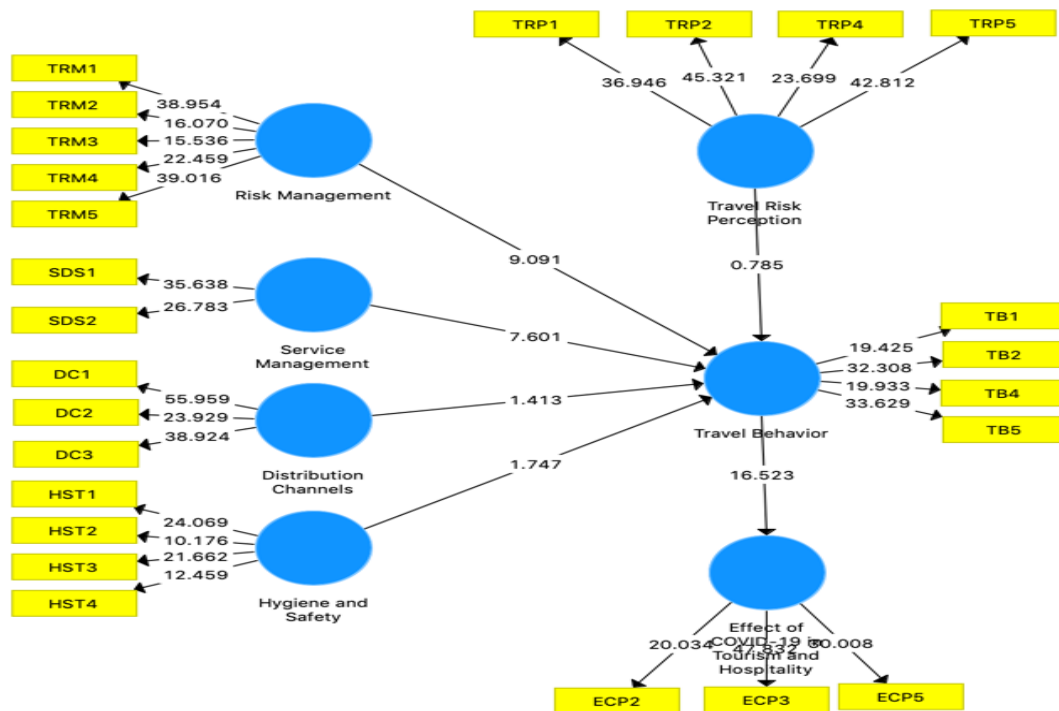
Figure 3. Structural Model

Valuation of Structural Model

Hair et al. (2014) suggested the bootstrapping technique to produce t-statistics, p-valus and 95 % bias corrected confidence intervals that allow the assessment of the statistical significance for the measured relationships, both direct and indirect, hypothesized within the research model. Structural model helps to describe the evaluation process and describes the inner structural model outcomes. However, an well organized model was used in SEM-PLS to verify the proposed hypothesis (14,31). According to the data analysis of hypothesis testing H1, H2, H3, H4, H5, and H6 were tested and all the hypothesis were supported except H1 and H4. It expresses that travel risk Management (t = 9.091, p = .000), Service management (t = 7.610, p = .000), hygine and safety (t = 1.747, p = .000), have positive relation with the tourist travel behavior, and travel behavior (t = 16.523, p = .000) has positively related with the effect of COVID-19 pandemic on tourim and hospitality industry. Table 6 shows the the results of the variables of the proposed model. This study shows that proper travel risk management and service management, and hygine and safety factor influence on the travel behavior in the pandemic situation. Table 7 of the study shows the path coefficient analysis of this study and figure 3 shows the structural model of the study.

CONCLUSIONS AND RECOMMENDATION

All countries in the world have been affected by the COVID-19 pandemic from a greater extent of economic to social losses (WHO, 2020). The effect of the COVID-19 pandemic has intensified because of globalization and global connectivity (Jord'a et al., 2020). This pandemic has changed travel behavior and the overall tourism and hospitality industry.This study reveals that travel perceived risk, travel risk management, service delivery system, hygience and safety are consired as a critical factor of travel behavior in the Post COVID-19 era.

Working class employess are facing phychological and finanicial stress as well as reduces international and domestic tourists during the pandemic is similar with the results of Bhunia et al. (2021); Arbulú et al. (2021). Moreover; this study divulges that home delivery, contactless service, eReservation, ePayment, eShopping are critical success factors of managing post COVID crisis in Tourism and Hopsitality which is similar with the results of eTourism Adoption of (Deb, 2021). The study also found that pandemic has generated anxiety for travelling to domestic and international destinations is similar with the results of Bauza et al. (2021). At the same time, respondents will prefer the small cities and rural areas for their travel destinations after the pandemic and using contactless or online services for risk management. Respondents express that wearing a face mask in public areas and tourist destinations, employees personal hygiene and maintaining safety protocol, and health and hygiene services are preferable which is similar with the study of (Seres et al., 2020). Respondents also expressed their preference for online platforms for information search, destination selection through image (Deb et al., 2020) and sharing experience.

The findings of this study provides useful information regarding the medical facilities in tourism destination and safety and hygiene maintainence for travel risk management. The study suggests that respondents prefer online platforms like eReservation and eVisa, ePayment, eShopping and other services related to tourism and hospitality in pandemic situations is similar with (Deb, 2021). Maintaining the proper safety and hygiene guidelines and COVID-19 protocol are vital for tourism and hospitality service providers like hotels, transportations, employees, parks and other establishments are essential for crisis recovery. In the theoretical aspect, researchers and tourism educators will get a clear idea about literature review on managing of post COVID-19 crisis in tourism and hospitality industry through a sustainable plan. Kebete (2021)

suggested that a realistic guideline and polices are essential for the development of emerging tourism destinations in the post pandemic era. Apart from the theoretical contributions, the findings of this study will enhance the managerial skills of businessman, regulating authority of this industry through generate the knowledge of travel risk management, managing service delivery system, and hygience and safety management by promoting rural tourism through local culture, heritage, and tradition (Deb et al., 2022). To implement the golas of SDG-2030 during the post COVID-19 era digital marketing i.e. virtual tourism and eTourism is essentials for tourism development (Deb, 2021). Though this study can make a significant contribution to the practitioners and educators of tourism with a scale of limitations. This study focused on causal method but in future a longitudinal study can make a better understanding of toruism recovery plan. This study based on Bangladesh perspective therefore no scope to get comparative statistics in between the countries so a further study can be conducted on Bangladesh and south asian countries. Only 290 respondents are considered for this study due to the time and fund limitation however in future more respondents could make a better understanding .

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THE ART OF TERRACOTTA FROM THE PERSPECTIVE OF CULTURAL GEOGRAPHY: TAVAS CASE (DENİZLİ / TURKEY)

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Abstract: The article presents the art of producing terracotta, part of an important cultural heritage in Medet, Tavas region, Denizli province (Turkey). The case study examined the works of Hasan Hüseyin Savçı's family, the only representative of the terracotta art in Denizli. The aim of the undertaken research is to describe, analyze and evaluate the importance of the handicraft for the preservation of the cultural heritage of the region. The research used document analysis, which is one of the qualitative research methods, and additionally a partially structured questionnaire as a data collection tool. The field research was conducted in the Medet District. The undertaken research and analysis of the collected material confirm the great importance of the works of successive generations of the Savçı family for the preservation of the cultural heritage of the region dating back to the early Bronze Age. The handicraft of Necip Savçı, reconstructions and reinterpretations of the works are characterized by exceptional artistry. Research on the local raw material, a structured interview allowed for the documentation of terracotta production techniques and the problems related to their sale. The results of the research emphasized the importance of cultural heritage, such as terracotta, for the preservation of local identity, and at the same time being an important tourist attraction.

Key words: Terracotta, Turkey, Denizli, Cultural Heritage, Handcrafts, Pottery

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INTRODUCTION

Culture, which is a human concept, is expressed as a set of beliefs and customs arising from living together. Education spreads through generations through imitation and simulation (Getis et al., 2011). The concept of culture includes concepts such as language, religion, architecture, handicrafts, customs, morals and travels (Bógdał-Brzezińska, 2021). The perspective of cultural geography is to enable us to better know the relationship between culture and the natural environment and the place we live in, additional cultural heritage is one of the most import factors of culture tourism development and promotion (Ilieş, et al., 2017; Herman et al., 2019). Handicrafts constitute one of the important cornerstones of cultural geography. Handicrafts, which are evaluated within the framework of concrete cultural heritage, include the cultural codes that a society has brought from the past to the present. The peculiarity of the geography of life, the traditions and customs that society has the way of life comes to life on objects with different shapes with different motives. From the earliest times, handicraft products made of terracotta have been present in all cultures, hence relatively well researched and described by researchers of the antiquity period (Aybek, 2018; Saplakoglu, 2022). They are found on different continents and regions, in Africa (Gosselain, 1999; Frank, 2002; Breunig and Ameje, 2006), in India (Pramanik et al., 2021), in Italy (Duarte Alonso and Bressan, 2014), Sardinia (Doria and D'Orlando, 2018), Romania (Ardeţ and Ardeţ, 2018; Petcu et al., 2018) or in China (Martinón-Torres et al., 2011; Li et al., 2016). Ancient finds from Turkey are also rich in literature (Hakan Verdu Martinez, 2012; Laflı, 2018; Güngor Alper, 2019). Handicrafts also contribute to the tourist attractiveness of destinations selected by travelers and enrich a tourist stay with the knowledge of the value of regional and local cultural heritage (Ilieş and Wendt, 2015; Atasoy and Wendt, 2016; Deac et al., 2019; Solmaz and Oran, 2020; Berdenov et al., 2021). The next two important aspects inclining to take up the presented research topics are related, firstly, to the importance of preserving cultural heritage (Gürçayır Teke, 2018; Marcu et al., 2020) and preserving the traditional brand in tourism marketing (Wendt and Bógdał-Brzezińska, 2018a). And secondly, its economic importance for local communities (Satpathi, 2011; Sahoo et al., 2016), important in the Denizli region (Okca, 2016), also in terms of agritourism development (Wendt et al., 2021) and rural regions (Mikhaylova et al., 2022).

Pottery, which is included in handicrafts, is made in many cities of Anatolia using traditional and modern methods. Its history goes back thousands of years and has a long history, which, according to the pottery masters, goes back to the prophets. In Anatolian culture, the art of pottery, whose history is believed to go back to the prophets, has a sacred place. At the same time, pottery was used in different forms during important events in human life, such as death and marriage (Öney, 2020). Pottery production continues in cities such as Nevşehir, Diyarbakır, Konya, Sivas, and Muğla in Anatolia.

Denizli province, located in the southwestern part of the Anatolian peninsula, between the 28º 30'-29º 30' east meridians and the 37º 12' -38º 12' north parallels, is the city where the terracotta art called "earthenware" is made in Turkey. Clay

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fired at high temperature takes the appearance of hardened ceramic as it loses its water. Products made in eggshell thinness by painting the soil with earth without using glaze and paint have artistic value (Figure 1).
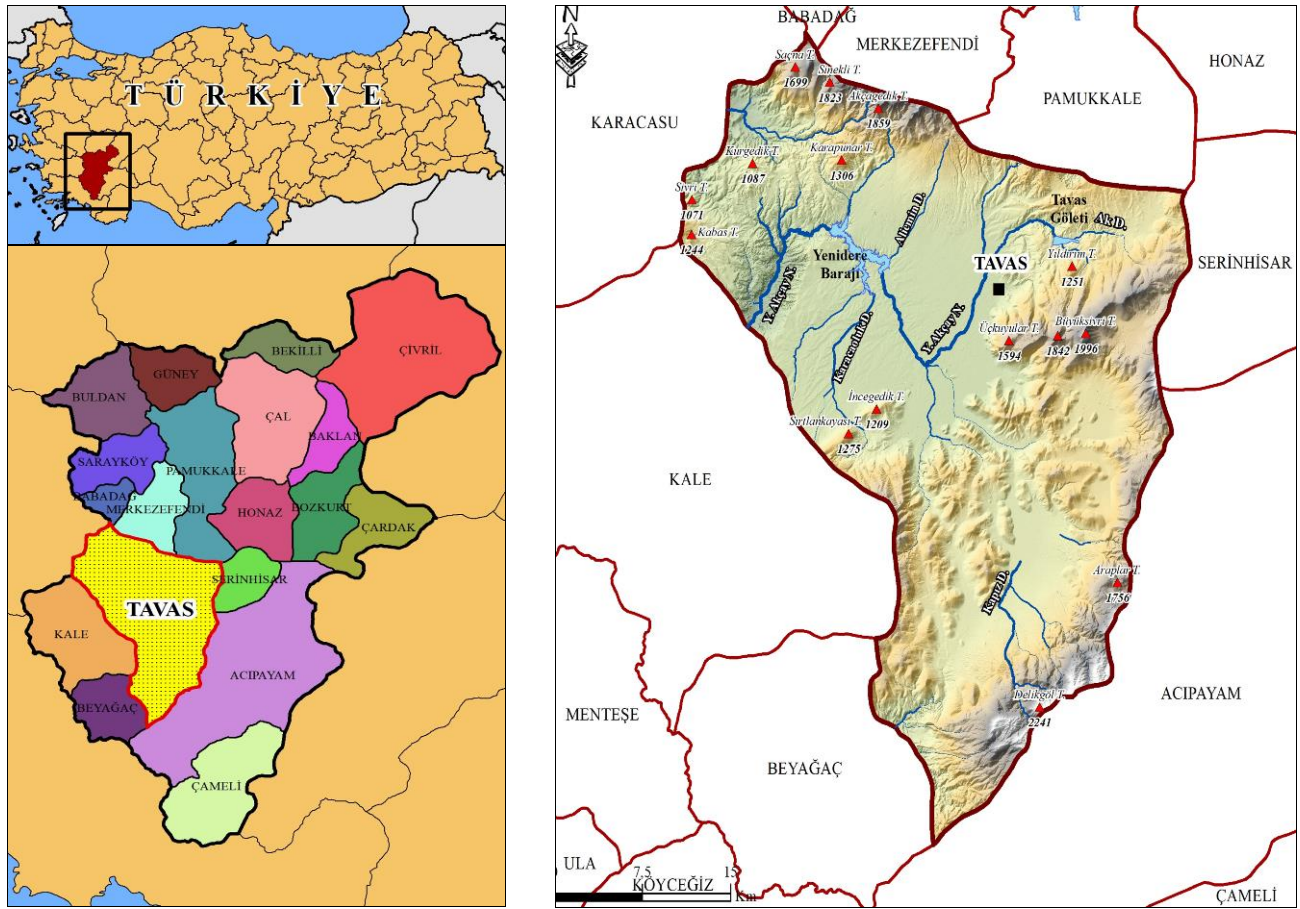
Figure 1. Location Map of Tavas District (authors elaboration)

The history of the terracotta bowls and pottery found in Medet Mound in Tavas district dates back to the Early Bronze Age (Yaylalı and Akdeniz, 2002). The district, which bears traces of Hittite, Phrygian, Persian, Ancient Greek, Roman Empire, Byzantine and finally Turkish periods, is home to a historical ruins. Among these civilizations that settled in the region, especially the Hittites, were an important archaic society that left their mark on the geography they were in with their state administration, law and punishment methods, religion and social life.

It is known that the Hittites dominated the region between 2500-1700 BC (Peker, 2009). The Hittites made the city of Çorum (Hattusa) the capital. Afterwards, the Hittites dominated the Southeastern Anatolia Region of Turkey, the central and northern parts of today's Syria, and the Mediterranean coast in the west and the Euphrates River in the east (Peker, 2009). One of the most characteristic features of this civilization is the pots and pans made by baking clay. Among all these civilizations in the region, the Hittites especially mastered pottery and ceramics.

It is seen that clay is often preferred because it takes shape easily due to its plasticity feature and turns into a durable product after firing. The place of clay has not changed in the process from the day of human history to the present day. The remains of pottery made with clay in the fertile Anatolian lands, which have hosted countless civilizations, are often encountered in excavations. The oldest known examples of these remains are found in Çatalhöyük. The history of the terracotta figurines and vessels found in Çatalhöyük dates back to 10 000 BC (Arslan, 2018).

The unglazed terracotta products made by the Hittites are distinguished from the others by their functionality and the motifs on them. According to sources, the Hittites, who believed in a polytheistic religion and were known to have about 600 gods, goddesses and animal gods, reflected their religious views on the bowls and pottery they made. Animal-headed vessels, beak spouted long-footed jugs are also decorated with religious items (Ünal, 2020).

Citizens living in the rural areas of Tavas district spent their childhood playing games around the ancient Medet Mound and stuck the historical remains to their mind in this region. One of the last family, who create terracotta objects is the Savçı family. Mr. Necip Savçı, who is popularly known as the "Last Hittite". Savçı is an artist who has been the subject of much news in the local and national media with the originality of his works. The artist, who was born in Garip Village of Tavas district in 1949, lived in this region until the end of his life and made a strong impression with the works he produced. The artist, who used the soil that was his own mixture and painted the soil with soil without using a pattern, became the only one in Turkey in this field with objects such as bowls, pots and jugs made as thin as an eggshell. The legacy of the Prosecutor, who passed away in 2010, is being undertaken by his son and family today. In this study, the footprints of the terracotta art, the oldest examples of which we have seen in the Anatolian lands and

spread over a wide area, will be followed under the leadership of the Savçı family, who produced it in accordance with the original and brought it to the present day. The main goal of the research undertaken is to describe, analyze and evaluate the importance of terracotta production for the preservation of the cultural heritage of the region. In addition, the undertaken work aims to show the importance of handicrafts by the Savçı family for the preservation of cultural values, in terms of tourist values, which constitute the tourist potential of the Tavas region.

MATERIALS AND METHODS

The research used document analysis, which is one of the qualitative research methods, and additionally a partially structured questionnaire as a data collection tool. The field research was conducted in the Medet District. This study used as well qualitative research (Philip, 1998; Veal, 2017) and fieldwork methods (Figure 2). The first step of the research is identifying the topic. The second is data collection. Then the analysis of the collected material and its scientific discussion of the obtained results. The literature review on the art of terracotta with the document analysis technique, which is one of the qualitative research methods, was carried out within the scope of this study (Veal, 2017). In this context, theses, articles, magazines and newspapers related to the subject were examined. Necip Savci's family was interviewed by using the interview technique, which is one of the qualitative research methods. Data were collected
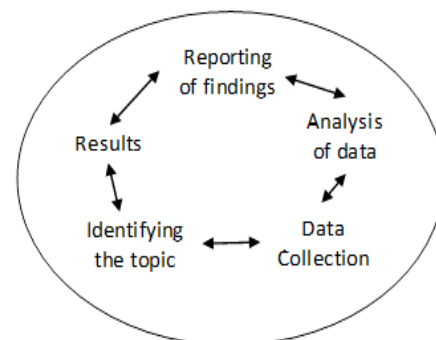
Figure 2. Research Process

with a semi-structured interview form designed by the researchers during the interviews. This form consists of two parts. In the first part of the form, demographic data about the participants were included, and in the second part of the form, 10 questions regarding the purpose of the research were included. The opinion of a geography and language expert was taken to ensure the construct validity and face validity of the form. After the expert opinion, two items were edited in the form.

There are eight questions in total in the final version of the form. These questions are as follows:
1. How did terracotta art begin? How is it made?
2. What is the characteristic of the clay used?
3. How is the soil used for terracotta objects prepared?
4. What objects are usually made?
5. What are the characteristics of the motifs on the objects?
6. Who carries on this art in the family?
7. Are products only displayed locally?
8. Is there a demand for these objects from abroad?

The interviews lasted an average of 30-35 minutes. During the interviews, audio recordings were taken with the permission of the participants, and the recordings were then transferred to a word file. Qualitative data (document analysis and interview data) and data based on field observations obtained in the research were analyzed descriptively (Wendt and Bógdał-Brzezińska, 2018b). In line with the purpose of the research, the findings are presented respectively.

RESULTS AND DISCUSSION

The data obtained in the research are given under three headings. These data are the historical development of the terracotta art, the characteristics of the terracotta art made in the rural area of Tavas Medet village and the "Terra Cotta" Story Beginning with Necip Savçı.

1. Historical Development of "Terra Cotta" Art

The Latin word terracotta means "earthenware". Terracotta products, the first examples of which were found in the world between the Tigris and Euphrates rivers in 6000 BC, were later seen in China, Egypt, the Mediterranean Basin, India and Africa. Clay soil, which is the main material of tera cotta, has shaped the way of life of man. Products made of baked clay, have become widespread in almost every area since the Neolithic Period with their easy shape, practical use and durability. It is possible to see that clay is used in temples, statues of gods or in decorations in architecture, as it is used in bowls and pottery at home. All products made of terracotta are found in the Neolithic Period. This period has been a very important process in which human beings reorganized their relationship with nature, human beings could physically intervene in nature, and the foundations of today's civilization were laid. Having learned to do agriculture and making objects from the soil, mankind has used his mental faculties more and more, all these developments have occurred with the opening of the doors of the Neolithic Period. The most important criterion that divides the Neolithic Period, which is a time period between approximately 10.000-6000 BC, into aceramic (pre-pottery) and pottery (pottery) periods were the objects made of soil. The bowls and pottery produced by baking clay were first encountered in the Çatalhöyük (Konya-Çumra) region around 10 000 BC (Cessford, 2001; Karataş Yüksel and Çilingiroğlu, 2021). With the invention of the potter's wheel in 7000 BC, there was an increase in the number of products made, and pottery, which was previously a job for women's daily needs, later turned into a profession for men.

It is possible to see clay, which is shaped according to the cultural characteristics of different civilizations, as the female goddess figure reflecting fertility in Anatolia, an army of 700 soldiers protecting the emperor in China (Martinón-Torres et al., 2011; Li et al., 2016), Masks representing different tribes in Africa, and statues and human busts in Ancient Greece and Roman Empire (Saplakoglu, 2022). Every piece of pottery found during the excavations has been

a small ambassador that carries the identity and lifestyle of the civilization they are found in. It is seen that the terracotta bowls and pots made in the Neolithic Period are unglazed and painted in earthy colors using soil, like in others relics (Schotsmans et al., 2021). For this reason, it is seen that colors specific to the soil such as brown, black, red and yellow are used as the characteristic color palette of Neolithic period items.

The fact that clay is a airing material and that it is easily shaped and allows artists to convey their feelings and thoughts has enabled today's artists to prefer this material. Especially since the 1970s, synthetic materials that have entered our lives have become increasingly inextricable, allowing people to rediscover the soil, which is very important for our lives, and to reinterpret it. A terracotta symposium has been organized in the province of Eskişehir in Turkey since 2006, under the leadership of Tepebaşı Municipality, with the support of Anadolu University and many institutions, creating suitable environments for artists from different parts of the world to come together and exhibit their works on the subject.

2. Features of "Terra Cotta" Art Made in Tavas Medet Village Countryside
Located in the southwestern part of the Anatolian peninsula, between the 28º 30'-29º 30' east meridians and the 37º 12' - 38º 12' north parallels, the Tavas district of Denizli is 950 m above sea level and has a surface area of 1691 km² (Figure 2). The district is surrounded by Babadağ (2308 m) in the north, Bozdağ (2424 m) in the south and Kızılhisar Mountain (2241 m) in the east. Tavas Plain, which is not surrounded by very high mountains, consists of tectonic pits. According to Yalçınlar, the plain is a karstic polje formed as a result of the melting of limestones (Yalçınlar, 1963). The Çatak Stream, which joins the plain from the northeast of the region, disappears after it flows weakly in the plain.

Figure 3. Satellite Image of Medet Village (by Google maps)

Medet mound, dating back to the Bronze Age, is located on the Tavas Plain (Figure 1). The mound was built on an ancient settlement called Apollania, 7 km west of the town of Tavas. The village, which is at the crossing point of the Lycian and Phrygian civilizations, was also an important settlement of its time in ceramic arts. There is the ancient city of Apollonia Salbace, which was founded in the name of God Apollo, in the region, which has been a continuous settlement since the Bronze Age. Located in the province of Denizli, Babadağ, known as Salbace Mountain in ancient times, was a landform of sacred importance for the people of the region in ancient times. In old Turkish mythology, mountains used to represent places with high energy and close to Tengri. The ancient cities of Aphrodisias, Heraclea Salbace, and Apollinia Salbace were established on the Babadağ range, respectively. In the ancient city of Apollinia Salbace, where the Medet Mound is located, coins with divine figures were found, minted between the 1st century BC and the 1st century AD on behalf of the Roman Emperor Hadrian. A large number of terracotta bowls and pottery finds belonging to the Prehistoric Period were found in Karacahisar Mound, which was also established close to this region. The intense destruction of this excavation area, which is located approximately 1 km from the Medet Mound, by the settlement areas and its expression as a context residue, caused the finds to not be evaluated sufficiently (Yaylalı and Akdeniz, 2002). The terracotta products found in Karacahisar Mound are generally spouted jugs and double-handled vases and pots. The products found are exhibited in the Aphrodisias museum in Aydın. Quartz found in the soil of the terracotta products found in Karacahisar and Medet Mound was extracted from the slopes of Babadağ. In terracotta products, the color of the paste was mostly brown, red, gray and yellow. As in other regions known for handicrafts (Duarte Alonso and Bressan, 2014; Pramanik et al., 2021), terracotta products play an important role in the budget of individual families. They also play an important role in cultivating disappearing professions (Solmaz and Oran, 2020), displaced by modern industrial products (Satpathi, 2011; Sahoo et al., 2016). Terracotta products are not only of

economic importance on a micro scale, created in accordance with the local tradition, they preserve the cultural heritage by building bridges between the past and the present (Gürçayır Teke, 2018), as is the case with the Savçı family.

3. The Story of "Terra Cotta" Beginning with Necip Savçı

Hasan Hüseyin Savçı, son of Necip Savçı, who learned how to make terracotta products from his father, continues this art today as the third generation after his grandfather and father. An interview was conducted with Hasan Hüseyin Savçı using the unstructured interview technique (Figure 3). In the interview, the origin story of terracotta products, the stages of production of the products, the characteristics of the motifs used, and finally the sales of terracotta products were evaluated.

Figure 4. (A) Interview with Hasan Huseyin Savçı (B) Hasan Hüseyin Savçı (by authors)

Figure 5. View of "Terra Cotta" Workshop (by authors)

Explaining that his father learned about soil and stone from his grandfather from a very young age, Hasan Hüseyin Savçı stated that: "*My grandfather was known as Molla Hasan. He was engaged in mining works during the Atatürk period and had extensive knowledge about stone and soil. Those who wanted to get information about the mines of the region would come to chat with my grandfather. My father had experienced these and learned about mines and soil from an early age.*"

Tavas, which has a plain appearance geomorphologically, has a clayey land in terms of soil structure. The clayey loamy soil that emerged when the rivers around it were drained, especially in the summer months, became a playground for the children in the area. Necip Savçı, who loved clay soil and played with it, learned to shape clay at that age. In Medet Village, which is also a protected area, the jug and pottery fragments found when the villagers plowed their fields and the motifs on these pieces attracted the attention of Necip Savçı over time, so he started to make jugs, pots and pots suitable for these underground pieces in his works (Figure 4).

"*While the villagers were plowing their fields, they took out broken pieces of vases and jugs. My father used to collect these pieces when he was a child and tried to draw the shapes on the old vases and jugs himself. He would examine the pieces that were found and made vases and pots according to the original pieces according to these pieces.*

He had formed a mud by trial and error method by mixing the clayey soil found near the mound with different types of soils in the vicinity. My father also had a talent for painting. My grandfather, Molla Hasan, asked him to draw constantly, and he helped him to develop this talent more. "

Hasan Hüseyin Savçı and his family continue this art, which he inherited from his father, in the same way. The family carries the works to the present day by making the cultural values of the civilizations that lived in Anatolia exactly the same as the way they were made at that time (Figure 5).

A. Pottery Molds

B. Tools Used in the Workshop

C. View from the workshop

D. Earthenware Objects

E. Ready-to-Sale Products

F. View from "Terra Cotta" Bowls

Figure 6. Workshop and handicrafts of the Savçı family (by author)

"*Since the age of seven, I have been continuing this art as my late father taught me. Terracotta means "earthenware". The products are made without glazing. What I do is the art of painting the soil with the soil. After mixing the soil I brought from the mountain in different regions, I add the small rocks I ground in the mill and turn them into mud. After that, I sand the mud in our ceramic lathe, giving it the shape we want. I bake the product in a 150^0C oven for 8 hours. After baking, I paint the product completely with earth. The resulting products are as thin as an eggshell. The lifespan of the items I make completely depends on the usage. But the paint on it does not come off at all."*

Hasan Hüseyin Savçı sells the works he produces by sending them to various art centers in Turkey, especially in Paşabahçe. Despite the offers from countries such as Belgium, Sweden, Italy and Greece, they did not want to leave their hometown Tavas, and continued their production in the workshop they opened in the garden of their house. *"We belong to Anadolu and Tavas. We take our inspiration from Aphrodisias, Hierapolis and Laodicea. We get the raw materials of the ceramics we make entirely from the region we are in. We do not use any additives or synthetic materials. We think that we contribute to Turkish Tourism with these ceramics we produce."*

CONCLUSION

The history of terracotta art, its application in the Tavas district of Denizli and the terracotta products of Hasan Hüseyin Savçı, the second generation representative of this art, are included within the scope of this research. Terracotta products, the first examples of which were found in the world between the Tigris and Euphrates rivers in 6000 BC, were later seen in China, Egypt, the Mediterranean Basin, India and Africa. The pottery, which was first produced by firing from clay in Anatolia, was first encountered in the Çatalhöyük (Konya-Çumra) region around 10 000 BC. However, terracotta bowls and pottery are found in the mounds in the Anatolian geography. A large number of terracotta bowls and pottery belonging to the Early Bronze Period were found during the excavations in Medet Höyük in the Tavas district of Denizli. These artifacts found are exhibited in the Aphrodisias and Denizli museum. The terracotta pieces unearthed from the Medet Mound in Denizli turned into artifacts in the hands of Necip Savçı, who lived in this region, who spent a lifetime researching and reconstructing these pieces in accordance with the original. Necip Savçı painted the works without glazing, without using chemical dyes, only with earth. These works have been reinterpreted in eggshell delicacy.

His son, Hasan Hüseyin Savçı, who is the second generation, continues this art today. In a semi-structured survey conducted with Savçı and his family, it was evaluated how Hasan Hüseyin Savçı performed this art, which he inherited from his father. The characteristics of the soil where terracotta products are made, the stages of their construction and trade have been studied. Crafts that are evaluated within the concept of intangible cultural heritage have become more important today, when cultural values are rapidly disappearing in the face of technology. The fact that these works are bridges that ensure the transfer of the cultural characteristics of past societies to future generations as well as carrying them to our time once again demonstrates the importance of handicrafts. This study emphasizes the importance of cultural heritage. It is also important from the point of view of tourism to support the people and institutions doing this work, such as the Savçı family, which ensures the continuity of the cultural heritage.

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THE IMPACT OF RELIGIOUS TOURISTS' SATISFACTION WITH HAJJ SERVICES ON THEIR EXPERIENCE AT THE SACRED PLACES IN SAUDI ARABIA

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Abstract: To identify the impact of satisfaction with the provided services (food quality, transportation, accommodation, medical services and the religious guidance) on the spiritual experience of religious tourists, as well as the potential moderating role of pilgrims' demographic characteristics on the relationship between service satisfaction and experience. A structured survey was distributed among the domestic pilgrims in Mecca, Saudi Arabia who performed Hajj under the control of three licensed agencies. Results showed that the satisfaction with transportation services and religious guidance were independent antecedent predictors of the spiritual experience. Furthermore, pilgrims' age had significantly moderated the relationship between satisfaction with medical services and experience. National authorities can effectively improve the spiritual experience by providing comfortable means of transportation and reliable religious scholars to guide the pilgrims at different sacred destinations.

Key words: religious tourism, hajj, service quality, satisfaction, experience, Saudi Arabia

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INTRODUCTION

The subject of tourism and religion has increasingly grabbed the attention of scholars worldwide. Although this is mainly oriented about anthropological or sociological aspects (Collins-Kreiner, 2020; Henama and Apleni, 2018), the geographical and historical disciplines are also discussed (Aulet and Vidal, 2018; Cortese et al., 2019). Indeed, religion is a powerful motivating factor for travel and an important driver of tourist attractions which formulate the casual interest (Di Giovine and Choe, 2019). The travel to religious destinations has been facilitated by the recent improvement in communication and transport which promotes accessibility. Pilgrimage to different destinations brings significant economic, social and political benefits, since pilgrimage has extended from a fundamentally religious journey to transformative, secular or non-religious journeys as well (Koshim et al., 2021). Pilgrimage is inspired by the major faiths of Christianity, Judaism and Hinduism, and the Islamic Hajj to Mecca is no exception. The Muslim Hajj pilgrims visit four main places in their journey, including Mecca, Arafat, Muzdalifa and Mina. The Ministry of Pilgrimage takes the responsibility of hajj management, and it is supervised by the Supreme Hajj Committee (Ministry of Hajj: Supreme Hajj Committee, 2022). The annual gathering of Islamic Hajj is successfully implemented by the co-operation between the aforementioned official parties and other related ministries, such as those of Information and Culture, Health, Telecommunications, and Information Technology, as well as the Saudi Red Crescent and the National Guard. Private companies may also play an integral role by providing transport, accommodation and other services to tourists, and the involvement of other service providers outside the tourism niche should not be neglected. Actually, handling the influx of a large number of pilgrims is an exceptional logistical challenge, where novel technological advancements are continually applied to the running of traditions that lasted for years (Hassan et al., 2022). This is apparent in the flux of a large fleet of buses along the superhighway from Jeddah to Mecca to transfer pilgrims to their destinations, where they are housed in dedicated, air-conditioned tents in Mina. In the latter region, there are thousands of drinking fountains, hundreds of medical clinics and many telephone banks in the pilgrimage sites.

On the other hand, despite these arrangements, pilgrims may encounter some dangers and threats. Older pilgrims are subject to the risks of injury and disease in such a physically-exhausting journey (Ahmed et al., 2006). These risks are

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usually exacerbated by the crowds, which would additionally represent a significant risk for getting infected with communicable diseases. Therefore, medical services should be adequately adopted to manage the anticipated health problems during Hajj (Al Masud et al., 2016; Yezli et al., 2019). As a consequence, it is necessary to implement satisfactory safety measures, which have been incorporated as an essential component of the Saudi 2030 Vision Realization Programs to improve the Hajj experience (Vision 2030, 2019). In essence, the fundamental objectives of the Pilgrim Experience Program included facilitating the access to the sacred places for pilgrims, providing high-quality services and enriching the cultural and religious experience (Vision 2030, 2019). However, these objectives could be effectively achieved by conducting research and studies that investigate the current issues while signifying and improving the positive areas of service quality. Within this area of interest, the role of potentially influencing moderating factors would reveal fruitful explanatory results. These moderators would enrich our understanding of the relationship between different theoretical constructs; thus, moderators have been frequently included in multiple marketing research studies (Homburg and Giering, 2001). Demographic factors provide an interesting area of research as significant moderators in the tourism industry (Velázquez et al., 2011). Accordingly, the objectives of the current study are two-fold: 1) to assess the impact of the perceived satisfaction with Hajj services and the actual pilgrimage experience; 2) to explore the moderating effect of demographic characteristics on the relationship between pilgrims' satisfaction with the provided services and the experience.

LITERATURE REVIEW
Satisfaction with Hajj services

Unlike other pilgrimages for other religions, Hajj is mandatory for Muslims, and the number of pilgrims has increased considerably during the past decades. This is because the overall numbers of Muslim populations have increased worldwide, transportation has become cheaper, and more Muslims from developing countries can afford the Hajj expenses (Al-Mulali et al., 2020). Hajj satisfaction is generally perceived as the same way as customer satisfaction in service industries. In the spiritual and religious contexts, it is expected that satisfaction with the provided services would increase the Islamic religious commitment, and this might be reflected on the overall experience. Services are the deeds, performance, or efforts exerted by service providers in order to satisfy the needs and expectations of customers and make a good impression (Ulfy et al., 2021). Based on the importance of service quality on pilgrims' satisfaction, improving the services has become one of the priorities of the national authorities in Saudi Arabia. The Hajj services investigated in the current study are listed below.

Food

Food services and tourism have long been linked to each other. Food services have been a matter of research in the Muslim-friendly tourism field (Algarni et al., 2016), and they are important drivers of tourist satisfaction (Nield et al., 2000). Additionally, food contributes to improving the national economy of tourist destinations and an integral part of tourism development (Elmont, 1995). Tourists' experience with food and meals in a given destination can be memorable and enjoyable, and it can go beyond the mere functional purpose of food ingestion. Multiple researchers have underlined the importance of food experience as a source of tourists' satisfaction. For example, Hendijani (2016) showed that the ingredients and heritage of food experience among tourists visiting Indonesia were significantly associated with greater levels of satisfaction regarding the destinations. Kala and Barthwal (2020) assessed the impact of various types of food and restaurant experience on the satisfaction of tourists in selected religious destinations in India. Results indicated that tourists' satisfaction was positively influenced by the quality of food service and physical attributes of restaurants (Kala and Barthwal, 2020). Furthermore, tourist experience can be augmented by targeting the improvement of food quality at destinations. Son and Xu(Son and Xu, 2013) have shown that religious food in a Buddhist temple can be an effective way of tourist attraction, particularly among Western tourists. The reasons for which the food was a significant attractive factor were primarily focused on considering the food as a means for sensory pleasure, as a way for novelty-seeking or a symbol for prestige (Son and Xu, 2013). Biblical food was also a significant factor for religious tourism in the Holy Land, and it was an important contributing factor in developing and promoting the religious experience for Christian pilgrims (Timothy and Ron, 2013).

Accommodation

Accommodation is one of the unique features of religious tourism assets in each religious destination. Many religious research papers stressed that religious tourists sought to stay overnight in accommodations near the sacred places with a place of worship (mosques, churches, etc.) inside and available worship tools (the Quran, the Bible, etc.), which are readily available to the tourists in their rooms/tents (Collins-Kreiner, 2020; Weidenfeld, 2006). Besides, tourist satisfaction is linked to providing heightened service quality measures. This is related to the essential tourism products, including package tours and accommodation, which are primary components of the religious tourism infrastructure (Hung, 2015; Linderman, 2013). By using the case of Medjugorje, Bosnia and Herzegovina, Krešić et al. (2013) showed that the experience of pilgrims was significantly moderated by their satisfaction regarding the accommodation facilities, souvenir shops and restaurants at one of the major shrines to the Virgin Mary worldwide. Therefore, the authors recommended improving the performance of destination's infrastructure to increase tourists' satisfaction (Krešić et al., 2013). Linderman (2013) demonstrated that pilgrims' rest houses are exemplified by a Royal palace in India. This type of accommodation follows the concept of religiously-inspired hospitality, and it was associated with an improved pilgrims' experience (Linderman, 2013).

Transportation

The development of roads and motorized transport vehicles has increased the magnitude of religious tourism and the number of religious tourists in multiple destinations across the world (Chiffoleau, 2016; Hassan et al., 2022). Local

transport services represent a key attribute of the local infrastructure, and the importance of effective transportation is more prominent in crowded religious destinations (Malodia and Singla, 2017). In a recent analysis, of, Malodia and Singla (2017) investigated the difference in expectations and experience among religious visitors to the Chardham, which is a sacred site in the North Himalayas, India. Approximately one third of the tourists had booked a complete package tour (transport included), and 37.2% of them used the transport services of travel agents only. Results showed that the scores of the actual experience of tourists were generally lower than those of the expectations. The authors attributed these differences to the development of transportation means in other Himalayan regions, which raised the individual expectations. Therefore, the article recommended the development of transport facilities at the spiritual and religious destinations to ensure tourists' satisfaction (Malodia and Singla, 2017). In another study, it was found that the expectations of pilgrims are not solely decided by the motivations of travel, but are also formed by their expectations of the easiness of transport and other related attributes of the local infrastructure (Olsen and Timothy, 2006).

Medical services

Hajj service providers are concerned with providing high-quality logistical services that warrant ensuring the health and safety of pilgrims. This is an essential part of the health logistic services. The hygienic and sanitary measures are important in mediating the satisfaction of religious tourists as indicated in previous studies carried out in the Naina Devi shrine, (Kumar and Singh, 2015) The Sabarimala Temple (Joseph et al., 2020) and Thakurani Jatra (Painuly and Goutami, 2019) in India. In the Islamic Hajj, dedicated multidisciplinary medial teams carry out multiple meetings starting immediately at the beginning of the Hajj season each year to assess the situation and address the potential problems (Al-Harbi, 2000). Recently, the Saudi government has allocated multiple facilities, logistics and human resources, which are available permanently or seasonally in Mecca and the sacred places. In addition to the health facilities and the manpower, a number of health measures are undertaken, including curative, preventive and promotive healthcare measures. For example, international and national pilgrims have to be vaccinated against COVID-19 and other diseases which are endemic in some countries, such as cerebrospinal meningitis and yellow fever (Badahdah et al., 2019; Hoang et al., 2020). The Saudi Ministry of Health recommends maintaining adequate personal hygiene measures, such as washing hands, using clean towels and napkins, and wearing face masks, as well as preserving high levels of house and environmental cleanliness and avoiding overcrowding to mitigate the risk of disease transmission (Ministry of Health, 2011).

Religious guidance

Pilgrims' guidance is an important aspect in the Hajj journey. Islamic pilgrimage is full of rituals which should be carried out via following specific rules. This might require a good level of Shari'ah knowledge. Guides usually provide instructions on what pilgrims to perform at distinct sites. Traditionally, the guides are given in a written form. Furthermore, tour operators have to assign an Islamic scholar who performs the guidance before and during Hajj and helps pilgrims to perform each ritual accurately. More recently, several electronic forms and mobile applications are readily available to assist pilgrims. In general, religious guidance includes providing the required knowledge during rituals that may be considered unsafe if performed incorrectly, such as during the stone throwing and circulating around the Kaabah in a crowded context. A considerable proportion of pilgrims have died at these stages in the past before implementing relevant guidance services (Islam, 2021). It is therefore expected that any violation of guidance services would affect pilgrims' satisfaction and experience. Based on the mentioned observations of service domains, we developed our hypotheses to include the followings:

H1a: Perceived satisfaction with food services has positive effects on religious tourists' experience.

H1b: Perceived satisfaction with accommodation services has positive effects on religious tourists' experience.

H1c: Perceived satisfaction with transportation services has positive effects on religious tourists' experience.

H1d: Perceived satisfaction with medical services has positive effects on religious tourists' experience.

H1e: Perceived satisfaction with religious guidance services has positive effects on religious tourists' experience.

The moderating effect of demographic characteristics

Personal characteristics may play a role in perceiving the service quality and its relationship with customer satisfaction and experience. This is consistent in the aviation and tourism industries, where gender, income levels, and country of residence were significant moderators of the relationship between the perceived service quality and memorable tourism experience and customer satisfaction (Pitchayadejanant and Nakpathom, 2016; Shabnam et al., 2022). In the religious tourism sector, to the best of our knowledge, the role of moderating factors in explaining the aforementioned relationships has been scarcely investigated. Nugraha and Widyaningsih (2021) have recently assessed the potential factors that may influence the relationships between the expectations of and attitudes towards Umrah visit, as well as the motivations for Umrah visit. The authors found that participants' gender moderated the relationship between participants' expectations and attitudes, whereas religiosity moderated the relationship between the motivations and expectations (Nugraha and Widyaningsih, 2021). An understanding of the existence of the personal characteristics regarding how the dimensions of service quality would impact their satisfaction and overall experience in order to consider these potential differences in the future strategic planning carried out by decision makers (Karatepe, 2011). Therefore, as indicated in **Figure 1**, we sought to assess the moderating role of demographic characteristics and the satisfaction with different Hajj services as follows:

H2a: Demographic characteristics have a moderating role on the relationship between satisfaction with the food services and Hajj experience.

H2b: Demographic characteristics have a moderating role on the relationship between satisfaction with the transport services and Hajj experience.

H2c: Demographic characteristics have a moderating role on the relationship between satisfaction with the accommodation services and Hajj experience.

H2d: Demographic characteristics have a moderating role on the relationship between satisfaction with the medical services and Hajj experience.

H2e: Demographic characteristics have a moderating role on the relationship between satisfaction with the religious guidance services and Hajj experience.
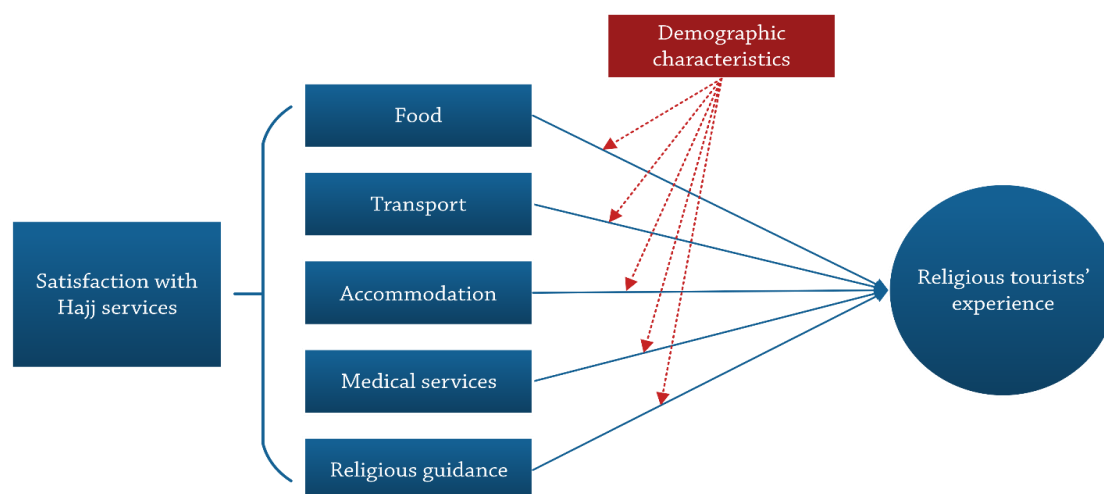
Figure 1. The research hypotheses of the current study

MATERIALS AND METHODS

Study procedures and the study sample

The study population included domestic pilgrims who had come to visit the sacred places for performing Hajj in 1442H/ 2021. Owing to the strict health restrictions which had been applied during the spread of the COVID-19 outbreak in 2021, the national authorities announced that the Hajj had been limited to citizens and local residents of different nationalities who were residing inside Saudi Arabia and international pilgrims were not allowed to enter the Kingdom to perform Hajj. As a consequence, the national Ministry of Hajj and Umrah has launched an official website to enable pilgrims to register the Hajj, and this could be attained through one of a number of licensed agencies as specific tour packages. These included three packages, namely Camp Hospitality Package, Distinguished Camp Hospitality Package and Towers Special Package. The aim of these packages is to provide advocacy support (religious guidance) and the essential services (food, medical services, accommodation and transportation) at discounted prices through dedicated human competencies and high-quality elements. In the current study, an electronic survey was developed on Google Forms, and a relevant link was distributed to pilgrims via the authenticated agencies. Data was collected during the period between 09 August and 17 October 2021.

The study instrument

The used survey was developed based on selected items from previously published articles (Al-Tawfiq and Memish, 2014; Conlon, 2008; Islam, 2021; Serhan and Serhan, 2019; Tabi and Adams, 2016). The questionnaire consisted of three main domains and 39 items. The first part was concerned about the demographic and Hajj-related characteristics (7 items), including participants' age, gender, nationality, educational level and the Hajj package. The second domain comprised of participants' responses with the provided services. The domain included five subdomains, including satisfaction with food services (7 items), satisfaction with transportation (4 items), satisfaction with accommodation (4 items), satisfaction with medical services (7 items) and satisfaction with the religious guidance (7 items). The responses were retrieved on a five-point Likert scale, ranging between 1 = Extremely dissatisfied to 5 = Extremely satisfied. The third domain included items about pilgrims' spiritual experience (3 items). The responses were graded on a five-point Likert scale from 1 = Strongly disagree to 5 = Strongly agree.

Statistical analysis

Survey analysis was conducted using RStudio (R version 4.1.1). Categorical variables were expressed as frequency and percentage, and numerical variables were presented as mean and standard deviation (SD). Survey items were incorporated into a confirmatory factor analysis to assess the convergence and discriminant validity of different domains and subdomains. Additionally, a correlation matrix was constructed to explore the bivariate associations between the domains, and the results were presented as Spearman's correlation coefficients. Subsequently, a structural equation model (SEM) was established, and the model fit was investigated using Tucker-Lewis's index (TLI), comparative fit index (CFI), the root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR). The impact of service satisfaction on religious tourists' experience was assessed by conducting a multivariate linear regression analysis. We used the beta coefficient (β) and the respective 95% confidence intervals (95%CIs) to present the results of the regression analysis. Moderation analysis was conducted by adding interaction terms for the moderator and independent variable in the regression model. A p value of < 0.05 indicated statistical significance.

RESULTS AND DISCUSSION
Characteristics of the participants

We received valid responses for a total of 216 respondents. The demographic characteristics are demonstrated in Table 1. All participants had received the COVID-19 vaccine. Almost one-quarter of pilgrims were Saudis (25.1%) and Egyptians (24.2%). Additionally, more than half of them had obtained a Bachelor degree, and were females (60.2%) and married (60.5%). The majority of the participants were allocated to the Distinguished camp hospitality Hajj package (76.4%, Table 1).

Confirmatory factor analysis

The applied SEM model in the current study used the traditional approach that employs the maximum likelihood (ML) method for numerical variables. The ML methodology produces standard efficiency results in studies with medium to large sample sizes (Bollen, 1989). In general, the data was fitted and the confirmatory factor analysis showed adequate fitting criteria ($\chi 2$ = 266.30, degree of freedom [df] = 155, CFI = 0.936, TLI = 0.921, RMSEA = 0.058, SRMR = 0.064, p < 0.0001). Questionnaire items were significantly loaded

Table 1. Characteristics of the participants (Data is expressed as frequencies and percentages * indicates that the variable has one missing record)

Parameter	Category	Frequency	Percentage
Age*	18-25	76	35.3%
	26-40	94	43.7%
	41-65	45	20.9%
Nationality *	Saudi	54	25.1%
	Egyptian	52	24.2%
	Jordanian	24	11.2%
	Sudanese	21	9.8%
	Syrian	17	7.9%
	Yemeni	13	6.0%
	Others	34	15.8%
Gender	Female	130	60.2%
	Male	86	39.8%
Marital status*	Single	68	31.6%
	Married	130	60.5%
	Other	17	7.9%
Educational level	No degree	1	0.5%
	Secondary School	12	5.6%
	Diploma	20	9.3%
	Bachelor	133	61.6%
	Master	26	12.0%
	PhD	24	11.1%
Hajj package	Camp Hospitality Package	12	5.6%
	Distinguished camp hospitality package	165	76.4%
	Towers special package	39	18.1%

to their relevant domains as shown in Table 2. The indicators of the internal consistency showed that Cronbach's alpha values ranging between 0.58 and 0.89 and composite reliability between 0.68 and 0.89. Additionally, AVE values were equal to or greater than the recommended threshold (≥ 0.50, Table 2) (Fornell and Larcker, 1981).

Table 2. Results of the confirmatory factor analysis

Domains and items	SFL	AVE	Cα	CR
Satisfaction with food services		0.52	0.74	0.68
Freshness of food	0.79			
Taste and flavor of food	0.64			
Satisfaction with the transportation		0.58	0.58	0.70
Bus lighting	0.99			
Bus heating	0.41			
Satisfaction with the accommodation		0.65	0.78	0.79
Equipping the tents with gypsum board	0.71			
Air conditioning	0.89			
Satisfaction with medical services		0.59	0.87	0.88
Improve ventilation	0.79			
Routine cleaning to help maintain healthy facilities.	0.85			
Medical facilities equipment	0.79			
Availability of sterilizers	0.78			
Availability of ambulance centers	0.62			
Satisfaction with the religious guidance		0.57	0.89	0.89
Tour guides have the knowledge of Islamic culture	0.68			
Tour guides were capable of solving problems and conflicts emerged from your arrangements	0.74			
Tour guides were polite	0.68			
Tour guides were able to cooperate with other service staff e.g. driver	0.84			
Tour guides were capable pilgrims of handling complaints probably	0.80			
Tour guides were able to cope with unexpected urgent incidents	0.79			
Pilgrims'' experience		0.50	0.73	0.73
Religious travel gives me spiritual fulfilment	0.63			
Visit to sacred places heals me spiritually	0.71			
Religious sites make me appreciate the historic value of the place	0.72			

Cα: Cronbach's Alpha; CR: Composite reliability; AVE: Average variance extracted; SFL: Standardized factor loading

The discriminant validity of the employed construct was tested by calculating the square roots of AVE and comparing these values to the results of the correlation between different domains. Each domain was statistically unique as indicated by the fact that the Spearman's correlation coefficients were lower than the square roots of AVEs (Table 3).

Participants satisfaction with Hajj services

In the food services subdomain, the majority of participants were satisfied or very satisfied with the taste and flavor of food (78.7%) and the freshness of food (77.3%). Similarly, a great proportion of respondents were satisfied or very satisfied with air conditioning in the accommodation (76.4%) and routine cleaning procedures as an important medical service (81.5%). The most significant item about which the participants were satisfied in the religious guidance domain was the fact that tour guides were able to cooperate with other service staff (72.7%, Figure 2).

Table 3. Spearman's correlation coefficients and the analysis of discriminant validity*<0.05; **< 0.01; ***<0.0001

Variables	1	2	3	4	5	6
1. Food	1					
2. Transport	0.30***	1				
3. Accommodation	0.20**	0.26***	1			
4. Medical services	-0.05	0.05	0.20**	1		
5. Religious guidance	0.14*	0.14*	0.10	0.43***	1	
6. Experience	0.11	0.14*	0.15*	0.16*	0.25***	1
AVE	0.52	0.58	0.65	0.59	0.57	0.50
Square root of AVE	0.72	0.76	0.81	0.77	0.75	0.71
Mean	3.68	3.80	4.03	4.17	3.82	4.39
SD	0.89	0.78	0.81	0.80	0.86	0.70
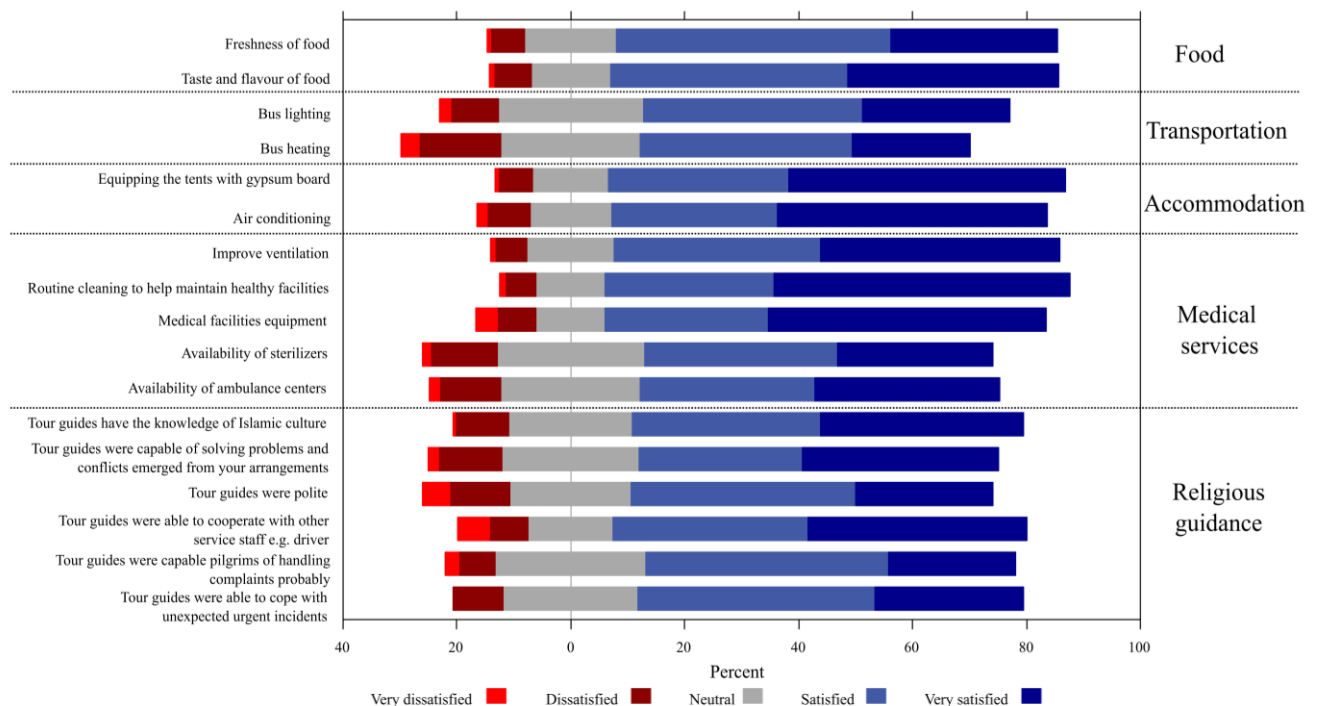
Figure 2. Participants' responses regarding their satisfaction levels with the provided services during the Hajj

Participants' responses regarding their Hajj experience

During Hajj, the highest satisfaction levels were exclusively related to the fact that Hajj heals the individual spiritually (90.28%), visits to religious areas brings the participants closer to the God (87.5%) and the spiritual fulfilment that could be obtained with religious travel (87.0%, Figure 3).
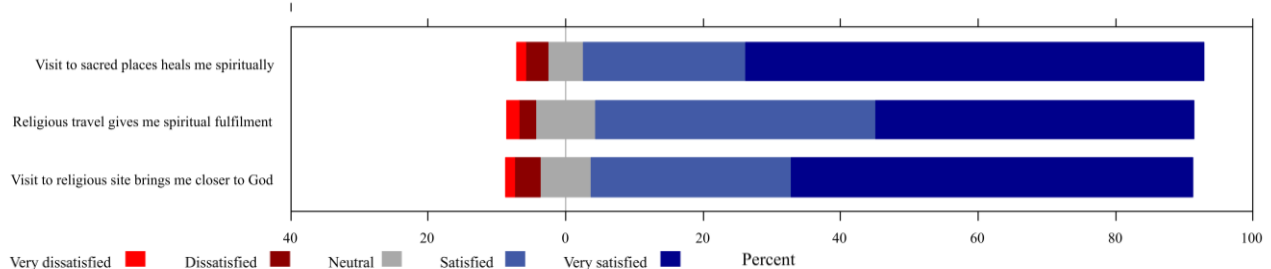
Figure 3. Participants' responses regarding their Hajj experience

The impact of different Hajj services on pilgrims' experience

An improved pilgrims' experience during Hajj was independently associated with higher satisfaction with transport services ($\beta = 0.10$, 95%CI, 0.02 to 0.19, $p = 0.016$) and religious guidance ($\beta = 0.12$, 95%CI, 0.05 to 0.19, $p = 0.001$). However, other service domains did not impact pilgrims' experience (Figure 4).

Results of the moderation analysis

The impact of medical services on pilgrims' experience was positively moderated by age, since middle-aged participants (26-40 years) had significantly higher effects of medical services on their experiences compared to the participants aged 15-25 years ($\beta = 0.36$, SE = 0.14, $p = 0.012$, Table 4). Other demographic variables did not impact the relationship between Hajj services and pilgrims' experience.
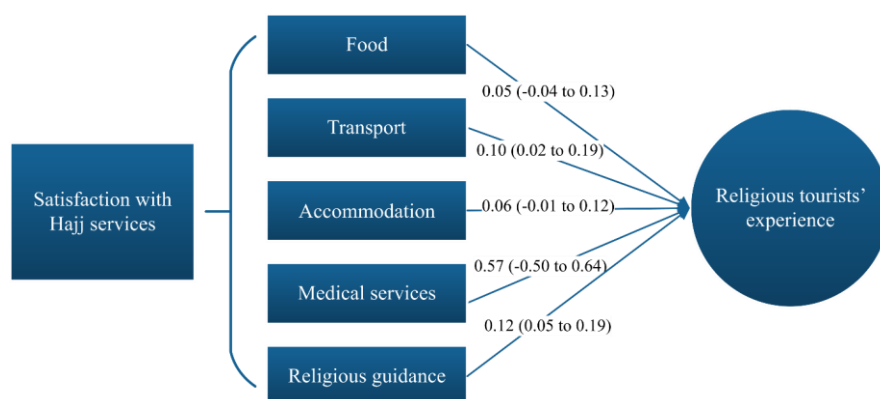
Figure 4. Results of the multivariate regression analysis to investigate the impact of Hajj services on pilgrims' experience

DISCUSSION

Spiritual tourists seek for spiritual feelings on their tour, since these feelings are not normally perceived in normal life. Their main motivation is to achieve self-actualization, which has been considered a major component of human needs and motivation (Šimková and Holzner, 2014). However, the spiritual experience may be influenced by the quality of services which are provided during Hajj. In the current study, the transportation service was a significant predictor of a favored Hajj experience.

Table 4. The analysis of demographic moderators that altered the relationship between Hajj services and pilgrims' experience (SE: standard error)

Parameter	Category	Food		Transport		Accommodation		Medical services		Religious guidance	
		β (SE)	p	β (SE)	p	β (SE)	p	β (SE)	p	β (SE)	p
Age	18-25	Ref		Ref		Ref		Ref		Ref	
	26-40	0.07 (0.12)	0.576	0.06 (0.15)	0.689	0.21 (0.14)	0.114	0.36 (0.14)	0.012	0.23 (0.13)	0.076
	41-65	0.14 (0.15)	0.357	0.09 (0.16)	0.594	0.23 (0.15)	0.132	0.06 (0.15)	0.709	-0.05 (0.14)	0.717
Gender	Female	Ref		Ref		Ref		Ref		Ref	
	Male	0.07 (0.11)	0.530	0.09 (0.12)	0.437	0.15 (0.12)	0.228	0.17 (0.12)	0.150	0.1 (0.11)	0.334
Nationality	Saudi	Ref		Ref		Ref		Ref		Ref	
	Non-Saudi	0.03 (0.13)	0.797	-0.02 (0.14)	0.904	0.23 (0.14)	0.110	-0.07 (0.16)	0.677	0.21 (0.15)	0.154
Marital status	Single	Ref		Ref		Ref		Ref		Ref	
	Married	-0.05 (0.15)	0.738	-0.19 (0.17)	0.258	0.1 (0.18)	0.603	0.09 (0.18)	0.627	0.13 (0.17)	0.449
	Other	-0.04 (0.1)	0.723	-0.06 (0.12)	0.581	0.02 (0.12)	0.861	0.02 (0.12)	0.900	-0.09 (0.11)	0.418
Educational level	No degree	Ref		Ref		Ref		Ref		Ref	
	Secondary School	0.15 (1.7)	0.930	-0.19 (1.62)	0.908	1.09 (1.65)	0.512	1.3 (3.18)	0.683	2.16 (1.5)	0.152
	Diploma	-0.31 (1.56)	0.845	0.09 (1.5)	0.954	-1.61 (1.47)	0.275	-1.36 (2.6)	0.601	-1.63 (1.35)	0.228
	Bachelor	0.07 (0.97)	0.939	0.05 (0.94)	0.956	0.86 (0.89)	0.334	1.26 (1.43)	0.381	1.54 (0.83)	0.063
	Master	-0.02 (0.45)	0.963	0.15 (0.49)	0.764	-0.36 (0.42)	0.389	-0.38 (0.53)	0.473	-0.21 (0.39)	0.585
	PhD	0.04 (2.11)	0.060	0.02 (1.72)	0.068	-0.01 (1.85)	0.214	-0.04 (3.03)	0.127	0.05 (1.67)	0.079
Hajj package	Camp Hospitality Package	Ref		Ref		Ref		Ref		Ref	
	Distinguished camp hospitality package	-0.01 (0.24)	0.971	0.06 (0.27)	0.823	0.16 (0.23)	0.471	0.15 (0.19)	0.434	0.27 (0.22)	0.221
	Towers special package	-0.2 (0.26)	0.437	-0.04 (0.29)	0.905	0.06 (0.24)	0.803	0.25 (0.22)	0.267	0.19 (0.26)	0.458

In the Hajj journey, pilgrims are assigned by the tour package operators to distinct establishments based on their zones (South Asia, Arab countries, etc.). Transportation services are provided to take pilgrims from their hotel to different sacred places at Mina, Arafa, Mujdalifa and Medina. Given the hot weather in Mecca, religious tourists (particularly the elderly) might benefit from comfortable and air-conditioned means of transportation. The tour offices are responsible for the transportation of pilgrims, which implies a real challenge in pilgrim transportation safely, comfortably and quickly between the sacred sites (Hussain et al., 2021). This is because the COVID-19 pandemic restrictions have placed an additional spatial and temporal burden on performing the rituals in a timely manner. However, the low number of pilgrims who came for Hajj in the season under study might have influenced the perceptions of religious tourists. The available services for Hajj pilgrims for movement between the sacred sites include walking facilities, shuttle buses, regular buses and the Mashaer train. Service availability relies on the assigned establishments at the location of individual phases of Hajj. The greatest number of pilgrims are transported by shuttle buses, and the satisfaction with this service was investigated in the current study. Therefore, we believe that the results of our study would help enhance a significant mean of transportation for future Hajj seasons.

The present study showed also that religious guidance was an independent antecedent factor associated with favorable pilgrims' experience. Indeed, there are several stages that necessitate good knowledge about the rituals, and this could be effectively attained by the accurate guidance. For instance, after leaving Mujdalifa in the early morning of the 10th day of Dhu al-Hijjah (the Twelfth month of the Islamic calendar), pilgrims need extensive guidance on how they perform essential rituals, such as throwing stones, sacrificing the animals, and making dua at the Al-Jamarat. This knowledge-based service should be gained from certified individuals, and any limitations encountered in this service might lead to dissatisfaction. Since pilgrims' satisfaction is one of the main pillars of improving the overall experience, the Saudi Pilgrim Experience program aimed to enhancing the spiritual experience through a series of procedures that facilitate and simplify the hosting, guidance and transportation processes in a smooth way. In parallel, the national authorities aim to enrich the cultural and religious activities to make a memorable, transformative experience. Interestingly, we showed that the relationship between pilgrims' satisfaction with medical services and experience differed based on pilgrims' age. This might be explained by the necessity of medical services for religious tourists of advanced ages. In the COVID-19 era, health issues represent and

important aspect of the Hajj experience to prevent the spread of communicable diseases (Rustika et al., 2020). However, in our study, some services did not impact the overall experience of pilgrims. We hypothesized that food services would influence pilgrims' perceptions because international religious tourists come from different cultural backgrounds, and the culture and food habits of Saudi Arabia are different. Therefore, it is expected that there is a variation in the perception of food services. Nevertheless, we believe that the lack of a significant impact of food quality services might be attributed to the fact that the included sample was solely based on domestic pilgrims, which represents an exceptional condition. This limitation might be addressed in future research articles to include international pilgrims from different cultural backgrounds. In addition to such a limitation, the inherent limitations of survey-based studies remain problematic. That is, the causal relationships between different variables are limited by the cross-sectional design of the study.

CONCLUSION AND FUTURE IMPLICATIONS

The current study revealed important considerations in terms of the factors that influence the spiritual experience of Islamic Hajj pilgrims. Among the five domains of services, higher satisfaction levels with the transportation services and religious guidance were independently associated with higher levels of spiritual experience. On the other hand, the following services did not impact pilgrims' experience: food services, accommodation and medical services. Besides, the relationship between satisfaction with medical services and the spiritual experience differed significantly by pilgrims' age.

National authorities should implement adequate planning strategies to improve the local basic infrastructure, particularly the means of transportation to improve Hajj experience. Concomitantly, the authorities should resolve the potentially emerging issues that may arise during the transport, possibly by adopting relevant crowd management systems during rush times and avoiding long waiting hours. Additionally, since the Hajj journey entails multiple rituals which have to be performed based on specific rules and adequate knowledge, religious guidance should be warranted by tour operators before and during the Hajj journey. This is because many pilgrims lack proper religious wisdom and they need profound learning (Islam, 2021). This way, the hajj experience would form a positive perception via creating a good destination image for Muslim pilgrims, which would attract more pilgrims from other countries in the COVID-19 control era. Future studies should implement a survey-based design with interchangeable open-ended and closed-ended questions to get an insight into the personal perceptions and individual suggestions to improve the Hajj experience. Additionally, studies have to recruit domestic and internal pilgrims to account for the individual and cultural variation in self-perceptions of service quality measures. Eventually, academic scholars and Hajj agencies would be able to identify the gaps in the provided services and support the most significant factors that make the Hajj journey smooth, spiritually appealing and satisfactory.

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ONLINE MARKETING ON PRICING STRATEGIES FOR THE INDONESIAN TOURISM INDUSTRY PRODUCTS DURING THE COVID-19 PANDEMIC

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Abstract: The purpose of this study is to find out the relationship between the tourism products offered, the tourism services offered and the promotional activities offered whether directly or indirectly affect the interest of tourists to visit during the Pandemic through product pricing strategies. In this study, the only variables that exist are marketing activities of tourism services or services such as products offered, tourist services offered and promotional activities, which only focus on explaining the effect of these three variables on tourist interest in visiting tourist attractions during a pandemic, while the variable intervening marketing activities or the marketing mix of product pricing strategies that are the connecting variables that affect tourist interest in visiting tourist attractions during a pandemic. The research method used in this research is descriptive quantitative research method using path analysis. In this study, the independent variables are marketing activities or marketing mix such as: tourism services such as, products offered, tourism services offered and promotional activities to be carried out, while for the intervening variable is the marketing activity variable, namely the product pricing strategy and the dependent variable is the interest of tourists visiting during a pandemic using SPSS 20. Partially, only the variables of promotional activities carried out have a positive and significant effect on the variableproduct pricing strategies during a pandemic as well as variables of tourist interest in visiting during a pandemic. Meanwhile, simultaneously, the variables of the products offered, the tourism services offered and the promotional activities that will be carried out have a positive and significant effect on the variable of tourist interest in visiting during the pandemic through the variable pricing strategy of the product during the pandemic as an intervening variable. Through the results of research, it has been stated that the products and services offered through online marketing during the pandemic have not been able to increase the interest of tourists to visit tourist attractions during the COVID-19 pandemic, while the owners of tourist attractions must carry out vigorous promotional activities so that tourists are interested in visiting. Tourist attractions, thus influencing the pricing strategy that will be applied to tourism products and services.

Key words: product, service, promotion, strategy, pricing, interest, tourists

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INTRODUCTION

Covid19 has fundamentally changed the way we see the world, the way we think at , and our lives (Luo, 2021). Despite the human tragedy of lost lives, broken families and devastated communities, the economic and social changes brought about by the 's pandemic-related blockades are the memories of and future generations. It represents a cultural heritage that will remain in your memory for a long time. The Covid-19 pandemic is one of the epidemics that must be faced by the entire world community, where this pandemic has damaged the joints of people's lives, where people's lives have become difficult due to large-scale social restrictions or community restrictions, where with these community restrictions, people unable to carry out their economic activities, some even stop carrying out their economic activities due to termination of employment. (Chang et al., 2020). The Covid-19 pandemic has not only impacted the manufacturing industry, but the tourism industry has also been affected by social restrictions (PPKM). With the existence of this social restriction, it is very detrimental to the tourism industry, as a result of that all tourism industries are closed, so that when social restrictions have been opened, although during a pandemic, tourism business owners have to think of ways to make their tourist attractions more attractive to people. To revive the tourism industry during this pandemic, tourism owners must apply the right

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strategy so that their tourist attractions are in demand by others, where one way is to do online marketing through existing websites, such as creating tourist attractions that comply with health protocols, and creating services. friendly and healthy tourism, as well as intensive promotions due to a decrease in visitors, consequently affecting the price strategy, so that by increasing the price strategy it can make customers want to visit these tourist attractions with health protocol rules. According to Abou-Shouk and Soliman, 2021 online marketing strategies must be carried out as much as possible so that informed tourism products, tourism services and promotions that will be conveyed to customers can be understood, so that the prices made for these tourism products can reach customers, so that many potential customers who are interested in these tourist attractions. Based on Luo, 2021 The Covid19 pandemic has made a big difference, especially in marketing, with a high digital usage of. Social networks allow people to easily communicate with others, and the provides marketers with many ways to interact with consumers. As a result of the blockade, economic activity has dropped dramatically.

How policymakers, government and industry reactions, and marketers can respond to changing consumer behavior in reversing damage caused by economic factors. (BPS - Badan Pusat Statistik, 2021), In 2020 the number of tourists visiting several regions in Indonesia tends to decrease, where there are around 120 million people who visit Indonesia, where the number decreased by 0.42 percent compared to last year 2019. (Andriani, 2020; Muhyiddin and Nugroho, 2021) said that ,this is due to the Covid-19 Pandemic which forced the Government to carry out large-scale social restrictions (PSBB), as well as the implementation of community activity restrictions (PPKM). This situation has an impact on reducing the interest of tourists to visit tourist attractions. There are several tourist attractions that have experienced total closures (Sigala, 2020), where tourism owners cannot implement a marketing strategy for tourism products and tourism services, and do not carry out promotional activities online and it is difficult to inform tourism products (Streimikiene and Korneeva, 2020). Tourism services and product promotion activities, as well as tourism services. affect the pricing strategy, as a result, tourism owners cannot maximize the pricing strategy adopted for tourism products, services and promotions, thus affecting the income of tourism owners, so that many tourist attractions can no longer be functioned by tourism owners due to lack of capital for operations when social restrictions are reopened and tourists both local and foreign come again to several regions in Indonesia (Oltra González et al., 2021). The tourism services offered and the promotional activities offered whether directly or indirectly affect the interest of tourists to visit during the Pandemic through product pricing strategies. (Kotler et al., 2017; Pantano et al., 2020), in this study, the only variables that exist are marketing activities of tourism services such as, products offered, tourism services offered and promotional activities to tourist interest visit to Indonesia in Pandemic Covid 19. The purpose of this study is to investigate tourism services or services such as, products offered, tourism services offered and promotional activities to tourist interest visit to Indonesia in Pandemic Covid 19.

LITERATURE REVIEW
Tourism Products Offered

According to Berbekova et al., 2021 tourism products are a tangible form of facilities or tourist attractions offered to visitors so that visitors want to visit these tourist attractions. According to Cai and Leung, 2020 tourism products are something that is offered to tourists, either in real or physical form, or in the form of services that accompany these tourist attractions. According to Casado-Aranda et al., 2021 tourism products are a form of offering tourist attractions that are offered to tourists as tourist visitors so that they want to visit tourist attractions that have been offered to them. According to Dadová and Soviar, 2021 the tourism products offered are a tangible form of tourism objects offered to tourists with the aim of increasing income. According to González-Torres et al., 2021 tourism products are various places, services or services that are present at tourist attractions that aim to attract tourists to visit in order to increase income and economic growth in the region. According to Hao et al., 2020 tourism products offered to tourists must be in accordance with the wishes of tourists, where tourists want good tourist attractions, and have tourist services that are in accordance with their wishes and have maximum service.

Tour Services Offered

According to González-Torres et al., 2021 tourism services are things that are offered by tourist owners which are an inseparable part of tourist attractions, which are places or services that exist in tourist objects. According to Manurung, 2014 tourism services are everything that is offered in the form of services that exist in tourist attractions with the intention that tourists feel at home visiting these tourist attractions. According to He and Harris, 2020 tourism services are a tangible form but in the form of services that exist in a tourist attraction with the aim of helping increase visits from tourists. According to He and Harris, 2020 tourism services are a form of offering in the form of services that can support the implementation of existing tourism activities in several regions or countries with the aim of increasing tourist visits in order to increase the country's income. According to Zhang et al., 2009 the tourism services offered are something that is offered and is of value to tourist attractions, so that they become supporters who can attract tourists to visit tourist attractions. According to Bakkelund et al., 2018 the tourism services offered can be in the form of lodging services and hotel services which are a supporting impetus for the running of the tourism industry which is intended to increase income both company income and foreign exchange through the interest of tourists to visit. According to Hu et al., 2021 the tourism services offered are something that is offered and is of value to tourist attractions, so that they become supporters who can attract tourists to visit tourist attractions. According to Bakkelund et al., 2018 the tourism services offered can be in the form of lodging services and hotel services which are a supporting impetus for the running of the tourism industry which is intended to increase income both company income and foreign exchange through the interest of tourists to visit. According to Du et al., 2010 the tourism services offered are something that is offered and is of value to tourist attractions, so that they become supporters who can attract tourists to visit tourist attractions. According to Etim Udoh et al., 2019 the tourism services offered can be in the form of lodging services and hotel services which are a supporting impetus for the running of the tourism industry which is intended to increase income both company income and foreign exchange through the interest of tourists to visit.

Promotions Done

According to Amaral et al., 2013 promotion is a form of offering made through various tools, where the things offered are in the form of products and services that surround the product. According to Underwood et al., 2010 promotion is something that is offered to tourists or visitors to tourist attractions, where what is offered to them is the form of tourist attractions and their supports in the form of services with the aim of increasing tourist visits to the place. According to Mandić and Kennell, 2021 promotion is something that becomes the object of an offer so that someone wants to use the product offered to increase the profits of the company that makes the product. According to Luo, 2021 promotion is something that is given in the form of product and service offerings aimed at product users with the intention that product users can continue to use the products and services of the product. According to Mandić and Kennell, 2021 the promotion of products offered informs about the condition of the product, as well as the form of product service that is issued according to the wishes and desires, as well as the expectations desired by consumers. According to Mirehie et al., 2021 promotion is part of marketing activities intended for consumers to be interested in buying and using products and services from the products offered to them. as well as the form of product service that is issued according to the wishes and desires, as well as the expectations desired by consumers. According to Armstrong et al., 2009 promotion is part of marketing activities intended for consumers to be interested in buying and using products and services from the products offered to them. as well as the form of product service that is issued according to the wishes and desires, as well as the expectations desired by consumers. According to Achrol and Kotler, 2012 promotion is part of marketing activities intended for consumers to be interested in buying and using products and services from the products offered to them.

Product Pricing Strategy

According to Volgger et al., 2021 pricing strategy is a form of activity carried out to determine a product price that will be offered to consumers as a form of appreciation needed by consumers. According to Amaral et al., 2013 pricing strategy is something that is done to create a reasonable price for the products produced by a business or industry. According to Palácios et al., 2021 pricing strategy is an activity carried out to set prices for products and services that can be reached by consumers, so that consumers are interested in having products and services made. According to Pantano et al., 2020 pricing strategy allows companies to always determine what price to make for the products and services offered to consumers. According to Khan et al., 2020 pricing strategy is an activity carried out in the process of determining the price that will be charged by a product, be it goods or services. According to Sanabria-Díaz et al., 2021 the pricing strategy requires the company make prices competitive and not detrimental to consumers, and in accordance with the quality of products and services owned with the aim that consumers are interested in buying and using them.

Tourist Interests To Visit During The Pandemic

According to Tong et al., 2021 the interest of tourists to visit is something that exists in tourists to visit tourist attractions that are in accordance with their hopes and desires. According to González-Torres et al., 2021 tourist interest to visit is the tendency of tourists to visit a place they like or a place for vacation with the aim of carrying out traveling activities. According to Amaral et al., 2013 the interest of tourists to visit is the self-awareness of tourists to choose tourist attractions that are in accordance with the expectations and personal desires of tourists. According to Volgger et al., 2021 stated that the interest of tourists to visit is something that arises in tourists to choose tourist objects according to their personality and consider the place suitable and as desired. According to Wassler and Fan, 2021 tourist interest is the tendency of tourists to do and want tourist attractions that match what they imagine.

According to Yost et al., 2021 the interest of tourists to visit tourist objects illustrates the desire of tourists to visit places that have never been visited and in accordance with their wishes and expectations, thus creating a sense of satisfaction in them to use the services of these attractions. Stated that tourist interest is the tendency of tourists to do and want tourist attractions that are in accordance with what they imagine (Wassler and Fan, 2021). According to Hu et al., 2021 the interest of tourists to visit tourist objects illustrates the desire of tourists to visit places that have never been visited and in accordance with their wishes and expectations, thus creating a sense of satisfaction in them to use the services of these attractions. Stated that tourist interest is the tendency of tourists to do and want tourist attractions that are in accordance with what they imagine (Torres et al., 2021). According to Wang and Feng, 2012 the interest of tourists to visit tourist objects illustrates the desire of tourists to visit places that have never been visited and in accordance with their wishes and expectations, thus creating a sense of satisfaction in them to use the services of these attractions.

RESEARCH METHODS

The research method used is descriptive quantitative. According to Oliveira et al., 2017 the quantitative descriptive research method describes situations and conditions that will actually occur by relying on the relationship between variables that influence each other. For quantitative descriptive data analysis carried out by using path analysis, which according to Oliveira et al., 2017 path analysis is an analysis carried out by finding mutually influencing relationships between various variables with intervening variables as connecting variables between one another variable with other variables. In this study, the independent variable is the marketing activity or marketing mix such as tourism services such as, the products offered, the tourism services offered and the promotional activities to be carried out, while the intervening variable is the marketing activity variable, namely the product pricing strategy and the dependent variable is the interest of tourists visiting during a pandemic using SPSS 26 path analysis. The population of this study is tourists who visit Indonesia as many as 100 tourists, where the sampling technique in this study uses the census method, where according to Sugiyono, 2012 the sampling technique with the census method is a sampling technique whose samples are part of

the population of the population and members of the population. In this case, the sample taken represents 100 tourists visiting Indonesia, through distributing questionnaires via email. Sampling technique with the census method is a sampling technique whose samples are part of the population and members of the population (Suharsimi, 2010). In this case, the sample taken represents 100 tourists visiting Indonesia, through distributing questionnaires via email.
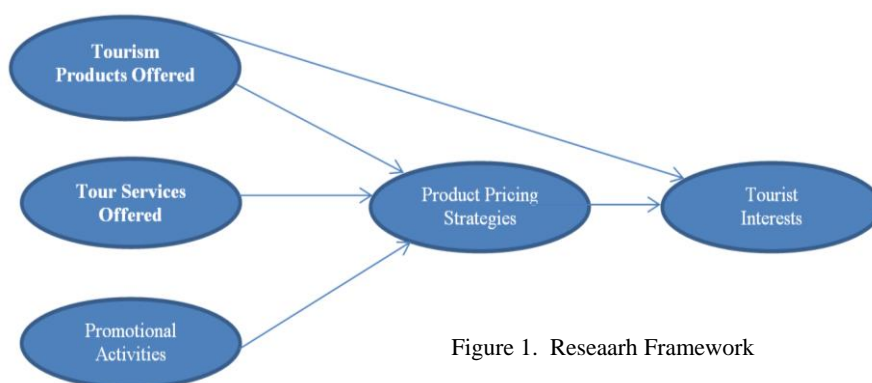
Figure 1. Reseaarh Framework

RESULTS AND DISCUSSION

The Effect of Tourism Products Offered, Tourism Services Offered, and Promotional Activities Conducted on Tourist Interests to Visit During a Pandemic. Multiple Linear Regression Equation Analysis

Table 1. Multiple Linear Regression Equation (Source: Data Processing SPSS, 2020)

Coefficients [a] (a. Dependent Variable: Y)							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	12,688	4,866		3,220	.000		
X1 (Tourism Products Offered)	-.378	.137	-.347	-2,767	.255	.877	1.416
X2 (Tour Services Offered)	-.192	.125	.079	-1.428	.064	.881	1,427
X3 (Promotional Activities Conducted)	.165	.168	.053	7.355	.001	.835	1,626

Based on Table 1 above, the results of data processing related to the linear regression equation (Sugiyono, 2012) are as follows: **Y = 12.688 - 0.378X1 - 0.192X2 + 0.165X3; Y = Tourist Interests; X1 = Tourism Products Offered X2 = Tour Services Offered; X3 = Promotional Activities Conducted**

1. For the value of the X1 regression coefficient for the tourism product variable offered is -0.378, it means that the tourism product offered has a negative effect onthe interest of tourists to visit during the pandemic, where the better the tourism products offered during the pandemic, it does not necessarily increase the interest of tourists to visit during the pandemic by 0.378%;

2. For the value of the regression coefficient X2 for the variable of tourism services offered is -0.192, it means that the tourism services offered have a negative effect onthe interest of tourists to visit during the pandemic, where the better the tourist services offered during the pandemic, it will not necessarily increase the interest of tourists to visit during the pandemic by 0.192%;

3. For the value of the regression coefficient X3 for the variable promotional activities carried out is 0.165, meaning that the promotional activities carried out have a positive and significant effect onthe interest of tourists to visit during the pandemic, where the better the promotional activities carried out during the pandemic, the more tourists will be interested in visiting tourist attractions during the pandemic by 0.165%.

Table 2. Results of the Coefficient of Determination (Source: Data Processing SPSS, 2020)

Model Summary[b] (a. Predictors: (Constant), X3, X1, X2; b. Dependent Variable: Y)										
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	.769a	.758	.784	3.50335	.758	6,143	3	91	.001	2,556

Table 3. Simultaneous Test Results
(Source: Data Processing SPSS, 2020)

ANOVA[a]					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	320,244	3	106,735	6,247	.001b
Residual	2532,515	91	19,257		
Total	2717,315	94			
a. Dependent Variable: Y b. Predictors: (Constant), X3, X1, X2					

Coefficient of Determination (R2)

In accordance with Table 2 above, the results of data analysis for the coefficient of determination (Adjusted R Square) of 0.784 means that 78.4% of the variables of tourism products offered, tourism services offered and promotional activities carried out have a strong influence on tourist interest to visit. to tourist attractions during the pandemic, while the remaining 21.6% is influenced by other variables not discussed in this study.

Simultaneous Hypothesis Testing

Based on Table 3 above, the data analysis for the table F test value of 6.247 is greater than the calculated F test value of 2.70, so it can be concluded simultaneously that the variables of tourism products offered, tourism services offered and promotional activities carried out have a positive and positive effect. significantly on the interest of tourists to visit tourist attractions during the pandemic.

Partial Hypothesis Test

According to Table 4 above, partially only the promotional activities carried out have a positive and significant effect on

tourist interest to visit tourist attractions, this can be seen from the t-value for the three variables, each of which is greater than the t-table value of 1.662. The Effect of Tourism Products Offered, Tourism Services Offered, and Promotional Activities Conducted on Product Pricing Strategies During a Pandemic.Multiple Linear Regression Equation Analysis.

Based on Table 5 above, the data analysis related to the linear regression equation (Sugiyono, 2012) is as follows:

Z = 18.752 - 0.239X1 - 0.158X2 + 0.199X3; Z = Product Pricing Strategies; X1 = Tourism Product

X2 = Tourism Service; X3 = Promotional Activities

Table 4. Partial Test Results (Source: Data Processing SPSS, 2020)

Coefficients[a] (a. Dependent Variable: Y)							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	12,688	4,866		3,220	.000		
X1 (Tourism Products Offered)	-.378	.137	-.347	-2,767	.255	.877	1.416
X2 (Tour Services Offered)	-.192	.125	.079	-1.428	.064	.881	1,427
X3 (Promotional Activities Conducted)	.165	.168	.053	7.355	.001	.835	1,626

Table 5. Multiple Linear Regression Equations (Source: Data Processing SPSS, 2020)

Coefficients[a] (a. Dependent Variable: Z)							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	18,752	3.357		3,530	.000		
X1 (Tourism Products Offered)	-.239	.115	-.060	-2.572	.101	.975	1,124
X2 (Tour Services Offered)	-158	.117	-.039	-1.321	.084	.965	1,120
X3 (Promotional Activities Conducted)	.199	.145	.128	7.515	.002	.988	1,524

1. For the value of the X1 regression coefficient for the tourism product variable offered is -0.239, it means that the tourism product offered has a negative effect onproduct pricing strategy during the pandemic, where the better the tourism products offered during the pandemic, it doesn't necessarily make the product pricing strategy during the pandemic run smoothly by 0.239%;

2. For the X2 regression coefficient value of the tourism service variable offered is -0.158, it means that the tourism service offered has a negative effect onproduct pricing strategy during a pandemic, where the better the tourist services offered during the pandemic, it is not necessarily going to make a product pricing strategy during the pandemic can run smoothly by 0.158%;

3. For the value of the regression coefficient X3 for the variable of promotional activities carried out is 0.199, this means that the variables of promotional activities carried out have a positive and significant effect onproduct pricing strategy during the pandemic, where the better the promotional activities carried out through the online system, the better the product pricing strategy during the pandemic by 0.194%.

Coefficient of Determination (R2)

According to Table 6 above, the value of the coefficient of determination (Adjusted R Square) is 0.852% or 85.2% of the tourism product variables offered, tourism services offered and promotional activities carried out have a strong influence on product pricing strategies during a pandemic, the remaining 14.8% is influenced by other variables not discussed in this study.

Table 6. Results of the Coefficient of Determination (Source: Data Processing SPSS, 2020)

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	.725a	.839	.852	5.15250	.839	8,461	3	91	.002	2,362
a. Predictors: (Constant), X3, X1, X2; b. Dependent Variable: Z										

Simultaneous Hypothesis Testing

Based on Table 8 above, the data analysis for the calculated F is 8.331 which is greater than the calculated F test value of 2.70, so it can be concluded simultaneously that the variables of tourism products offered, tourism services offered and promotional activities carried out have a positive and significant effect on product pricing strategy during the pandemic.

Table 7. Simultaneous Hypothesis Testing (Source: Data Processing SPSS, 2020)

ANOVA[a]					
Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	147,220	3	32.010	8,331	.002b
Residual	3167,910	91	25,310		
Total	3345.070	94			
a. Dependent Variable: Z; b. Predictors:(Constant), X3, X1, X2					

Partial Hypothesis Test

Based on Table 8 above, partially only the promotional activities carried out have a positive and significant effect on product pricing strategies during the pandemic. It can be seen from the t-value for the three variables, each of which is greater than the t-table value of 1.662. **The Effect of Product Pricing Strategy during a Pandemic on Tourist Interests to Visit Tourist Places during a Pandemic**

Simple Linear Regression Equation Analysis

Based on Table 9 above, the analysis of data from simple regression is as follows:

Y = 21,135 + 2.164X1; Y = Tourist Interest To Visit; X1 = Product Pricing Strategy. The regression coefficient Z shows a positive value of 2.164, which means that the product pricing strategy variable during a pandemic has a positive and significant effect on tourist interest to visit during a pandemic, where increasing product pricing strategies during a pandemic has an impact on increasing tourist interest. to visit tourist attractions during the pandemic by 2.164%.

Table 8. Partial Hypothesis Test (Source: Data Processing SPSS, 2020)

Coefficients[a] (a. Dependent Variable: Z)							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	18,752	3.357		3,530	.000		
X1 (Tourism Products Offered)	-.239	.115	-.060	-2.572	.101	.975	1,124
X2 (Tour Services Offered)	-158	.117	-.039	-1.321	.084	.965	1,120
X3 (Promotional Activities Conducted)	.199	.145	.128	7.515	.002	.988	1,524

Table 9. Simple Linear Regression Equations (Source: Data Processing SPSS, 2020)

Coefficientsa (a. Dependent Variable: Y)							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	21,135	2.251		9.145	.000		
Z (Product Pricing Strategy During a Pandemic)	2.164	.060	.088	6.648	.000	1,000	1,000

Coefficient of Determination (R^2)

Based on Table 10 above, the value of the coefficient of determination (Adjusted R Square) is 0.837 or 83.7%, meaning that the product pricing strategy during a pandemic strongly influences the variable of tourist interest to visit during a pandemic, while the remaining 16.3% is influenced by other factors not explained in this study.

Table 10. Results of the Coefficient of Determination (Source: Data Processing SPSS, 2020)

Model Summaryb (a. Predictors: (Constant), Z; b. Dependent Variable: Y)										
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	.780a	.825	.837	5.03105	.825	5.532	1	91	.001	1,659

Table 11. Partial Test Results (Source: Data Processing SPSS, 2020)

Coefficients[a] (a. Dependent Variable: Y)							
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
1 (Constant)	21,135	2.251		9.145	.000		
Z (Product Pricing Strategy During a Pandemic)	2.164	.060	.088	6.648	.000	1,000	1,000

Partial Test

Based on Table 11, it can be concluded that the product pricing strategy variable during a pandemic has a positive and significant effect on tourist interest to visit during a pandemic, which can be seen from the t-count value of 6.648, which is greater than the t-table of 1.662. **The Effect of Tourism Products Offered, Tourism Services Offered, and Promotional Activities Conducted on Tourist Interests To Visit During Pandemic Periods With Intervening Variables Product Pricing Strategy during a Pandemic.** Based on the results of the regression equation data analysis, for the first, second and third equations,(Umar, 2018), the output results are obtained as follows:

Y = - 0.378X1 - 0.192X2 + 0.165X3 with a coefficient of determination R2 = 0.784;
Z = - 0.239X1 - 0.158X2 + 0.199X3 with a coefficient of determination R2 = 0.852;
Y = 2.164 Z with coefficient of determination R2 =0.837

Z = Product Pricing Strategies; X1 = Tourism Product; X2 = Tourism Service;
X3 = Promotional Activities; Y = Tourist Interests To Visit

Influence relationship tourism products offered The tourism services offered and promotional activities carried out to attract tourists to visit tourist attractions during a pandemic with a product pricing strategy during a pandemic as an interverning variable can be seen in Table 12 below:

There is influence tourism products offered on the interest of tourists to visit tourist attractions during the pandemic through product pricing strategy during the pandemic as an intervening variable = -0.239 x (-0.378) x 2.164 = 0.195 so the results of the study show the effect of tourism products offered on the interest of tourists to visit tourist attractions during the pandemic through product pricing strategy during the pandemic as the intervening variable is Y = 0.195 + 2.164 = 2.359.

There is influence tour services offered on the interest of tourists to visit tourist attractions during the pandemic through product pricing strategy during the pandemic as an intervening variable = -0.158 x (-0.192) x 2.164 = 0.066, so the results of the study show the effect of tour services offered on the interest of tourists to visit tourist attractions during the pandemic through product pricing strategy during the pandemic as the intervening variable is Y = 0.066 + 2.164 = 2.230.

There is a relationship promotional activities carried out on the interest of tourists to visit tourist attractions during the pandemic through product pricing strategy during the pandemic as an intervening variable = 0.199 x 0.165 x 2.164 = 0.071, so the results show the effect of promotional activities carried out on the interest of tourists to visit tourist attractions during the pandemic through product pricing strategy during the pandemic as the intervening variable is Y = 0.071 + 2.164 = 2.235.

The results of indirect research can be seen in Table 13 below:

Table 12. Results of Direct Influence Research (Source: Data Processing SPSS, 2020)

No	Relationship between Variables	Regression Coefficient Value	Positive / Negative Coefficient	Description
1	The effect of the tourism products offered on the improvement of product pricing strategies during the pandemic	-0.239	Negative	H1 rejected
2	The effect of the tourism services offered on improving product pricing strategies during the pandemic	-0.158	Negative	H2 rejected
3	The effect of promotional activities carried out on improving product pricing strategies during the pandemic	0.199	Positive	H3 accepted
4	The influence of the tourism products offered on the interest of tourists to visit tourist attractions during the pandemic	-0.378	Negative	H4 rejected
5	The influence of the tourism services offered on the interest of tourists to visit tourist attractions during the pandemic	-0.192	Negative	H5 rejected
6	The effect of promotional activities carried out on the interest of tourists to visit tourist attractions during the pandemic	0.165	Positive	H6 accepted
7	The effect of increasing product pricing strategies during a pandemic on tourist interest in visiting tourist attractions during a pandemic	2,164	Positive	H7 accepted

Table 13. Summary of Research Results Indirect Influence (Source: Data Processing SPSS, 2020)

No	Relationship between Variables	Regression Coefficient Value	Positive/Negative Coefficient	Description
1	The influence of the tourism products offered on the product pricing strategy during the pandemic and its impact on tourist interest in visiting tourist attractions during the pandemic	2,359	Positive	H8 accepted
2	The effect of the tourism services offered on product pricing strategies during the pandemic and its impact on tourist interest in visiting tourist attractions during the pandemic	2,230	Positive	H8 accepted
3	The effect of promotional activities carried out on product pricing strategies during the pandemic and its impact on tourist interest in visiting tourist attractions during the pandemic	2,235	Positive	H8 accepted

CONCLUSION

Based on the results of the research analysis, overall the researchers can conclude the results of the study as follows: products offered has a negative effect on improving product pricing strategies during a pandemic, the services offered have a negative effect on improving product pricing strategies during a pandemic. The promotional activities carried out have a positive and significant negative effect on improving product pricing strategies during the pandemic. The product offered has a negative effect tourist interest to visit during a pandemic. The services offered have a negative effect on the interest of tourists to visit during the pandemic. The promotional activities carried out have a positive and significant impact on the interest of tourists to visit during the pandemic. Product pricing strategies during a pandemic have a positive and significant impact on tourist interest to visit during a pandemic. Products offered, the services offered and the promotional activities carried out have a positive and significant impact on the interest of tourists to visit during the pandemic through the variable pricing strategy of products during the pandemic. Through the results of research, it has been stated that the products and services offered through online marketing during the pandemic have not been able to increase the interest of tourists to visit tourist attractions during the COVID-19 pandemic, while the owners of tourist attractions must carry out vigorous promotional activities so that tourists are interested in visiting. tourist attractions, thus influencing the pricing strategy that will be applied to tourism products and services.

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SUSTAINABLE PRACTICES AND BENEFITS IN THE HOSPITALITY SECTOR OF ZIMBABWE

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Abstract: A vibrant international literature exists around the sustainable practices adopted by accommodation service establishments in the Global North. Literature on sustainability practices by the hospitality sector in the Global South, particularly Southern Africa is still limited. The central aim in this study was to identify the sustainable practices adopted by hospitality establishments in Zimbabwe and to ascertain the advantages of adopting such practices. The research involved a structured questionnaire administered to 125 respondents of hotels, lodges and guest houses. Data analysis involved the application of chi-squared tests to determine the differences in sustainable practices by hotels, lodges and guest houses and an Exploratory Factor Analysis (EFA) undertaken to analyse the benefits of sustainable practices. The findings revealed that practices that result in regulatory compliance and those that can be adopted at a lower cost are most popular in the hospitality sector of Zimbabwe. Three factors were generated from the EFA, namely (1) operations management, (2) partnership and inclusive development, and (3) environmental management. Overall, the research contributes to the limited literature on destinations in the Global South concerning sustainable practices pursued by the hospitality industry.

Key words: hospitality industry, accommodation, sustainable practices, Zimbabwe, Global South

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INTRODUCTION

Accommodation is one of the most significant sub-sectors of the tourism industry, and it represents one of the most critical agents of contemporary global tourism change (Saarinen and Rogerson, 2021). The hospitality industry creates a significant ecological footprint on the environment based on its resource-intensive operations which consume large amounts of energy and water (Bohdanowicz, 2005; Mensah, 2014; Chan et al., 2018; Chen, 2019; Dube and Nhamo, 2021a). This coupled with carbon emissions exerts a strain on the environment which is supporting the operations of these hospitality enterprises (Sharma et al., 2018; Fatoki, 2021; Thai and Nguyen, 2022). Not only does the hospitality industry impact environmental sustainability but also it affects issues related on economic and social sustainability (Melissen et al., 2016; Eshun and Appaiah, 2018; Verma et al., 2018). The potential negative impacts posed by the hospitality industry make sustainability initiatives imperative for the future of the industry and its development paths (Melissen et al., 2016; Claudia et al., 2017; Dube and Nhamo, 2021b).

Over the past two decades, the sustainability of accommodation service operations has been the subject of research by various scholars in the field of tourism and hospitality (Ismail and Rogerson, 2016; Rogerson and Sims, 2012; Chen, 2019; Dube and Nhamo, 2021b). Research has shown that sustainability in the hospitality industry is now a top priority and that there is a growing consensus that hospitality businesses can contribute positively to the sustainability agenda (Butler, 2008; Chou, 2014; Wijesinghe, 2014; Jones et al., 2016). Many of the leading international hospitality brands, such as Marriott, Hilton, Fairmont, Scandic and Starwood, have introduced sustainability programmes that already have significantly transformed their operations (Bohdanowicz, 2007; Butler, 2008; Bohdanowicz et al., 2011). Arguably, leading international hospitality corporations pro-actively innovate strategies which are oriented around sustainable practices because of the advantages associated with this development concept (Houdré, 2008; Bohdanowicz et al., 2011; Saarinen, 2022). Among the benefits of adopting sustainable practices in the hospitality industry are the reduction of operating costs and increasing consumer demand for environmentally-friendly products and services (Eggeling, 2010; Cometa, 2012; Shereni, 2022).

Overall, a vibrant international literature exists around sustainable practices in the accommodation services sector of tourism. It is evident, however, that most of the existing scholarship on sustainability practices refers to large hospitality establishments which are operating mainly in the environment of the Global North. Much less is known about the adoption of sustainable practices in the resource-constrained environments of the Global South (Shereni, 2022). The aim in this

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study is to offer a contribution to address this knowledge gap. The research seeks to analyse the sustainability practices of hospitality establishments in Zimbabwe and ascertain the benefits of adopting such practices. The case study context is of particular interest as in recent investigations Zimbabwe has been styled as a 'distressed tourism destination' with ongoing political and economic challenges that impact tourism development and recovery (Woyo and Slabbert, 2020; Musavengane et al., 2021; Woyo, 2021; Woyo and Slabbert, 2021a). Although the tourism sector is the third most important contributor to gross domestic product, over the past two decades the performance of Zimbabwe tourism has been unpromising (Woyo and Woyo, 2019; Woyo et al., 2019). According to Mkono (2010) and Woyo and Slabbert (2021b) the emascalated performance of tourism is in large measure accounted for by political instability and of the negative international image of the country as a result of the violent land reform programme instituted in 2000. The findings of this study provide a perspective from the Global South concerning how sustainability is practised by the hospitality sector as well as its potential benefits for destinations in these uncertain times for African tourism (Rogerson and Baum, 2020; Rogerson and Rogerson, 2021; Saarinen and Rogerson, 2021). The remainder of the paper unfolds through the following sections of discussion which deal *inter alia*, with a literature overview, methodology, study findings, discussion and conclusions.

LITERATURE REVIEW
Sustainable practices by the hospitality industry
Mounting evidence exists that the hospitality industry in the Global North has embraced sustainability in its three forms which are environmental, social, and economic sustainability (Jones et al., 2016). Motivation and strategies towards the implementation of sustainability practices vary. In general, the sustainability strategies by the industry can be based on reacting to external pressures and regulative governance frameworks in the operational environment (Saarinen and Gill, 2019). This reactive approach has been highlighted in climate change adaptation studies in the accommodation sector, for example (Saarinen et al., 2012; Hambira et al., 2013). In contrast, there can be highly pro-active adaptation strategies towards sustainability practices that are driven by learning and decision-making aiming to improve knowledge and adaptive capacity before estimated need to transform the business operations in the future (see Walters, 1986).

Greening initiatives are by far the most popular sustainable practices in the hospitality industry and these are categorized into three broad areas: energy saving, waste reduction, and water-saving (Kuščer and Mihalič, 2019; Luo and Fan, 2019). Aligned with green practices is green certification which is widespread in the hospitality sector and used by customers to determine whether an establishment is adhering to sustainable practices (Baddeley and Font, 2011; Millar and Baloglu, 2011; Ricaurte et al., 2012; Melissen et al., 2016; Alameeri et al., 2018). Corporate Social Responsibility (CSR) initiatives are seen as a common sustainable practice engaged in by hospitality businesses (Kimaro and Saarinen, 2020). Ghaderi et al. (2019) note that as the tourism industry causes disruptive socio-economic and environmental impacts CSR activities are increasingly important in militating against adverse effects. CSR initiatives can include the promotion of gender equality, environmental conservation, funding community education initiatives, charitable donations, supporting local arts, waste management, and water conservation (Bharadwaj and Shyju, 2020).

Internationally common 'greening' initiatives by hospitality establishments include the use of energy-efficient lighting, recycling of waste, use of environmentally-safe cleaning products as well as allowing guests to decide whether linen should be changed or not. In addition, the use of greywater, replacement of inefficient heating, ventilating, and air conditioning systems, and the fitment of low flow water systems in rooms are further manifestations of sustainable practices in accommodation establishments (Millar and Baloglu, 2011). In Ghana, Mensah (2006, 2013, 2014) observes an array of environmental sustainability practices pursued by hotels that range from energy and water conservation, eco-labelling to environmental management systems. Verma (2014) identifies other strategies by hospitality organizations such as using serviettes and toilet paper made from 100% recycled paper, natural beauty spa products free from preservatives, eco-labelled insect killers, clean power sources, use of LED lights, local sourcing of products and using 100% natural soap and shampoos. Beyond these environmentally-friendly practices, Verma et al. (2018) maintain that the hospitality industry also often implements green supply chain management (GSCM), which entails variously the use of environmentally-friendly raw materials, green manufacturing, eco-friendly packaging, proper disposal of waste and green marketing. Manganari et al. (2016: 223) assert that "green marketing in the lodging industry involves the effective creation, communication and delivery of green value through product and service offerings". Green marketing communication promotes an organisation's sustainability initiatives in order to persuade customers to participate in such initiatives (Lee and Oh, 2014). Regardless of the wide adoption of sustainable practices by the broader tourism industry, Robinson et al. (2019) argue that the social dimension of sustainability practices has been given lesser attention as compared to the environmental and economic dimensions.

Benefits of adopting sustainable practices
The advantages of hospitality enterprises adopting sustainable practices have been pinpointed in several investigations. For Del Reyes-Santiago et al. (2019) the justification for hotels to go 'green' is related to the reputational advantages and the potential to attract and retain environmentally-conscious customers. Butler (2008) further notes that 'going green' will assist hospitality organisations to achieve energy savings that have an economic impact on the bottom line and parallel even to increasing the Available Daily Rate (ADR). Verma (2014) claims that sustainability practices, such as green supply chain management, aids the hospitality industry to reduce costs by a margin of between 5-20%. Additionally, Susskind (2014) contends that guests are more likely to show commitment to sustainable practices by paying a premium price when organisations communicate their activities to them. A premium is usually charged on green products to recoup additional costs of hospitality establishments (Manaktola and Jauhari, 2007). A significant finding is that 73% of millennials are prepared to pay for sustainable properties as compared to only 51% of the generation of baby boomers (UNWTO and OAS, 2018).

Environmental management allows hotels to differentiate their product and appeal to environmentally-conscious customers (Claver-Cortés et al., 2007). By engaging in sustainable practices, accommodation service providers can benefit from positive public relations, which assists in opening new markets and increasing demand for their products (Bader, 2005). Research has shown that given a choice between an ecological hotel and an ordinary hotel, customers are more likely to choose the former (Manaktola and Jauhari, 2007). In addition, sustainable hospitality properties are seen as a good investment option as they can generate high returns for investors. A green building is considered attractive to investors as it is deemed a 'safe' investment with less likelihood of experiencing lawsuits from the inability to adhere to environmental regulations (Bader, 2005; Butler, 2008; Eggeling, 2010; Zengeni et al., 2013).

Seeliger and Turok (2015) maintain that sustainable practices also benefit the well-being of employees and the residents where the property is located. Indeed, Stylos and Vassiliadis (2015) maintain that tourism businesses can benefit from improved employee-employer relationships by adopting sustainable practices. Eggeling (2010) avers that hotels could contribute to a positive relationship between the locals and the tourists by practising social sustainability (buying local produce, including local dishes on the menu and employing locals) therefore helping to reduce tension between the two groups. In addition, corporate sustainability ensures that organisations might enjoy a competitive advantage by enhancing their reputation and building a solid brand appeal (Jones et al., 2016). Zavyalova et al. (2018) argue that the level of business engagement in sustainability issues can be a significant determinant of its competitiveness
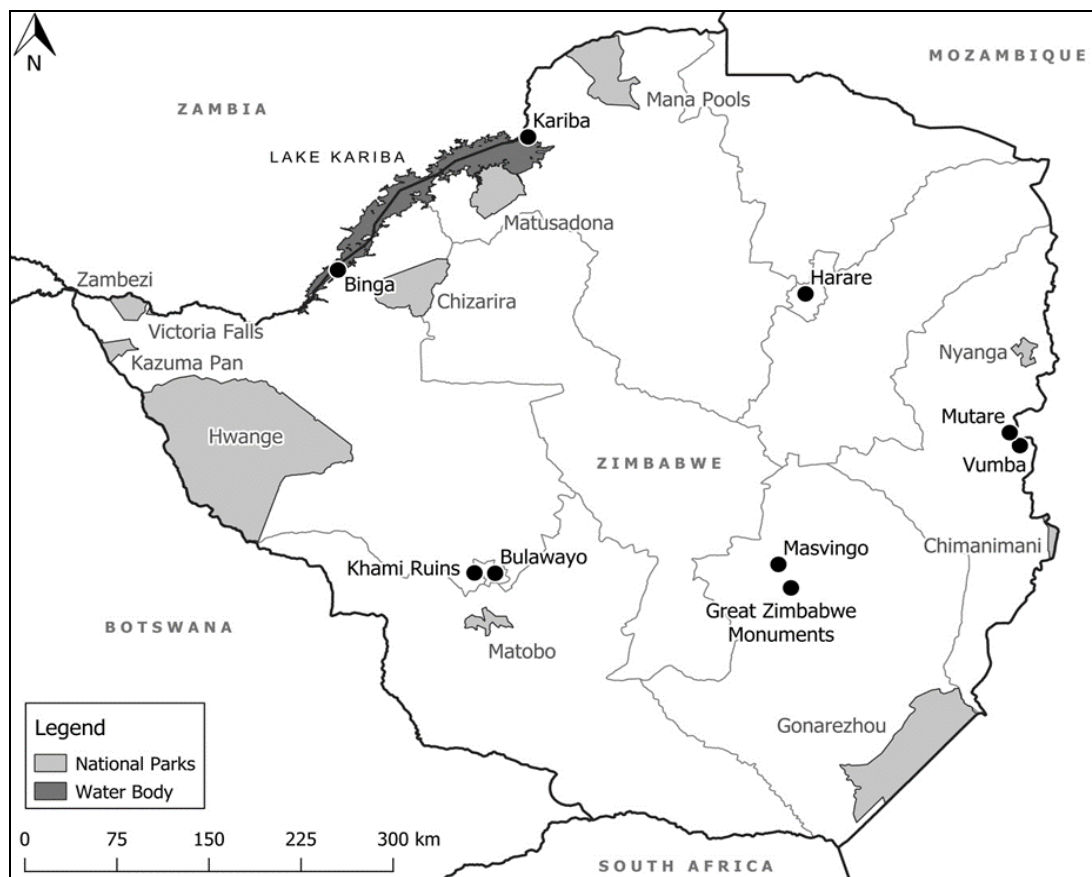
Figure 1. Location of major tourism areas in Zimbabwe (Source: Authors)

METHODOLOGY

This research adopted a quantitative approach by surveying hospitality establishments operating in the main tourist locations of Zimbabwe (Figure 1). The leading tourist areas are Harare, Bulawayo, Victoria Falls, Eastern Highlands (Mutare), Masvingo and Kariba. Victoria Falls is the major focus for international tourists visiting the country (Dube and Nhamo, 2020; Sibanda and Cheer, 2021). In all other locations domestic tourists are the primary source market for local accommodation service providers. Random sampling was applied to registered hospitality establishments located in these tourist areas. Respondents were drawn from hotels, lodges and guest houses. A self-administered structured questionnaire was developed based on literature to determine the sustainability practices of hospitality operators in Zimbabwe and their benefits. Questions asked included a set of practices and benefits that respondents would select to highlight the circumstances of their organisations. Multiple response questions on sustainability practices were extracted from literature so that respondents would select the ones they implement. Scaled questions were used on the questions that sought the benefits associated with implementing sustainable practices. A five point Likert scale ranging from strongly agree to strongly disagree was used to gauge respondents' opinions. A total of 125 usable respondents were collected. Descriptive and inferential statistics were generated using SPSS version 25. A combination of frequency distribution, Chi-squared test and Exploratory Factor Analysis were used in this study. The profile of the sample in terms of different forms of accommodation establishment was that 21

respondents were from hotels, 49 from lodges and 55 from guest houses. In terms of designation 46 respondents occupied a supervisory role, 33 were head of departments 30 were general managers and 16 owners of the surveyed establishment.

RESULTS
Common sustainable practices in the hospitality sector

Respondents were asked to identify the sustainable practices they engage in their establishments from a list of nineteen activities (Table 1). It was disclosed that the most frequent practices indicated by respondents include the use of energy-saving light bulbs (selected by 92.8 % of the respondents), adherence to fair pricing (79.2%), proper waste disposal (76.8%), linen and towel reuse policy (74.4%), payment of salaries in line with national employment council (NEC) grades (72.8%), and the employment of locals (70.4%). A disaggregated analysis of the sustainable practices was conducted across the three sub-sectors of accommodation, namely hotels, guest houses and lodges. This confirmed that across each of these sub-sectors the use of energy-saving bulbs is the most widespread practice. It was observed that among hotels, the prioritization of local companies in the supply chain was a widespread practice but in lodges and guest houses this was accorded only limited prioritization. Other common practices in hotels are the provision of employee benefits (such as pension funds, health insurance and funeral cover), installation of energy management systems, promotion of local arts, adherence to green certification standards, and the recycling of waste. Of significance is that hotels implement sustainable practices that often require substantial capital as they do not have the resource constraints that limit small lodges and guest houses. In addition, as most hotels are part of chains corporate policies compel them to prioritise and invest in sustainability initiatives.

Among Zimbabwe's lodges and guest houses the use of solar energy is common mostly because their energy requirements are lower as compared to hotels, making it cheaper for them to install solar technologies. Recycling of waste, adhering to green certification standards, promotion of local arts, use of refillable soap dispensers and adoption of energy management systems (EMS) are less common in guest houses and lodges because of high costs. Practices such as linen reuse policy, employing locals and use of local products in menu design are less costly to implement and hence are more widely taken-up in the less well-resourced cohort of small-scale lodges and guest house establishments. Chi-square tests revealed that significant relationships exist between sustainable hospitality practices and sub-sector of the hospitality industry at p<0.05 significance level (Table 1). The following practices were perceived as significantly differently across hotel, lodges and guest houses respondents: prioritization of local companies in the hotel supply chain, promotion of local arts, installation of refillable soap dispensers, and installation of Energy Management Systems (EMS). The Chi-square test further confirmed that these practices are significant in hotels as compared to the small scale establishments (guest houses and lodges).

Table 1. Common sustainable practices in the hospitality industry (n=125)

Sustainable practices	Total		Hotels		Lodges		Guest houses		Chi-square (χ2)	
	N	%	N	%	N	%	N	%	χ2 value	P-value
Use of energy saving light bulbs	116	92.8	20	95.2	44	89.8	52	94.5	1.099	.557
Adhering to fair pricing	99	79.2	17	81.0	40	81.6	42	76.4	.484	.785
Proper waste disposal practices	96	76.8	18	85.7	40	81.6	38	69.1	3.413	.181
Enforcing linen reuse policy	93	74.4	19	90.5	38	77.6	36	65.5		0.67
Pay salaries according to the National Employment Council (NEC) grades	91	72.8	19	90.5	36	73.5	36	65.5	4.823	.090
Employing a significant number of locals	88	70.4	17	81.0	36	73.5	35	63.6	2.551	.279
Use of local products in menu design	85	68.0	16	76.2	34	69.4	35	63.6	1.172	.557
Proper waste water management practices	83	66.4	15	71.4	34	69.4	34	61.8	.952	.621
Employee benefits such as health insurance, funeral cover & pension funds	81	64.8	17	81.0	30	61.2	34	61.8	2.891	.236
Prioritize local companies in the hotel supply chain	78	62.4	20	95.2	27	55.1	31	56.4	11.618	.003*
Organisational policies that provides for growth of employees	74	59.2	14	66.7	26	53.1	34	61.8	1.405	.495
Use of low flow shower systems in bathrooms	71	56.8	12	57.1	28	57.1	31	56.4	.008	.996
Use of solar energy	62	49.6	7	33.3	27	55.1	28	50.9	2.854	.240
Recycling of waste	60	48.0	14	66.7	22	44.9	24	43.6	3.540	.170
Adhering to green certification standards	54	43.2	11	52.4	21	42.9	22	40	.953	.621
Use of local themes in building designs and names	52	41.6	10	47.6	20	40.8	22	40	.384	.826
Promotion of local arts (gift shop with local products)	45	36.0	13	61.0	19	38.8	13	23.6	9.929	.007*
Installation of refillable soap dispensers	43	34.4	12	57.1	14	28.6	17	30.9	5.848	.054*
Installation of Energy Management Systems (EMS)	31	24.8	13	61.9	13	26.5	4	9.1	22.859	.000*

Note: *significant at the p < 0.05 significance level Source: Authors

Benefits of practising sustainability

The benefits of using sustainable practices were investigated by exploratory factor analysis (EFA) carried out using principal component analysis (PCA) with varimax rotation in SPSS (25.0). Twenty-two items measuring the benefits of practising sustainability were subjected to EFA in order to identify underlying dimensions and constructs that help to categorize and explain relationships among the items. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of Sphericity were used to determine if EFA is applicable to this data. The results disclose that the KMO measure of sampling adequacy of 0.836 is above the acceptable standard of 0.6. According to Worthington and Whittaker (2006) this means that the sample is adequate to run an exploratory factor analysis. Bartlett's Test of Sphericity is significant at P<0.001, which further confirms that the data is suitable for EFA to be applied. The principal component analysis using a criterion of Eigenvalues above one combined with the scree plot analysis yielded three factors which explain 54.8% of the variance. The three factors are (1) operations management, (2) partnership and inclusive development, and (3) environmental management. All items with a factor loading of above 0.4 were considered to be important and were

retained on the factor they were loaded onto. Items that were cross-loaded onto two or more factors were retained under a factor which they could be best interpreted. Cronbach's coefficient was used to test for reliability of items in each factor, and all the factors had sufficient reliability above the threshold of 0.7. The results of the analysis are presented in Table 2.

The first factor termed 'operations management' accounts for 37.1% of the variance with seven items loaded on it. Test of reliability on this factor yielded a Cronbach's alpha coefficient of 0.825 which is above the acceptable threshold of 0.7. This factor constitutes items that relate to improving the operational efficiency of hospitality organisations. Issues such as employee job satisfaction, guest satisfaction, reduced absenteeism at the workplace, and attracting more customers were identified under this factor. The second factor, 'partnership and inclusive development', consisted of eight items which explain 11% of the variance. This factor has high internal reliability, as shown by Cronbach's alpha coefficient of 0.858.

Benefits loaded onto this factor are concerned with forging partnerships in various areas as well as promoting an inclusive approach to development. Promotion of sustainable agriculture had the highest factor loading under this factor, followed by promoting the wellbeing and participation of community members, fostering partnerships for sustainable development, improved health and welfare of employees, and improved company reputation.The third factor, 'environmental management' had seven items accounting for 6.7% of the variance. This factor passed the reliability test with a Cronbach's coefficient of 0.861. This factor is composed of the environmental benefits of practising sustainability. Items loaded under this factor include lower energy usage, combating climate change, protection of fragile ecosystems and lower water usage, promoting the use of sustainable and modern energy, and the sustainable management of water resources among other benefits.

The results of this study revealed a varied adoption of sustainability practices by large and small establishments. Small establishments were noted to adopt strategies that are cost effective because of their constrained financial resources. On the other hand hotels as large establishments have the capacity to fully adopt sustainable practices. On the benefits of adopting sustainable practices operations management dominated the benefits sought. This seems to suggest that hospitality businesses in this study adopt practices that make business sense to them by improving their operational efficiency.

Table 2. Results of Exploratory Factor Analysis (n=125)

Benefits of practising sustainability	Factor Loadings	Eigen values	Percentage Variance	Percentage cumu -lative Variance	α	Mean Scores
Factor 1: Operations management		**8.164**	**37.1%**	**37.1%**	**0.825**	**3.80**
Results in high job satisfaction among employees	.866					
Results in high guest satisfaction levels	.786					
Helps to end poverty in all its forms	.776					
Reduced absenteeism at the workplace	.717					
Helps to make human settlements inclusive, safe and sustainable	.505					
Helps to attract more customers	.491					
Promotes the construction of resilient and sustainable infrastructure	.466					
Factor 2: Partnership and inclusive development		**2.422**	**11.0%**	**48.1%**	**.858**	**3.32**
Promotes sustainable agriculture	.734					
Promotes the wellbeing and participation of community members	.653					
Fosters partnerships for sustainable development	.619					
Improved health and welfare of employees	.567					
Improved company's reputation	.567					
Promotes multicultural understanding and tolerance among people from different cultural and ethnical backgrounds	.550					
Promotes inclusive and equitable quality education and lifelong learning opportunities	.514					
Helps to achieve gender equality and empower minority groups	.503					
Factor 3: Environmental management factors		**1.464**	**6.7%**	**54.8%**	**0.861**	**4.0**
Results in lower energy usage	.796					
Helps to fight climate change	.795					
Protects fragile ecosystems like wetlands, mountains, forests, inland water bodies as well as preserving threatened species	.700					
Results in lower water usage	.689					
Promotes the use of sustainable and modern energy	.664					
Promotes sustainable management of water resources	.424					
Promotes sustainable production and consumption of resources	.409					

Note: Extraction Method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization rotation (Source: Authors)

DISCUSSION

This study sought to identify the sustainability practices undertaken by hospitality establishments in Zimbabwe as well as the benefits associated with such practices. The analysis of sustainable practices reveals that the most widespread sustainable practices in the country's hospitality industry are those that are linked to regulatory compliance. This reflects a reactive or passive implementation of sustainability strategies in the industry (see Saarinen, 2022). Indeed, hospitality organizations readily adopt practices that avert legal consequences that come with non-compliance as both regulatory and corporate watchdog groups are seen to be putting pressure on businesses to become more sustainable (Jose and Lee, 2007). Legitimation informs sustainability in the hospitality sector in Zimbabwe as it helps establishments avoid lawsuits related to non-compliance and protects the reputation of organisations. On sustainability awareness in the hospitality industry, respondents indicated a high awareness of sustainability policies put in place by the regulatory authority. This explains why legitimation is at the top of sustainable practices as establishments are conscious of regulatory policies they should adhere to. Practices such

as installation of energy-saving bulbs, paying of salaries according to the National Employment Council grades, fair pricing, and proper disposal of waste were widespread in Zimbabwe because of their legal implications. This finding concerning regulatory compliance is in line with that recorded in other research in sub-Saharan Africa. For example Mensah (2006) pinpoints that urban hotels in Ghana mainly are concerned with issues of regulatory compliance in their sustainable practices.

The research revealed that also practices that do not require much capital investment were those most widespread; correspondingly, high capital investments required for certain sustainability practices were a constraint and deterrence resulting in a lower uptake. Such practices include employment of locals, prioritizing local companies in the supply chain, and use of local products in menu design. This was significant particularly in small establishments that are in most cases constrained financially. Adherence to green certification standards, sustainable building designs, installation of Energy Management Systems (EMS) and installation of refillable soap dispensers were noted to have a lower uptake especially in lodges and guest houses because of their cost implications. These findings resonate with similar research conducted in other countries in the Global South. In Vietnam Trang et al. (2018) observed that hospitality enterprises, most especially small establishments, are not committed to implementing sustainable practices mainly because of the huge investment requirements. Likewise, in a study conducted in Ghana, Eshun and Appiah (2018) demonstrated that the prohibitive costs of acquiring green technology could lead hotels to focus on less costly practices. Agyeiwaah (2019) further showed that cost issues and the lack of financial resources hinder what was styled as 'micro-tourism and hospitality accommodation' enterprises in Ghana from adopting certain sustainable practices. These issues also pertain to Zimbabwe where the take-up of sustainable practices was lowest for small lodges and guest houses.

The benefits of practising sustainability were disclosed through the findings from the Exploratory Factor Analysis. It was disclosed that the three identified factors were operations management, partnership and inclusive development, and environmental management. The category of operations management includes benefits that improve the operational efficiency of hospitality organizations. This suggests that hospitality organisations engage in sustainable practices because they contribute to the efficient operations of their properties. An increase in customer awareness of sustainability issues, coupled with the adoption and advertising of sustainability achievements can attract new customers and engender loyalty among environmentally conscious guests. Improved employee satisfaction and reduced absenteeism help to decrease labour turnover within hospitality organisations. This has a positive impact on the bottom line of hospitality establishments. Cometa (2012) in a study of hotel consumers in the USA stated that hospitality organisations could benefit from an increase in demand from environmentally conscious customers. In this regard, green practices help to improve the well-being of employees as suggested by Seeliger and Turok (2015) in their study conducted in South Africa. This also improves employee satisfaction and likely reduces absenteeism at the workplace. The results of research done in Greece by Stylos and Vassiliadis (2015) reveal that sustainability practices enhance the employee-employer relationship and are a key factor in driving employee satisfaction. The second category of benefits on partnerships and inclusive development attributed sustainability to fostering partnerships and providing opportunities to spread benefits to different sections of society. This category emphasizes mutual benefits to community members, employees, the business and promotes partnerships among different stakeholders.

In parallel Seeliger and Turok (2015) argue that sustainable practices help to ensure the wellbeing of employees, a factor that assists in improving the health and wellbeing of employees. In addition, Eggeling (2010) in research focused on Scandic, the Swedish-based hotel chain, noted that observation of social sustainability helps to improve the relationship between tourists and the locals. Environmental management represented the third broad category and comprised a number of benefits relating to the protection and preservation of the environment. Reduction in energy usage, combating climate change, protection of fragile ecosystems, lower water usage, sustainable production and consumption of resources, as well as the use of sustainable and modern energy are certain benefits that fall under this category. In an earlier study in Zimbabwe Zengeni et al. (2013) asserted that the adoption of sustainable practices in the hospitality industry helps to save water and reduces energy use. In other investigations in sub-Saharan Africa the environmental benefits associated with adopting sustainable practices have been demonstrated (Rogerson and Sims, 2012; Mensah, 2014; Ismail and Rogerson, 2016; Eshun and Appiah, 2018).

CONCLUSION

Sustainability practices of the hospitality sector are one critical dimension of tourism change in the Global South (Saarinen and Rogerson, 2021). The results of this study add to the limited body of knowledge that focuses on sustainable practices in the tourism industry of the Global South. Arguably, this research provides a perspective from the hospitality sector in Zimbabwe on a critical set of issues that currently is dominated by studies conducted in the more resource-rich setting of the Global North. The study highlights variations in the sustainable practices which are adopted by different sub-sectors of accommodation services. Overall, the results indicate that a majority of the hospitality sector's sustainability practices and their implementation is based on a reactive strategies guided by external pressures and change needs. This finding points to the importance of creating efficient governance and regulative frameworks for tourism destinations as they still represent the key drivers for advancing sustainability initiatives in the resource-constrained environments, such as the Global South. Indeed, as the UNWTO (2017: 4) has emphasized, in order to make positive contribution to the United Nations Sustainable Development Goals (SDGs), which represents the key sustainability practice agenda for the industry, "a well-designed and managed tourism sector" is needed. One limitation of this study is that it focuses on views from one country in the Global South. Further studies can be done focusing on other countries in the Global South to allow comparison with the findings from Zimbabwe. In addition to the call for better governance frameworks, the major benefits from the adoption of sustainable practices in such resource-constrained environments appear to relate to improving the operational efficiency of hospitality enterprises. Currently, with the existence of only a small cohort of research studies on the sustainable practices of hospitality enterprises it is apparent that the need exists for further research investigations, most especially in sub-Saharan Africa. Such research would

inform policy development and contribute to further moving forward the sustainability agenda for the hospitality sector to contribute meaningfully to the SDGs that is urgently needed in the Global South. Rogerson and Baum (2020) emphasise the importance of post COVID-19 tourism developments in Africa to be aligned to the achievement of the SDGs.

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THE NEW NORMAL LIFESTYLE TECHNOLOGY DEVELOPMENT FOR TOURISM ENTREPRENEURS OF SAMUT SONGKHRAM PROVINCE TO RESOLVE THE COVID19 CRISIS IN THE SHORT AND LONG TERM IN THAILAND

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Abstract: The purposes of this research were: 1. to study the influence of community, government, and educational institutions' support towards the reskilling and upskilling of personnel and the new normal lifestyle technology development of tourism entrepreneurs in Samut Songkhram Province and 2. to study the influence of the new normal lifestyle technology development on the potential of tourism entrepreneurs in Samut Songkhram Province in resolving the COVID-19 crisis in the short and long term.The research instruments, interview forms and questionnaires, were used to collect data which were then analyzed using the Structural Equation Modeling (SEM) to find the cause-and-effect relationships found in the new normal lifestyle technology development of the tourism entrepreneurs in Samut Songkhram Province. The results found that factors such as support from the community, government agencies, and educational institutions had a 0.83 positive direct influence on the new normal lifestyle technology development of tourism entrepreneurs in Samut Songkhram Province at the statistical significance at 0.01 level. The support from the community, government agencies, and educational institutions was also found to have a 0.97 positive direct influence on the reskilling and upskilling of personnel of the tourism entrepreneurs in Samut Songkhram Province. The new normal lifestyle technology development was found having a 0.28 positive direct influence on the potential of tourism entrepreneurs in Samut Songkhram province in resolving the COVID-19 crisis at a statistically significant level of 0.01.

Key words: The new normal lifestyle technology development for tourism entrepreneurs, Personnel Reskilling and Upskilling, Community, Government, and Educational Institutions Support on the Tourism sector

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INTRODUCTION

The coronavirus disease 2019 (COVID-19) pandemic, which spreads continuously across the globe due to the virus's highly transmissable capability and the lack of antiviral drugs, has resulted in a high rate of mortality. Consequently, governments of each country need to take measures to deal with the COVID-19 virus. Countries with good COVID-19 management strategies, which have a low rate of infection and deaths, have strict implementations of policies such as national lockdown and state quarantine, along with the use of information technology to coordinate communication to the public about the government's health policies during the COVID-19 crisis (Afroz et al., 2022). According to the literature review, the strict implementation of government policies was found to have a negative impact on the domestic economy especially in tourism and its related industries. During the COVID-19 pandemic, the numbers of foreign tourists visiting Thailand in the first quarter of 2020 decreased by 38.01% when compared with the same period in 2019, with the largest group of tourists, 3.73 million people, coming from East Asian countries. As for domestic visitors, the number of Thai tourists traveling domestically also decreased by 30.77% when compared with the same period of the previous year. As a result, the spending value of Thai visitors traveling domestically in the first quarter of 2020 also dropped 31.53%. Nonetheless, Bangkok still remained the number one destination for Thai tourists, followed by the North and the West, respectively. However, Thai tourists were found to spend most in Bangkok, the South, and the North, respectively (Thitthongkam and Walsh, 2011). As a result of this impact, there has been a campaign from the government to carry out "the new normal" lifestyle, in which the Thai tourism industry must adjust itself to operate business accordingly with such a change in social context. This is because the impacts of the COVID-19 crisis may last 1-2 years and cause a "domino effect", leading to the consequential disruption of related industries, such as the hospitality sector, airline business, etc.

Therefore, the tourism industry needs to adjust itself to embrace new policies such as employees working from home to promote social distancing, as well as the use of technology or applications which has since played an important role in business operations by helping to reduce costs and impacts from the country's lockdowns and preventing business disruption. It is also necessary for the tourism industry to apply technology that is suitable for the current context including hardware and software, as well as ensuring that "peopleware" is always ready. Location-based service technology which can be connected via smartphones and tablets of both consumers and employees is especially useful in business operations. It allows work-from-home and video conferences, as well as helping to increase awareness and disseminate information to consumers. If a business can manage such technology in accordance with the new normal

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lifestyle, it will be able to create a competitive edge and promote a sustainable tourism business in the long run. The aforementioned reasons inspired the researcher to explore development of the new normal lifestyle technology by tourism entrepreneurs in Samut Songkhram Province during the COVID-19 crisis. This includes the use of technology in place of human workers, reskilling and upskilling human resources in the tourism business, as well as the support of the community, government, and educational institutions. This is to ensure that tourism entrepreneurs in Samut Songkhram Province have sufficient self-potential in terms of knowledge, staff, and basic infrastructure required for research and innovation to support the COVID-19 crisis management and post-crisis recovery.

LITERATURE REVIEW
The new normal lifestyle technology development for tourism entrepreneurs that impacts the potential of tourism entrepreneurs in the COVID-19 crisis

As the world faces an unprecedented global health, economic, and social emergency as a result of the COVID-19 outbreak (El-Said and Aziz, 2022) the travel and tourism industry is among the sectors impacted by the pandemic. While air travel is most affected, many tourism businesses and hotels are also closed down, and travelling is restricted in almost every country around the globe (Surya et al., 2022). Such impacts urge those in hospitality businesses, as well as policy makers and researchers, to begin studying how to tackle the problem with technology (Johnson, 2022). As the current pandemic has brought unprecedented changes and the end of such crisis is unforeseeable, it is a new challenge for the tourism industry (Fontanari and Traskevich, 2022). In addition, today's digital technology also influences changes in consumer behavior which includes how they search for information before making travel decisions, as well as how they access and experience tourism-related content (Stolyarova et al., 2021). Therefore, a definition of technology development for this pandemic situation is a development of scientific knowledge to help resolve issues in tourism operations by leveraging computers and machines to mimic the problem-resolving and decision-making abilities of the human mind. The examples include the use of automated suggestions, forecasting for advance planning, and intelligent translation systems, all of which are designed to be consistent with and respond to tourists' new normal lifestyle (Refaat and Arafa, 2022). A literature review was conducted on the new normal lifestyle technology development affecting the potential of tourism entrepreneurs to resolve the crisis from research and academic articles both domestically and internationally. A study by (Strielkowski et al., 2021); regard new technologies used in COVID-19 for business survival: Insights from the hotel sector in China explained that while several countries were under lockdown and controlled with strict travel measures, arficial intelligence (AI) technology played an important role in the tourism industry. For example, Big Data is useful for forecasting the demand for tourism as it can provide real-time forecast. This tourism traffic volume forecasting is an important process that affects tourism planning and development, and could maximize revenue and optimize related processes, such as procurement of relevant supplies, flights, and hotels through better decision making and enhanced analytics.

This is consistent with a study (Fernández et al., 2022) which explored the use of automated tourist recommendation information systems on Internet of Things (IoT) technologies during the COVID-19 pandemic. They explained that the tourism industry has been greatly affected as tourist activites are required to adhere to the social-distancing policy enforced by each country's government. The IoT has then played an important role in supporting the process of providing relevant information on tourist attractions, accommodation, and transportation in lockdown situations where people are required to stay at home, yet there is still a desire to travel. The IoT technologies, which connect Big Data with mobile phones or various types of electronic devices, can effectively satisfy the need for information regarding hotels, accommodation, and tourist attractions, while still ensuring social distancing as the travelers are not required to meet in-person with travel agents. In addition to helping reduce the risk of contracting COVID-19, the automated recommendation systems using IoT technologies also allow customers to engage with tourism-related transactions at all hours. This is in line with another study (Musselwhite et al., 2021) which explored the use of IoT technologies in providing advice and surveillence for COVID-19 high-risk conditions. For instance, a notification and status report is sent to travelers when their body temperature is 38 degrees or more. The automated alert system is linked between the body temperature sensors on the phone and a central database to alert other travelers of the risk so they can decide whether they want to avoid approaching such high-risk areas. This can greatly satisfy customers as well as ensuring the safety of tourist attractions.

Support of communities, government agencies, and educational institutions towards the tourism sector in the time of COVID-19

In the literature review, the (Beh and Lin, 2021) mentioned the use of technology to drive the tourism sector in Central Asia during the COVID-19 pandemic to ensure safe travel. Tourism is noted to be currently facing its worst crisis as the ongoing coronavirus (COVID-19) pandemic is affecting travel and tourism industry worldwide. According to the World Travel and Tourism Council, the tourism sector declined from a contribution of 10.4% of Global GDP in 2019 to only 5.5% in 2020, while approximately 62 million workers were unemployed and 120 million were also at risk of unemployment. This led to a weak economy and the greatest risk that small companies will go out of business. Therefore, the government needs to provide adequate support to the private sector to enable adoption of new technologies such as virtual travelling, the IoT, AI, and cloud computing. Such digital adoption can increase the potential and efficiency of private enterprises, not only for improving daily operations but also for the creation of unique experiences for the tourists. There is also support for social media marketing and communication campaigns to promote a wide range of tourism deals using technology as a medium, enabling the private sector to introduce innovative itinerary planning, as well as new routes and experiences for both domestic and international tourists. However, the government must play an active role in

promoting the adoption of technology through policy interventions, starting with policies to support the recovery of the tourism industry through a combination of private sector incentives, such as tax subsidies and funding, and skill development of tourism personnel. They should also help increase tourists' confidence and willingness to travel. One way is to create an environment that is conducive to the transformation of major attractions, making them into "smart" destinations through modernization and upgrading of technological infrastructure. Allocation of massive funding to improve ICT infrastructure in key tourist destinations is also of great importance. Furthermore, the government has to come up with policies that protect tourists from infection by providing contactless and digital payment options, and there should also be a technological means for vaccine passports and mapping the spread of the coronavirus.

Personnel reskilling and upskilling that impact the potential of tourism entrepreneurs

The literature review found that (Huang et al., 2021); have explored soft skill development of personnel in the tourism industry with the aim of studying the need to build and develop the necessary and desired skills of tourism personnel. Examples include building and developing skills in verbal communication, speaking, teamwork, self-motivation, etc. for personnel to become more competent and able to meet the needs of today's tourists. The study found that these soft skills heavily influence decision making and the purchase of travel products and services, all of which have a significant impact on travel agency sales and profits. The upskilling and reskilling can be achieved by providing training workshops for personnel at all levels as well as adding positive motivation for employees. This corresponds to a study of (Pahuja, 2022) which investigated the perceived importance of soft skills among tourism personnel. It was found that communication skills and customer demand management via social media had an impact on the satisfaction and purchasing decisions of travelers. In addition, knowledge and skills in information technology usage were also found to affect collection and storage of data necessary for business planning. This corresponds to a study by (Cabral and Dhar, 2019); which analyzed the skills development of tourism personnel in India. The results revealed that the skills in the application of communication technology were necessary to develop and upgrade tourism personnel amidst the current dramatic changes in business environments, both internally and externally, from issues such as the COVID-19 pandemic, changing technology conditions, globalization, and changing behavior of tourists.

MATERIALS AND METHODS

This research "The New Normal Lifestyle Technology Development for Tourism Entrepreneur of Samut Songkhram Province to Resolve the COVID-19 Crisis in the Short and Long Term in Thailand" is a mixed-method study. The qualitative research part was conducted with tourism entrepreneurs who were involved in the new normal lifestyle technology development in Samut Songkhram Province, while the quantitative research part (Creswell, 2009); was conducted with tourism start-ups and social enterprises in Samut Songkhram Province. The research purposes are: (1) to study the influence of community, government, and educational institutions' support towards the reskilling and upskilling of personnel and the new normal lifestyle technology development of tourism entrepreneurs in Samut Songkhram Province, (2) to study the influence of the new normal

Figure 1. Research Conceptual Framework

lifestyle technology development on the potential of tourism entrepreneurs in Samut Songkhram Province in resolving the COVID-19 crisis, (3) to develop the new normal lifestyle technology for tourism entrepreneurs in Samut Songkhram Province for resolving the COVID-19 crisis in the short and long term. The research procedures are as follows.

Determination of population and sample

The population in this study consisted of 210 tourism start-ups and social enterprises in Samut Songkhram Province (Jariyachamsit et al., 2020); and the following concepts were explored; (1) the use of technology in place of human workers, (2) personnel reskilling and upskilling in tourism businesses, and (3) support of community, government agencies, and educational institutions to develop the new normal lifestyle technology for tourism entrepreneurs in Samut Songkhram Province to resolve the COVID-19 crisis in the short and long term. The sample group was selected using cluster random sampling, which researcher random sampling from a scattered population, causing difficulty in framing the population, or a population where groupings are naturally formed geographically (Ribeiro et al., 2018). The overall characteristic of each cluster is being generally homogenous, yet there are differences or diversity in its entirety, in order to reduce the error in population's parameter estimation. After using this probability sampling, the sample size from a definite population was determined by using formula calculation (Yamane, 1973: 1088) at 95 % confidence level (Z = 1.96). 210 samples were obtained.

Research instruments

The research instruments were interview forms and questionnaires. The researcher started with reviewing related literature, concepts, and theories to define a practical definition and determine the structure of the variables to be studied. A questionnaire was then created based on the practical definition and developed measuring tools and questions that have been tried and adjusted to suit the research. The questionnaire was then submitted to 5 experts in innovation and technology affecting the potential of tourism entreprenuers in Samut Songkhram Province. The experts were to evaluate the content of the questionnaire, including the aspects of content validity, questionnaire comprehensiveness, appropriateness, and linguistic clarity. The content validity analysis of the entire questionnaire was found to range from 70% or higher, or with the IOCs between 0.70–1.00. Based on the criteria used to determine content validity, the calculated IOC must be greater than or equal to 0.50 (IOC ≥ 0.50) in order to indicate that all items in the questionnaire are appropriate while also having content validity and being consistent with the research objectives, expressed using clear language, and adequately comprehensive to cover the studying issues. As for the reliability of the question items, it was found that the questions were adequately reliable to be used in the study as they met the specified criteria by having calculated confidence value greater than 0.70.

Table 1. Numbers of population and samples (Vithayaporn, 2021)

Tourism start-ups and social enterprises in Samut Songkhram Province	Number of populations	Number of samples	Percentage
1. Muang District	153	74	35.32
2. Amphawa District	213	102	49.18
3. Bang Khon Tee District	71	34	16.39
Total	437	210	100

Data Collection

Both qualitative and quantitative data were collected in this research as follows:

Qualitative data; Three executives involved in the new normal lifestyle technology development in Samut Songkhram Province were interviewed. This included (1) Director of Tourism and Sports Samut Songkhram Province, (2) President of the Federation of Thai SMEs in Samut Songkhram Province, and (3) Manager of IRD SSRU Learning Center, Suan Sunandha Rajabhat University, Ban Saraphi, Chom Pluak Subdistrict, Bang Khonthi District, Samut Songkhram Province. This qualitative research part of the study used in-depth interviews to explore the elements of (1) the use of technology in place of human workers, (2) reskilling and upskilling human resources in tourism business, and (3) the support of the community, government, and educational institutions to ensure that tourism entrepreneurs are supported through crisis management and post-crisis recovery from COVID-19 in short-and long-term adaptation. The participants were chosen using purposive sampling (Tongco, 2007), a sampling technique in which samples are selected according to the principles or reasoning in relation to the research problems or research objectives. The key informants selected were executives who were involved in the development of the new normal lifestyle technology in Samut Songkhram Province. Quantitative data; Data were collected using the survey research method. The questionnaire used was structured from the interview form used in the qualitative research part. This quantitative part of the study was conducted with 210 tourism start-ups and social enterprises in Samut Songkhram Province. The measurements used were based on a work of Uğur and Akbıyık (2020) and included (1) the use of Artificial Intelligence (AI) technology in place of human workers, (2) the use of Big Data for planning, and (3) the use of an intelligent translation system to create applications in foreign languages to support foreign tourists. Respondents were asked to rate their answers using the Five-point Likert-type Scale Ranging. The 5 levels included (5) for totally agree (4) for mostly agree, (3) for moderately agree, (2) for slightly agree, and (1) for least agree. Measuring of the new normal lifestyle technology development was done using 15 multi-item scale questions. An example of the questions is "Do you think your business uses Big Data planning technology to develop more advanced working techniques?"
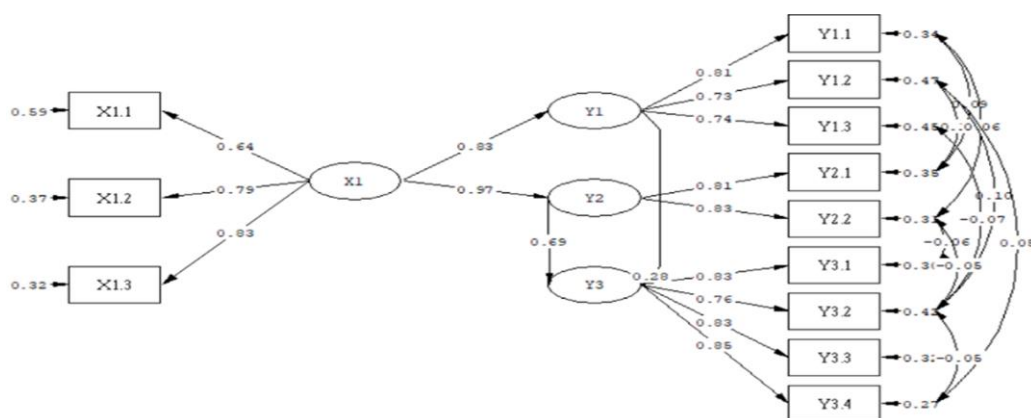
Figure 2. Variable influence analysis results in the causal model of the new normal lifestyle technology development for tourism entrepreneurs in Samut Songkhram Province for resolving the COVID-19 crisis in the short and long term before adjusting the model

Data analysis

The aforementioned data were used to analyze the Structural Equation Modeling (SEM) in order to find cause-and-effect relationships in the new normal lifestyle technology development for tourism entrepreneurs in Samut Songkhram Province.

Theories and research on related variables were used to develop a research conceptual framework and to create a model of research related with empirical data, using the software LISREL for Windows version 11. Assessment of model fit between the model and the empirical data was done by using indices such as Chi-Square, χ^2/df, CFI, GFI, AGFI, RMSEA, and SRMR.

RESULTS AND DISCUSSION

Structural Equation Modeling (SEM) was analyzed to find cause-and-effect relationships in the new normal lifestyle technology development for tourism entrepreneurs in Samut Songkhram Province. The analysis results after adjusting the model of the fit indices on the overall model fit are shown as follows:

Table 2. Overall model fit index analysis after adjusting the model

Fit index	Criteria	Measured index value	Interpretation
χ^2/df (0.37/1)	< 2.00	0.37	Pass
CFI	≥ 0.95	1.00	Pass
GFI	≥ 0.95	1.00	Pass
AGFI	≥ 0.90	0.99	Pass
RMSEA	< 0.05	0.000	Pass
SRMR	< 0.05	0.008	Pass
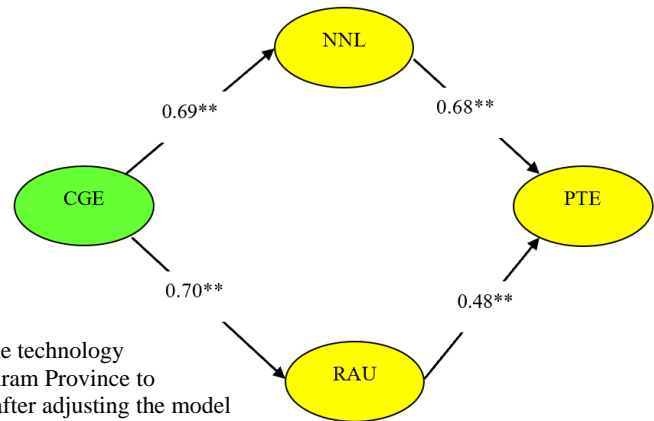
Figure 3. The cause and effect of the new normal lifestyle technology development for tourism entrepreneurs in Samut Songkhram Province to resolve the COVID-19 crisis in the short and long term after adjusting the model

When considering fit indices of the model, it was found that the model is fit with the empirical data with all 6 fit indices showing passing results for the accepted criteria. The values of the indices were χ^2/df = 0.37, CFI = 1.00, GFI = 1.00, AGFI = 0.99, RMSEA = 0.000, and SRMR = 0.008. Therefore, it can be concluded that the SEM is fit and suitable with the empirical data.

Analysis results: Hypothesis testing

These are results of the research hypothesis testing on the cause-and-effect factors of the new normal lifestyle technology development for tourism entrepreneurs in Samut Songkhram Province for resolving the COVID-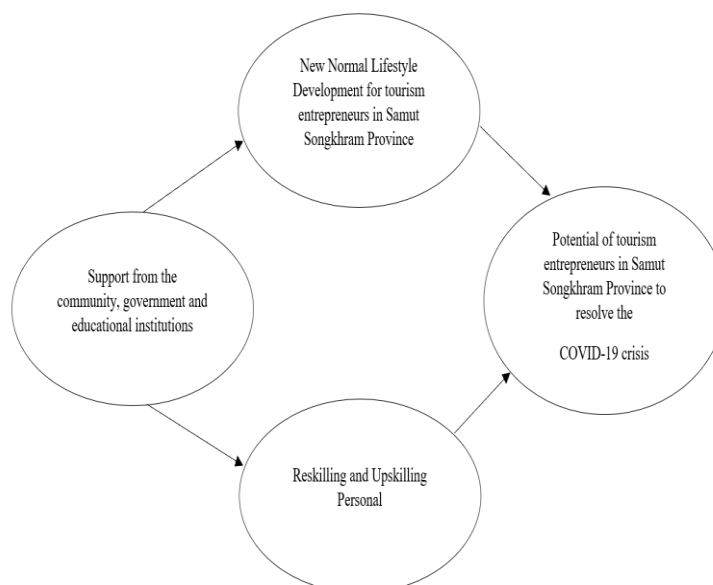19 crisis in the short and long term. From the research question "Does the support of the community, the government, and educational institutions have an influence on the new lifestyle technology development for tourism entrepreneurs in Samut Songkhram Province?", hypotheses were formulated to answer this question as follows:

Hypothesis 1: Support of the community, the government, and educational institutions has an influence on the new lifestyle technology development for tourism entrepreneurs in Samut Songkhram Province. The hypothesis testing revealed that the support of the community, the government, and educational institutions (X1) has a positive direct influence on the new normal lifestyle technology development of tourism entrepreneurs in Samut Songkhram Province (Y1) at a statistically significant level of 0.01. The new normal lifestyle technology development of tourism entrepreneurs in Samut Songkhram Province (Y1) was influenced by the support of the community, the government, and educational institutions (X1) at 0.69, all of which were direct positive influences.

Hypothesis 2: Support of the community, the government, and educational institutions has an influence on personnel reskilling and upskilling of tourism entrepreneurs in Samut Songkhram Province. The hypothesis testing revealed that the support of the community, the government, and educational institutions (X1) has an influence on personnel reskilling and upskilling of tourism entrepreneurs in Samut Songkhram Province (Y2) at a statistically significant level of 0.01. The reskilling and upskilling of tourism entrepreneurs in Samut Songkhram Province (Y2) was influenced by the support of the community, the government, and educational institutions (X1) at 0.70, all of which were direct positive influences. As for the research question "How much does the new normal lifestyle technology development affect the potential of tourism entntreneurs in Samut Songkhram Province in resolving the COVID-19 crisis?", hypotheses were formulated to answer as follows:

Hypothesis 3: Personnel reskilling and upskilling have a direct influence on the potential of tourism entrepreneurs in Samut Songkhram Province in resolving the COVID-19 crisis. The hypothesis testing results revealed that personnel reskilling and upskilling (Y2) had a positive direct influence on the potential of tourism entrepreneurs in Samut Songkhram Province in resolving the COVID- 19 crisis (Y3) at a statistically significant level of 0.01. The potential of tourism entrepreneurs in Samut Songkhram Province in resolving the COVID- 19 crisis (Y3) was influenced by personnel reskilling and upskilling (Y2) at 0.48, all of which were direct positive influences.

Hypothesis 4: The new normal lifestyle technology development has a direct influence on the potential of tourism entrepreneurs in Samut Songkhram Province in resolving the COVID-19 crisis. The hypothesis testing revealed that the new normal lifestyle technology development had a positive direct influence on the potential of tourism entrepreneurs in Samut Songkhram Province in resolving the COVID-19 crisis (Y3) at a statistical significant level of 0.01. The potential of tourism entrepreneurs in Samut Songkhram Province for resolving the COVID-19 crisis (Y3) was influenced by the new normal lifestyle technology development (Y1) at 0.68, all of which were positive influences.

CONCLUSION

The results of the analysis revealed that the support of community, government agencies, and educational institutions (X1) had a 0.69 positive direct influence on the new normal lifestyle technology development of tourism entrepreneurs in Samut Songkhram Province at the statistical significance of 0.01 level. Therefore, the government should have a policy to support or improve high speed internet networks to cover tourist destinations all over Samut Songkhram province. They should also encourage a connection between the public and tourism entrepreneurs' private databases in order to ensure a better travelling standard and to speed up business operations. In addition, tourists should be encoraged to use information technology for accommodation and travelling management, including technologies such as computerized seat reservation systems (CRS), billing systems, receipt systems, security systems, modern telephone service, in-room entertainment, and in-room internet services, as it will help increase the efficiency of business management as well. Furthermore, it was found that the support of the community, government agencies, and educational institutions (X1) had a 0.70 positive direct influence on personnel reskilling and upskilling of tourism entrepreneurs in Samut Songkhram Province at the statistical significance of 0.01 level. Therefore, the government should help resolve the labor shortage in the tourism industry by increasing IT skills to compensate the need of more personnel, which may also help to effectively reduce business costs. This corresponds to (Benaraba et al., 2022); who explored the OECD Tourism Trends and Policies of 2020. It was explained that in Egypt a tourism reform program was launched in 2018 with the aim of developing sustainable tourism. The use of technology has since played a key role in reforming the infrastructure in order to strengthen the competitiveness of all tourism-related sectors and to comply with international standards. For instance, the use of technology in institutional and legal reforms, marketing and promotion infrastructure, basic infrastructure development, as well as in driving attempts to meet the need of market demand in tourism digital economy.

The (Ihsan et al., 2022); has described the use of technology to drive the tourism sector and to promote safety in travelling in Central Asia amidst the COVID-19 situation. It was noted that the tourism industry is facing the worst crisis as the ongoing coronavirus (COVID-19) pandemic is affecting the global travel. According to the World Travel and Tourism Council, the tourism sector declined from a contribution of 10.4% of Global GDP in 2019 to only 5.5% in 2020, while approximately 62 million workers were unemployed and 120 million were also at risk of unemployment. This led to a weak economy and the greatest risk that small companies will go out of business. Therefore, the government needs to provide adequate support to the private sector to enable adoption of new technologies such as virtual travelling, the IoT, AI, and cloud computing. Such digital adoption can increase the potential and efficiency of private enterprises, not only for improving daily operations but also for the creation of unique experiences for the tourists. There is also support for social media marketing and communication campaigns to promote a wide range of tourism deals using technology as a medium, enabling the private sector to introduce innovative itinerary planning, as well as new routes and experiences for both domestic and international tourists. However, the government must play an active role in promoting the adoption of technology through policy interventions, starting with policies to support the recovery of the tourism industry through a combination of private sector incentives, such as tax subsidies and funding, and skill development of tourism personnel. They should also help increase tourists' confidence and willingness to travel. It was also found that the new normal lifestyle technology development (Y1) had a 0.68 significant positive direct influence on the potential of tourism entrepreneurs in Samut Songkhram Province in resolving the COVID-19 crisis (Y3) at statistical significance level of 0.01. Therefore, businesses should use Big Data to help increase the efficiency of business planning concerning travel information, check-in, country of origin, travelling period, and popular tourist destinations, in order to better meet the needs of tourists. Additionally, artificial intelligence (AI) technology should be used to facilitate tourists in searching and booking accommodation and transportation online. This offers greater convenience for tourists as they no longer need to visit travel agency offices. It was found that personnel resklling and upskilling (Y2) had a 0.48 significant positive direct influence on the potential of tourism entrepreneurs in Samut Songkhram Province to resolve the COVID-19 crisis (Y3) at statistical significance level of 0.01.

Therefore, entrepreneurs should focus on promoting basic training of business personnel including languages, communication, IT, and services through online channels which can increase operational efficiency and motivate the business to improve their labor standards for sustainable growth in the future. This is in line with a study (Strielkowski et al., 2021); which explored the use of automated tourist recommendation information systems on Internet of Things (IoT) technologies during the continuous requirement of social-distancing amidst the COVID-19 pandemic. It was explained that the tourism industry has been greatly affected as tourist activites are required to adhere to the social-distancing policy enforced by each country's government. The IoT has then played an important role in supporting the process of providing relevant information on tourist attractions, accommodation, and transportation in lockdown situations where people are required to stay at home, yet there is still a desire to travel. The IoT technologies, which connect Big Data with mobile phones or various types of electronic devices, can effectively satisfy the need for information regarding hotels, accommodation, and tourist attractions, while still ensuring social distancing as the travelers are not required to meet in-person with travel agents. In addition to helping reduce the risk of contracting COVID-19, the automated recommendation systems using IoT technologies also allow customers to engage with tourism-related transactions at all hours. This is consistent with another study (Fernández et al., 2022); which explored the use of IoT technologies in providing advice and surveillance for COVID-19 high-risk conditions. For instance, a notification and status report is sent to travellers when their body temperature is 38 degrees or more. The automated alert system is linked between the body temperature sensors on the phone and a central database to alert other travellers of the risk so they can decide whether they want to avoid approaching such high-risk areas. This can greatly satisfy customers as well as ensuring the safety of tourist attractions.

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MANGROVE MANAGEMENT STRATEGY FOR SUSTAINABLE BUSINESS BASED ON INDONESIAN ECOLOGICAL PRODUCTS

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Abstract: Mangrove ecotourism provides ecological and economic benefits for the community. This study examines the sustainability of the ecotourism business with a 5-dimensional approach, namely: ecology, economy, social, technology, and infrastructure, as well as law and institutions. Therefore, this study aims to analyze the sustainability of the Banyuurip Mangrove Center (BMC) ecotourism business. The data analysis used quantitative with Multidimensional Scaling (MDS)-ecotourism analysis and SWOT analysis. The sustainability of the BMC ecotourism business multidimensionally resulted in a value of 52.36, so it can be said to be entirely sustainable. The government, managers, and related parties are expected to consider the variables that affect the sustainability of ecotourism, including mangrove rehabilitation, government budget, public awareness, environmentally friendly development, and local government commitment. Mangrove ecotourism management strategy is to carry out an aggressive strategy by increasing and developing the quality of human resources and facilities to improve the community's economy and sustainable mangrove ecosystems. Ecotourism provides many business opportunities for the community to maintain ecological sustainability if it provides economic value.

Key words: ecotourism, mangrove, MDS Rap-ecotourism, SWOT, business

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INTRODUCTION

Indonesia has many beautiful natural landscapes, there are still many unexplored and unexplored natural attractions (Ismail, 2021). Banyuurip Village has quite a considerable fishery potential in Indonesia. One of the potentials of Banyuurip Village is the mangrove forest located on the north coast of the village. This mangrove forest is a search area for residents, especially fishers looking for shells and crabs. Based on information from the village head and anglers, the mangrove forest area in Banyuurip Village was reduced because many were cut down and converted into ponds. In addition, the mangrove forest has also been damaged and lost due to abrasion from the Java Sea. Fortunately, the awareness and concern of several fishers to restore mangrove forests have been carried out since 2007. This effort was pioneered by a fisherman named Abdul Mughni, who felt that his crab catch was decreasing due to reducing mangrove forests (Sambah et al., 2019).

The Banyuurip Ujungpangkah mangrove is located about 35 kilometers from the city of Surabaya or about 23 kilometers from the city of Gresik to the north (Aliyah et al., 2019). Mangrove development into ecotourism is a sustainable tourism concept that aims to preserve nature and culture (Intyas et al., 2021a). Since 2013, the Banyuurip Village Government and the Banyuurip Mangrove and Environmental Conservation Group established an Ecotourism and Mangrove Conservation Area known as the Banyuurip Mangrove Center (BMC). Apart from being a place for mangrove nurseries and conservation, this ecotourism area which was opened in 2015, has various types of mangroves, with the dominant species being *Avicennia sp.* and *Rhizophora*. When mangrove fruit is abundant, residents around BMC sometimes use it as preparations such as syrup and *jenang* for their consumption (Rahman et al., 2019). The economic value of the BMC mangrove ecosystem using the individual travel cost (ICTM) method and the total consumer surplus per visit each frequency is IDR 459,635.61 with an average consumer surplus per individual visit of IDR 91,927.12. Therefore, the estimated economic value of BMC is IDR 1. 124,551,798.76 per year (Sakti and Fauzi, 2020). Fattah et al., 2020 research shows that good management of the Ecotourism Probolinggo will provide net benefit value for 30 years of Rp. 10,616,017,603 or Rp. 353,867,253/year. The area of BMC can be seen in Figure 1.

Several empowerment activities have been carried out in 2019 that is Universitas Brawijaya provide packaging and marketing training of mangrove processed products to BMC management to make mangrove flour that can be used as a base material for some food such as cendol, sticks, pudding, and peyek (Sambah et al., 2019) and Institut Teknologi Adhi Tama Surabaya given training how to use mangrove material for batik crafts, kind of food dodol, mangrove syrup, they also

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build of jogging tracks, gazebos and gave two boats for the tour (Aliyah et al., 2019). In 2010 – 2017, there was a decrease inland by 2.52 ha (61.91%) which is a heavy category (≥50%) The decrease in mangrove ecosystem land area was caused by the clearing of farmland of the community while according to Azizah, 2021 mangrove breeding business in the BMC area from 2014 - 2019 is calculated by R/C Ratio to get more than one every year which means this business is profitable with a relatively moderate payback period (3 years 2 months 24 days) (Hidayah and Muzayanah, 2018).
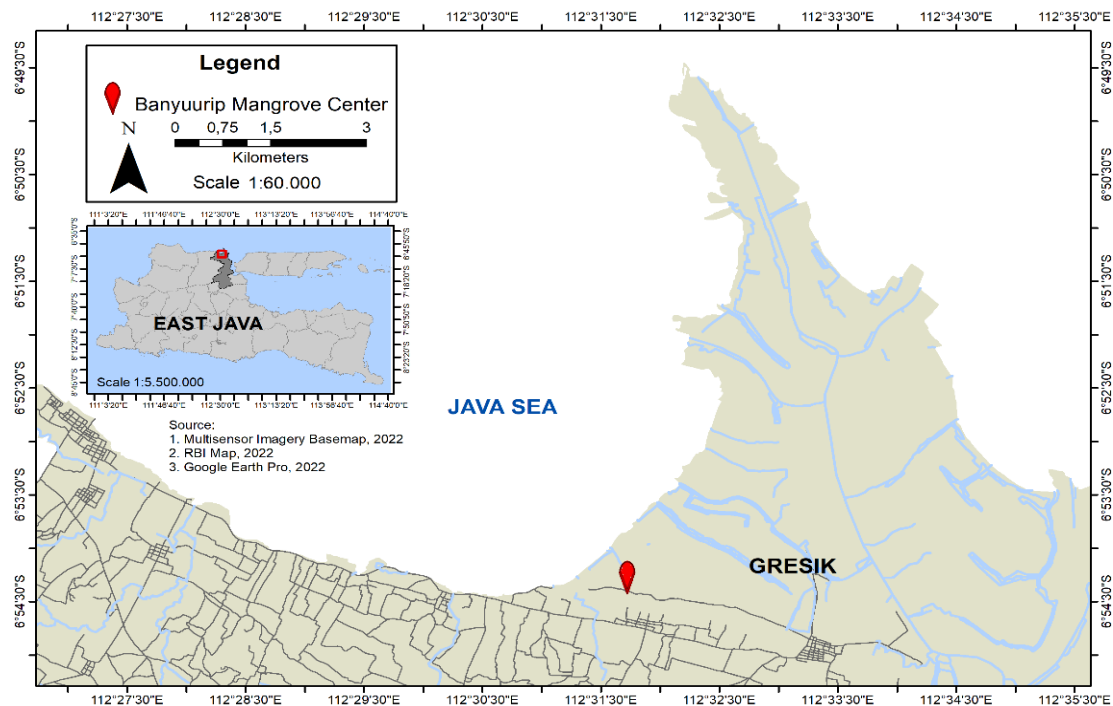
Figure 1. Banyu Urip Mangrove Center (BMC) Area

Based on the data, there is a gap between the number of mangrove areas that are decreasing while the increase in mangrove breeding shows an increase in area and how the effect of empowerment activities that have been given to BMC management and surrounding communities including fishermen around BMC.

The increase in mangrove areas is influenced by the awareness and economic activities of the community from tourist visits. Business management based on ecological products requires the right strategy so that economic and ecological value can remain sustainable. Integration of ecological and business management can optimally manage ecotourism by considering the ecological carrying capacity and economic carrying capacity (Mulyadi et al., 2021; Liap and Ahmad, 2019). The construction of ecotourism facilities should consider ecology by using environmentally friendly materials and technologies (Fattah et al., 2021). In addition, the added value obtained from the development of mangrove ecotourism is a combination of environmentally friendly technology with modern technology to become a national and international tourist attraction (Intyas et al., 2020). Ecotourism provides opportunities for profit for the organizers, government, and local communities, through non-extractive activities, thereby increasing the local economy. An implementation that pays attention to ecotourism principles creates a sustainable economy (Valentina and Qulubi, 2020). Income is essential in ensuring that ecotourism results in environmental preservation (Purwanti et al., 2021). The increased unplanned tourism business and the construction of tourism activities that exceed carrying capacity have raised environmental concerns (UĞUZ et al., 2022). Based on this description, the purpose of this study is to analyze the management strategy of mangrove ecotourism for the sustainability of Indonesia's ecological products business.

MATERIALS AND METHODS

BMC Indonesia researched the sustainability of its ecotourism business with a total of 25 respondents from managers, agencies, and community leaders. MDS Rap-ecotourism data analysis refers to the Rap-fish technique (Rapid Appraisal for Fisheries), which attempts to evaluate the sustainability of fisheries in a multidisciplinary manner, with easy-to-assess and adjustable features (Alder et al., 2000; Pitcher and Preikshot, 2001; Kavanagh and Pitcher, 2004). Rap-fish is developed by using an ordination technique by placing something according to a sequence of attributes that have been measured using Multidimensional Scaling (MDS) (Alder et al., 2000). The analysis was adapted from Kavanagh and Pitcher, 2004 which consist of:

1. Multidimensional Scaling (MDS): The ordination technique is analyzed with MDS to determine the position of good and bad points.
2. Monte Carlo (MC): Monte Carlo analysis evaluates the effect of random errors performed to estimate the value of the ordinance used.
3. Leverage: Leverage analysis to determine the sensitive attributes of each dimension of sustainability in increasing the index value measured, namely natural, human, financial, social, and physical.

While the SWOT analysis continues the results from the MDS Rap-ecotourism with the following stages:
1. Identify strengths, weaknesses, opportunities, and threats from the MDS Rap-ecotourism analysis
2. Conversion of weights through leverage results from MDS Rap-ecotourism with the condition that the sum of S -W and O -T is a maximum of 1
3. Conduct a rating assessment based on the results of the MDS Rap-ecotourism assessment with a score of 1-3
4. Calculate the score by multiplying the weight with the rating
5. Performing the calculation of the grand strategy matrix to determine the quadrant position and compiling a SWOT matrix to produce a management strategy

Table 1. Attributes and Scale of Multi-Dimensional Scaling and SWOT

No	Attribute	Assessment Scale	MDS Dimensions	SWOT Variable
1	Diversity of mangrove species	1 = High (>5); 2 = Medium (3-5); 3 = Low (1-2)	Ecology	Strength (S1)
2	Biota diversity	1 = Fish and mollusks; 2 = Fish, Shrimp, Crab and mollusk 3 = Fish, Shrimp, Crab, Mollusk, Reptile and Bird	Ecology	Strength (S2)
3	Mangrove Ecotourism Cleanliness	1 = Dirty due to lack of trash cans (>1000m) 2 = Clean enough because there is a trash can but it is far apart (500-1000m) ; 3 = Clean because the distance between the trash bins is close (100-500m)	Ecology	Strength (S3)
4	Area Arrangement	1 = Unorganized; 2 = Moderately organized; 3 = Well organized	Ecology	Strength (S4)
5	Abrasion	1 = Severe; 2 = Medium; 3 = Not happening	Ecology	Threat (T1)
6	Tourist visit	1 = Low; 2 = Seasonal; 3 = High	Ecology	Opportunity (O1)
7	Mangrove Rehabilitation	1 = Never; 2 = Sometimes; 3 = Always		
8	Government Budget in Ecotourism Management	1 = None; 2 = Low; 3 = Adjusting to the needs	Economic	Opportunity (O2)
9	Employment	1 = Low; 2 = Seasonal; 3 = High	Economic	Opportunity (O3)
10	Tourism Market Potential	1 = Local market; 2 = Local and national market; 3 = Local, national and international market	Economic	Opportunity (O4)
11	Mangrove Area Accessibility	1 = Difficult; 2 = Medium;3 = Easy	Economic	Strength (S5)
12	Community Income After Ecotourism	1 = Low income and a high poverty rate 2 = Adequate income and the low poverty rate; 3 = High income and avoid the poverty line	Economic	Strength (S7)
13	Livelihoods Before Tourism and After Tourism	1 = Non-tourist work and not switching to tourism 2 = Non-tourism work that extends to tourism; 3 = Tourism workers who continue to develop their tourism business	Economic	Strength (S8)
14	Ability to use media/information technology for ecotourism promotion	1 = Incapable; 2 = Capable but less frequent in promotion 3 = Capable and consistent in promoting	Social	Weakness (W1)
15	Conflict level in the area used as an ecotourism site	1 = Lots of conflicts; 2 = Slight conflict; 3 = No conflict	Social	Threat (T2)
16	Community participation in ecotourism management	1 = Does not participate in management 2 = Participate but not active in management 3 = Participate and be active in management	Social	Strength (S9)
17	Community Knowledge About Mangroves	1 = Unacquainted with mangroves 2 = Being aware of sustainability but not taking anything to preserve it; 3 = Understanding and taking part in the preservation of the mangroves	Social	Threat (T3)
18	Tourists and community awareness towards sustainability	1 = Low;2 = Moderate;3 = High	Social	Opportunity (O6)
19	Eco-friendly tourist attraction	1 = lack diversity; 2 = Diverse, but the type of attraction affects the environment; 3 = Diverse and environmentally friendly	Technology and Infrastructure	Strength (S6)
20	Developing eco-friendly ecotourism facilities	1 = construction with concrete raw materials and changing the shape of the environment 2 = Construction uses concrete as raw materials but still considers the environment 3 = development using eco-friendly raw materials	Technology and Infrastructure	Strength (S10)
21	Availability and Access of Clean Water	1 = >2km; 2 = 1-2km; 3 = <1km	Technology and Infrastructure	Weakness (W2)
22	Public Facilities and Infrastructure	1 = No public infrastructure available 2 = Public infrastructure is available but not optimal 3 = availability of public infrastructure with good conditions	Technology and Infrastructure	Weakness (W3)
23	Modes of transportation	1 = High fares without knowing the pattern of travel does not help tourism development; 2 = Affordable rates but do not know the pattern of travel and can help tourism development; 3 = Affordable rates by knowing travel patterns and helping tourism development	Technology and Infrastructure	Opportunity (O7)
24	Telecommunication Infrastructure	1 = No communication signal transmitter yet 2 = There is a communication signal transmitter with a limited provider; 3 = There is a communication signal transmitter to access all providers	Technology and Infrastructure	Opportunity (O8)
25	Availability of Tour Services	1= Few or 1-25 tourism services 2 = Moderate or 26-50 tourism services 3 = Many or >50 tourism services	Technology and Infrastructure	Opportunity (O9)

No	Attribute	Assessment Scale	MDS Dimensions	SWOT Variable
26	Availability of Management Regulations	1 = No management regulations 2 = management has regulations, but they are not optimal 3 = Management regulations are optimal and well-executed	Legal and Institutional	Weakness (W4)
27	Coordination between stakeholders	1 = There is no coordination between stakeholders 2 = There is no optimal coordination between stakeholders 3 = Good coordination between stakeholders	Legal and Institutional	Weakness (W5)
28	Work Safety and Security (WSS)	1 = There is no WSS implementation for workers and visitors 2 = There is already an implementation of WSS for workers and visitors, but it is not optimal 3 = There is already an implementation of WSS for workers and visitors with optimal conditions	Legal and Institutional	Weakness (W6)
29	Level of Community Compliance with regulations	1 = Low level of community compliance 2 = Medium level of community compliance 3 = High level of community compliance	Legal and Institutional	Threat (T4)
30	Local government commitment to managing ecotourism	1 = low; 2 = moderate; 3 = high	Legal and Institutional	Opportunity (O10)

Assessment of the sustainability of small-scale fishing households is based on five dimensions using a questionnaire. Each indicator of the five dimensions is given 0 (bad) to 10 (good). The higher the score showed that the fisherman's household is in good condition. The ordination technique in MDS is based on the Euclidean distance Pitcher and Preikshot, 2001 which is in dimensional space and can be written as:

$$d = \sqrt{(|x_1 - x_2|^2 + |y_1 - y_2|^2 + |z_1 - z_2|^2 + \cdots)}$$

The configuration or ordination of an object or point in the MDS is then approximated by regressing the Euclidean distance (d_{ij}) from point i to point j, with the origin (δ_{ij}) as the following equation (Pitcher and Preikshot, 2001):

$$d_{ij} = \alpha + \beta \delta_{ij} + \varepsilon$$

The technique used to regress these equations is the ALSCAL algorithm. The ALSCAL method optimizes the squared distance (squared distance = d_{ijk}) to the data square (starting point = o_{ijk}), which in three dimensions ($_{i, j, k}$) is written in the following formula called S-Stress (Alder et al., 2000): $S = \sqrt{\frac{1}{m}\sum_{k=1}^{m}\left|\frac{\sum_i \sum_j \left(d_{ijk}^2 - o_{ijk}^2\right)^2}{\sum_i \sum_j o_{ijk}^4}\right|}$

Where the squared distance is the Euclidean distance weighted or written as follows: $d_{ijk}^2 = \sum_{a=1}^{r} w_{ka}\left(x_{ia} - x_{ja}\right)^2$

The goodness of fit in the MDS analysis is measured by the value of S-stress, and the coefficient of determination (R^2), which can also be used to see if more attributes are needed, or the existing attributes reflect the accuracy of each dimension analyzed concerning the actual situation. A low S-stress value indicates a good fit, while a high S-stress value indicates the opposite (Fauzi dan Anna, 2005). The model is good or almost good if the results of the analysis produce an S-stress value less than 0.25 (S < 0.25), and R^2 is close to 1 (100%) (Pitcher et al., 2013). Furthermore, Rap-household analysis was carried out with the Rapfish software tool. The sustainability index value is used to determine the sustainability of fishers' households during a pandemic, as shown in Table 2. The sustainability status of fishers' households is grouped into four categories: unsustainable, less sustainable, moderately sustainable, and sustainable (Pitcher and Preikshot, 2001).

RESULTS AND DISCUSSION
Evaluation of Mangrove Ecotourism Business Sustainability

BMC is ecotourism with mangrove vegetation due to the hard work of conservation by fishers. Previously, the condition of the mangrove ecosystem was converted into proprietary land. The mangrove vegetation at that time became arid and became a dumping ground for illegal waste. This condition caused the environment to be unable to withstand the abrasion caused by the waves and eventually caused massive abrasion in 2007-2008. It causes fishers' income fields to decrease when they cannot go to sea. When the wave season comes, fishers usually use the mangrove ecosystem for hunting crabs as a fishing substitute. Those conditions gave rise to the idea of fishers forming a mangrove conservation community that aims to restore the mangrove ecosystem and create a clean and beautiful environment. The first activity carried out by mangrove conservationists to revive mangroves is to conduct mangrove nurseries, plant, care for, and maintain until the mangrove ecosystem recovers. On August 20, 2017, BMC was opened as ecotourism, and a tourism awareness group, "*Tirta Bahari*" was formed to manage ecotourism in Banyuurip Village. The opening of this ecotourism was inaugurated directly by the Regent of Gresik, namely Dr. Ir. H. Sambari Halim Radianto, S.T., M.Sc.

The area of mangrove ecotourism in Banyuurip Gresik is 32 Ha. Nine types of mangroves grow along the BMC jogging track, including *Sonneratia caseolaris, Avicennia officinalis, Avicennia alba, Avicennia marina, Rhizophora stylosa, Rhizophora mucronata, Rhizophora apiculata, Bruguiera clyndrica, Bruguiera gymnorrhiza*. Meanwhile, 18 types of mangroves have been successfully cultivated, namely: *Xylocarpus molucentis, Acanthus illcifolius, Excoecaria agallaocha, Aegiceras corniculatum, Ceriops tagal, Acrostichum aureum, Lummitzera racemosa, Brugueria cylindrical, Brugueria gymnorrhiza, Sonetaria casiolaris, Sonetaria alba, Avicennia marina, Avicennia officinalis, Avicennia alba, Avicennia lanata, Rhizophora apiculata, Rhizophora stylosa dan Rhizophora mucronata.* Mangroves form less than one percent of all tropical forests worldwide, it is highly valuable ecosystems, providing a variety of important goods and services which

make significant contribution to the livelihoods, well-being, and security of coastal communities (Ray and Sen, 2021). The existence of mangrove forests is very decisive and supports the social and economic development of the surrounding community. From an economic point of view, mangrove forests are a source of forest products with high economic value, such as wood, food sources, cosmetic ingredients, dyes, leather tanners, and sources of animal and bee feed (Safuridar and Andiny, 2020). The types of work at BMC are fishers, shop traders, tourism managers, and green mussel cultivators.

Well-developed infrastructure, effective adaptation, and application of innovations are essential for the creation of complex tour packages based on tourist attractions in the region and thus contribute to the development of the region (BENKŐ et al., 2022). Attempts to develop "tracking mangrove ecotourism" include ecotourism development in the form of a 500m tracking bridge, eleven gazebo units, seven boats, a floating wooden house, selfie spots, parking area, one toilet, and SME stalls on water and on land, Lembar Selatan Village, Lembar District Sheet, West Lombok (Rahmawati and Wahyu, 2017). Mangrove ecotourism supporting products that may have the potential to be developed around Bandar Bakau Dumai include: enjoying the natural and sea panoramas, seeing the activities of fishing communities and people's shipyards, culinary and souvenirs, cultural events, playgrounds, outbound or camping, jogging, and cycling. The supporting products for mangrove ecotourism can be developed in open space zones around mangrove forests, parking areas, roads, and beach accessibility (Mulyadi et al., 2021). Existing facilities in BMC ecotourism are a gazebo, parking lot, meeting hall, library, cafe, and toilet.The conflict in 2016 was the social jealousy of fishermen against BMC management. Fishers' concerns about the shift in the function of mangrove forests to ecotourism have resulted in fishers not being allowed to occupy the area to lean their boats and go to sea or look for crabs. Concerns from the mangrove conservation group towards the existence of ecotourism because it can damage the mangrove ecosystem, which the conservation group has attempted. So, in 2019 they discussed with the village chief intermediary which get the result that fishers get a special area to lean their boats (Figure 2) and built jogging tracks for tourist walk so the mangrove area protected.

Figure 2. Special Area In BMC For Fisherman To Lean Their Boats
(Source: Primary Data, 2021)

Table 2. Sustainability category

Index value	Category
0 – 25	unsustainable
>25 – 50	less sustainable
>50 – 75	moderately sustainable
>75 – 100	sustainable
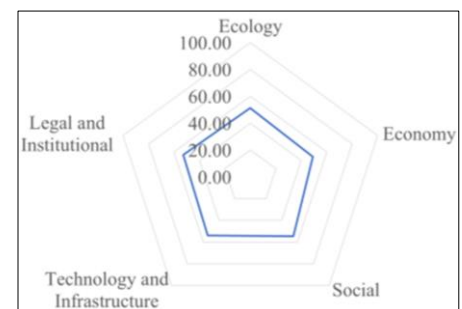
Figure 3. Multidimension of MDS Rap-ecotourism
(Source: Research Data Analysis, 2021)

In 2020, another conflict occurred about constructing a BMC kiosk without coordination between the BMC management and fishers. Fishers consider that all BMC development activities should involve fishers, such as permits, or ask for opinions after that all activities related to BMC should be discussed with the village chief intermediary and fishers.

The current management is confined to preventing the removal of mangrove trees, whereas excellent management results from continual planning, monitoring, and assessment process. Good management can only be achieved if complete and accurate information regarding the condition of mangrove ecosystems, such as vegetation conditions, potential, and socioeconomic activities, as well as institutional factors and stakeholders with interest in mangrove area management, is available (Rusdi et al., 2020). Prior to 2008, mangrove damage was caused by violations of the conversion of mangrove forest functions into ponds, excessive use of mangrove wood, and a lack of public knowledge of waste pollution in the mangrove region, which produced abrasion. Suppose the sustainability value is closer to 100. In that case, the sustainability status is improving, and vice versa. If it gets closer to 0, then the sustainability status will worsen. Based on the five dimensions used to measure the sustainability status of BMC's ecotourism business, the dimension that produces the highest value is the social capital of 54.60. In contrast, the capital that produces the lowest value is the economic dimension of 49.11. The multidimensional average of BMC's ecotourism business produces 52.36, which is moderately sustainable (Figure 3).

Leverage analysis determines the attribute that affects the sustainability status based on the highest Root Mean Square (RMS) value (Mahida and Handayani, 2019). The most sensitive attributes will contribute to sustainability (Sri Fitrianti et al., 2014). The number of fish specimens found in the BMC ecotourism area, Banyuurip Village, Ujung Pangkah District, Gresik Regency was 181 individuals from 11 species, ten families, and five orders. The number and composition of species, families, and fish orders differ between mangrove habitats, with the highest number in coastal mangrove habitats. Tilapia fish (*Oreochromis mossambicus*) dominates the estuary mangrove habitat, and *kuwe* fish (*Caranx sexfasciatus*) dominate the coastal mangrove habitat. There are variations in fish community structure between mangrove habitats. The

dominant index value of fish communities in estuary mangrove habitats is higher and is in the medium category, while it is in the low category in coastal mangrove habitats. On the other hand, the fish community diversity index value in the coastal mangrove habitat is in the high category and the low category in the estuary mangrove habitat (Rohmawati et al., 2021). The tendency to decrease the area of mangroves in Banyuurip Village, Ujungpangkah District, Gresik Regency is due to the clearing of pond land because ponds are the main livelihood of the people of Banyuurip Village. Based on the results of the analysis of google earth images in 2004, 2010, and 2017 there has been a significant decline. From 2000 to 2004 the land area decreased from 5.9 ha to 5.61 ha. It showed a decrease of 0.29 with a percentage of 7.13%. From 2004 to 2010, 5.61 ha of land area becomes 4.35 ha, there has been a decrease of 1.26 ha with a percentage of 30.96%. From 2010 to 2017, from 4.35 land area to 3.09, there has been a decline of 2.52 ha with a percentage of 61.91% (Hidayah and Muzayanah, 2018). The community was concerned about preserving mangrove forests in the BMC area from 2014 to 2021. They contributed to the rehabilitation of mangroves by planting 513,850 trees which comes from the institution of PGN SAKA, Pupuk Surabaya, Surabaya Educational Institution, Jatim Provincial DKP, Banyuurip Village, Gresik Fisheries Service, SDN Meganti, UNISLA Student, PT. Barata, KLHK, NGO Nurul Hayat, and MAN Gresik. PGN SAKA is an agency that routinely conducts rehabilitation every year, but KLHK provides the largest contribution about 62.2% of the total (Figure 4).
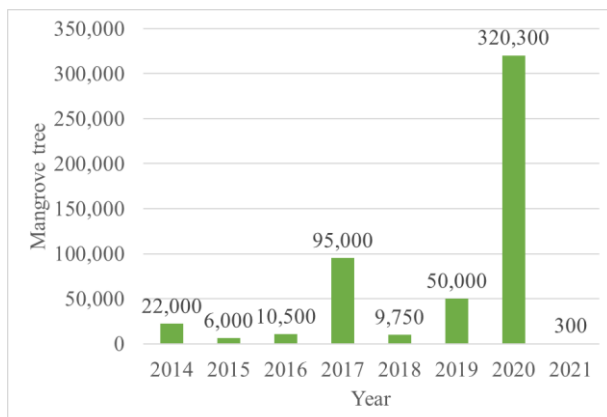
Figure 4. Number of Rehabilitation of Mangrove Trees in 2014-2021 (Source: BMC Management, 2021)
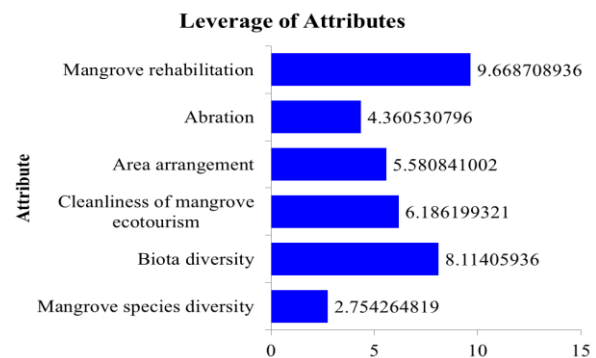
Figure 5. Ecology Leverage
(Source: Research Data Analysis, 2021)

The ecological variable that most influences the sustainability of BMC's ecotourism business is mangrove rehabilitation. Conservation, rehabilitation, and restoration of mangroves to halt deforestation and degradation of coastal ecosystems and biodiversity (Masagca and Trinidad, 2021). Conservation policies and the establishment of nature reserves in China have made significant gains in mangrove conservation and restoration (Wei et al., 2021). Ecological restoration focuses on improving mangrove ecosystems that bring benefits to livelihood-oriented models and creating mangrove belts to protect beaches for adaptation to the negative effects caused by climate change and sea-level rise (Phong and Luom, 2021). Yona et al., 2018 suggested that mangrove rehabilitation could be done by rejuvenating mangrove areas or reforestation. Mangrove regeneration can be done by natural or artificial means. Rejuvenation naturally occurs when the fruit falls and grows by itself on the substrate. Artificial regeneration can be conducted by nurseries and replanting the seeds grown in their natural habitat. This mangrove forest is a rehabilitation forest where replanting is carried out by fishers who feel they have lost their livelihood due to reduced biota, such as crabs and shellfish previously found in mangrove forests. This condition was due to the destruction of mangrove forests caused by coastal abrasion since 2004 (Figure 5).
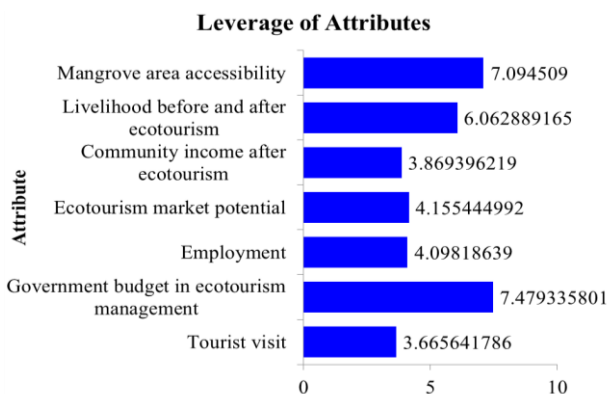
Figure 6. Economic Leverage (Source: Research Data Analysis, 2021)
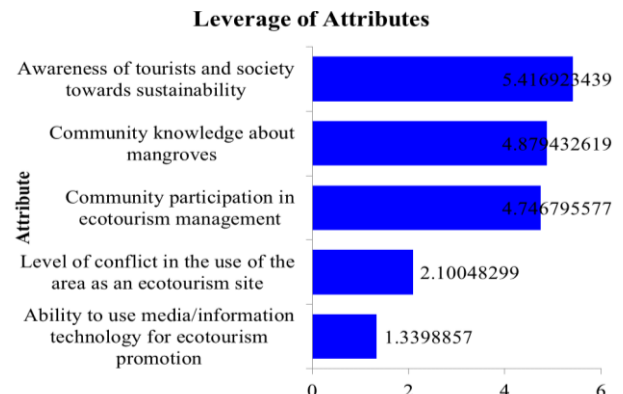
Figure 7. Social Leverage (Source: Research Data Analysis, 2021)

The government in developing and managing ecotourism Banyuurip has spent Rp. 2,005,081,000. The entrance ticket price is IDR 5,000, and for the people of Banyuurip Village, there is no entrance fee. Researchers or students doing KKN

or PKM are charged a one-time entrance fee at the beginning of their arrival to ecotourism. Meanwhile, the ticket price for the ferry boat attraction is IDR 5,000 (Figure 6). The economic variable that most influences the sustainability of BMC's ecotourism business is the government budget in ecotourism management. Nawawi et al., 2017 delineates that the role of the government is essential to make and implement mangrove management policies.

Awareness of tourists and the public towards sustainability is an essential element in the sustainability of ecotourism businesses. One of the simplest things is to maintain cleanliness when traveling. The management of ecotourism cleanliness does not have a specific schedule for each day. The managers, fishers, village government officials, youth organizations, PKK, and the surrounding community work together to clean up trash in ecotourism areas only on special occasions such as Cleaning on Friday, which is carried out twice or once a month. Institutional and community participation are essential aspects that are the main pillars in implementing mangrove rehabilitation. There are two types of trash cans at BMC tourist sites, especially at the jogging track: trash cans made of wood and plastic with four pieces each. Trash cans are not available along the jogging track but are only available along with the gazebo. The distance between the trash cans in the jogging track area is 5 and 15 meters long. Meanwhile, along the driveway after the BMC entrance gate, there are seven iron trash cans, three rubber tires, and one wooden trash can. The distance between the trash cans in this area is about 10 meters.

Active community participation is needed for sustainable mangrove management (Ounvichit and Yoddumnern-Attig, 2018). According to Figure 7, community participation and several stakeholder roles such as SKK Migas, PT Bharata, and Universities are essential. They are the main pillars and the key to success in mangrove forest conservation in Banyuurip Village, Ujungpangkah District, Gresik Regency, directed to the Banyuurip Mangrove Center (BMC). Community awareness and participation and the role of stakeholders in the proper management of mangrove conservation in Banyuurip Village is a form of positive participation (Trisbiantoro and Kusyairi, 2018). The BMC Instagram account, "bmcenter," and the Facebook account, "Banyuurip Mangrove Center," are intended to promote ecotourism. There is also a television station, RCTI, which broadcasted BMC ecotourism in 2018. The social component that has the most significant influence on the sustainability of BMC's ecotourism business is tourist and community awareness of sustainability. Juhadi et al., 2020 delineates that local communities' participation in the establishment and development of mangrove forest resources is inextricably linked to their awareness to manage mangrove forests sustainably. The presence of a mangrove forest that has been well-maintained by the community and supported by the local government attracts various people's attention and is being used as an edu-ecotourism destination. The BMC Tourism concept carries the theme of mangroves and green shells as tourism advantages. The areas that will be developed in BMC tourism are as follows: 1) BMC entrance gate, 2) large parking area, 3) beautiful and leafy entrance, 4) relaxing seating for visitors, 5) modern fish auction place, 6) decorative lights processed by green shells, 7) playground for children, 8) flower garden, 9) pine garden, 10) ticket sales, 11) jogging track, 12) souvenir shop typical of Banyu Urip Village, 13) seafood restaurant, 14) green mussel cultivation, 15) prayer room, 16) toilet, 17) lighthouse tower. Figure 9 shows the proposed design concept for the BMC Tourism area. The figure shows a bridge connecting BMC tourism with the northern boundary planned to be built by BEP (Banyuurip Education Park) (Setyaningrum et al., 2021). The construction of environmentally-friendly facilities is the technology and infrastructure variable that significantly impacts the sustainability of BMC's ecotourism business. Wahyuni et al., 2015 suggested that increasing efforts to conserve mangrove forests can be conducted by local governments and managers and coordinated with Nature Lovers activity units or student organizations from various universities. These various activities aim to develop sustainable ecotourism that is environmentally friendly. Intyas et al., 2021b examples of mangrove ecotourism in East Java that add attractions besides mangroves are Beejay Bakau Resort Ecotourism Probolinggo has modern artificial tours, Kampung Blekok Ecotourism Situbondo based on the conservation of mangroves and Blekok Birds also Pancer Cengkrong Trenggalek has pigeons feeding and crab cultivation.
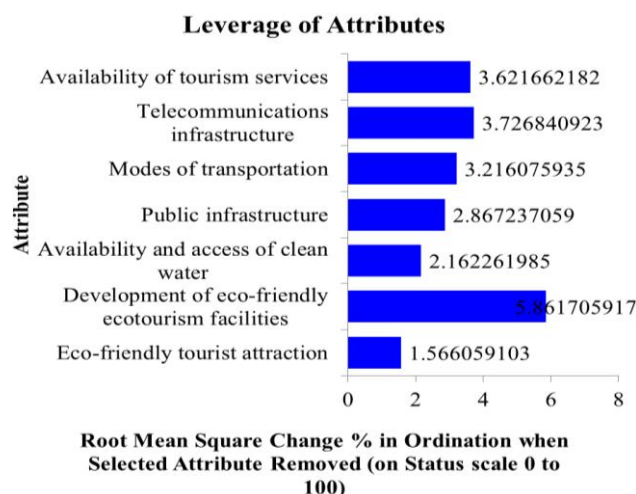
Figure 8. Leverage Technology and Infrastructure
(Source: Research Data Analysis, 2021)
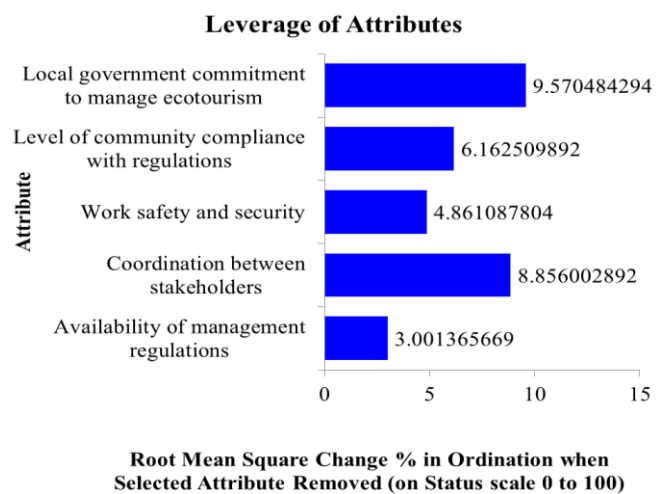
Figure 9. Legal and Institutional Leverage
(Source: Research Data Analysis, 2021)

Based on Figure 8, the management carries out the security system in ecotourism for visitor vehicles and acts as a counter guard because the parking lot and the ecotourism entrance counter are adjacent. Since the opening of ecotourism,

there has been no theft incident in the ecotourism area. It shows that the level of security is guaranteed. In addition, visitors are required to submit a parking ticket when returning to the counter guard to provide guarantees to visitors for the safety of their vehicle. Security for two-wheeled vehicles has provided an adequate parking space with an asbestos roof, while for 4-wheeled vehicles, it is still a field without a roof. For the level of safety at the mangrove fringing attraction, the manager has provided ten floats for passengers. However, this is still not going well because the manager does not require passengers to use it. On the other hand, the wet condition of some buoys makes passengers reluctant to use them, and the availability of several buoys is less than the number of boat passengers. Hence, the buoys provided are not enough. In addition, the boat used for cruising the mangroves is still new, and the boat driver is the manager of the BMC. so that it can be ensured safe for passengers. Regarding safety in the mangrove fringing, the driver also warned using a whistle for passengers sitting in the dangerous part of the boat to move to a safer place.

The regulations for visiting the BMC are as follows: 1) it is forbidden to throw garbage in any place, 2) it is forbidden to sit on the fence of the mangrove tracking bridge, 3) it is forbidden to damage the mangrove plants and even cut down 4) it is forbidden to sell in the mangrove tracking area unless the owner/ land managers, 5) are prohibited from carrying firearms and sharp weapons, 6) are prohibited from carrying alcoholic beverages and illegal drugs, 7) are prohibited from committing lewd acts at mangrove tracking locations, and 8) if this regulation is violated, it will be subject to sanctions in the form of fines of RP 100,000 and will be handed over to the securities. The legal and institutional variables (Figure 9), that most influence the sustainability of the BMC ecotourism business are the government's commitment. Rodiyah and Agustina, 2018 reported that the Sidoarjo Regency Government has gained trustworthiness and goodwill, which must be followed by consistency following the creation of the ecotourism concept. The planting of mangrove seedlings is also a manifestation of the government's continued commitment to expanding ecotourism programs. The government engages the community by planting up to 200,000 mangrove seedlings on Sidoarjo's coast every year. The planting attempts to limit abrasion and avoid tidal flooding, affecting Sidoarjo's coastal area.

Monte Carlo analysis is used to evaluate the effect of random errors performed to estimate the value of the ordinance used. Monte Carlo analysis is also helpful for studying the effect of attribute scoring errors, data entry errors, or missing data (Kurniawan et al., 2016). The results of the Monte Carlo analysis (Table 3), show that the value of the sustainability status of the BMC ecotourism business is not significantly different from the MDS Rapfish result analysis. The Monte Carlo analysis in this study was carried out for 25 repetitions, showing a relatively small difference in results. It did not show a significant difference, so the determination of ordinance was able to overcome random errors due to errors in attribute scoring due to differences in assessments by different researchers or as a result of data entry errors. As a result, it can be concluded that the research on the sustainability of the BMC ecotourism business is based on an appropriate and valid model.

Table 3. Comparison of MDS with MC
(Source: Research Data Analysis, 2021)

Dimension	MDS	MC	Difference
Ecology	51.2842	50.9006	0.38363
Economy	49.1090	48.9971	0.11186
Social	54.5966	54.2925	0.30408
Technology and Infrastructure	53.9835	53.5571	0.42643
Legal and Institutional	52.8488	53.2765	0.42771

Table 4. Stress Value and RSQ
(Source: Research Data Analysis, 2021)

Dimension	Stress	RSQ
Ecology	0.146467	0.94590
Economy	0.145028	0.94739
Social	0.164493	0.93777
Technology and Infrastructure	0.149968	0.94589
Legal and Institutional	0.154705	0.94194

The accuracy of the Multidimensional Scaling Rap-ecotourism analysis is determined by the S-Stress value generated from the calculation of the S value. A low S-Stress value indicates high accuracy (goodness of fit), while a high S-Stress value indicates the opposite. In this Rap-beach tour, a good model (Table 4) is shown by the S-Stress value, which is smaller than 0.25 (<25%) with the coefficient of determination (R^2) approaching 1.0 or 100%, on the contrary, if the S-Stress value is higher than 0.25 or 25%, then the results of the Multidimensional Scaling (MDS) calculation have low accuracy (Suwarno et al., 2011). The S-stress value of the five sustainability dimensions shows a result of 0.25 with a squared correlation (RSQ) value close to 1.00 or in the interval 0.90 – 0.95. Thus, all of the attributes used to analyze the mangrove ecotourism business's sustainability adequately describe the five dimensions analyzed.

Sustainable Mangrove Ecotourism Business Management Strategy

The main strengths in the internal factors of mangrove ecotourism in Klong Kone, Thailand is the income associated with nature-supporting tourism, and the main weakness is the awareness and understanding of local stakeholders about ecological mechanisms while the main opportunities in the external factors are incurred from tourism policies also community relations and the main threats are from urban planning and pollution from nearby areas (Swangjang and Kornpiphat, 2021). Identification of internal and external factors in preparing management strategies are based on the Focus Group Discussion (FGD) to determine strengths, weaknesses, opportunities, and threats. The data and information obtained from the identification results are processed into the IFAS and EFAS matrix. The result of multiplying the relative weight with the rating produces a score. The score measures the influence level in the internal or external environment and between the external environment (Table 5). The calculation results between the internal and external environment resulted in the value of the internal environment being more influential than the external environment in managing mangrove ecotourism businesses. The x-coordinate is obtained from the difference between strengths and weaknesses. The y-coordinate is obtained from the difference between opportunities and threats. The two environments produced positive values so that the quadrant area was in Region I (one) with coordinates (1,157; 1,444) and demonstrated an aggressive strategy (Figure 10).

Table 5. IFAS and EFAS Mangrove Ecotourism Business Management (Source: Research Data Analysis, 2021)

No	Strength	Weight	Rate	Score	No	Opportunity	Weight	Rate	Score
1	S1	0.037	2	0.074	1	O1	0.051	2	0.102
2	S2	0.108	3	0.325	2	O2	0.104	3	0.311
3	S3	0.083	3	0.248	3	O3	0.057	2	0.114
4	S4	0.074	2	0.149	4	O4	0.058	2	0.115
5	S5	0.095	3	0.284	5	O5	0.134	3	0.402
6	S6	0.021	2	0.042	6	O6	0.075	2	0.150
7	S7	0.052	2	0.103	7	O7	0.045	3	0.134
8	S8	0.081	3	0.243	8	O8	0.052	2	0.103
9	S9	0.063	3	0.190	9	O9	0.050	2	0.100
10	S10	0.078	3	0.235	10	O10	0.133	3	0.398
				1.892					1.930
No	Weakness	Weight	Rate	Score	No	Threat	Weight	Rate	Score
1	W1	0.018	2	0.036	1	T1	0.060	2	0.121
2	W2	0.029	2	0.058	2	T2	0.029	2	0.058
3	W3	0.038	2	0.077	3	T3	0.068	2	0.135
4	W4	0.040	2	0.080	4	T4	0.085	2	0.171
5	W5	0.118	3	0.355					0.485
6	W6	0.065	2	0.130					
				0.734					

Variable	Score
S	1.892
W	0.734
O	1.930
T	0.485

Coordinate	Sign	Region
1.157	(+)	I (One)
1.444	(+)	Agresive (S-O)

Year: 2021
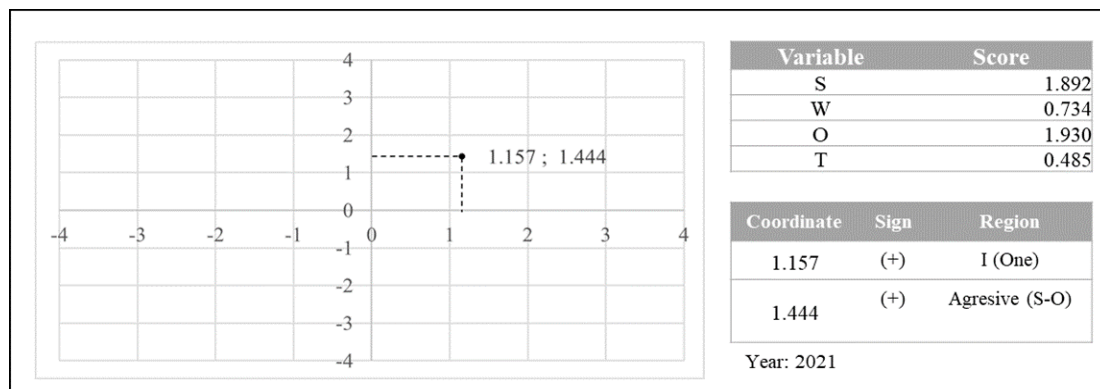
Figure 10. SWOT Analysis (Grand Strategy Matrix) (Source: Research Data Analysis, 2021)

The SWOT matrix in determining the strategy to be implemented was divided into four parts: S-O, W-O, S-T, and W-T. Based on the calculation results, the S-T strategy was selected and executed.

S

S-O Strategy:
Improving the quality of mangrove ecotourism products by utilizing local wisdom and ecological characteristics (S1, S2, S3, S4, S6, S10, O1, O3, O4, O5, O6)
Improving the quality of human resources to manage and produce competitive ecotourism products (S7, S8, S9, O3, O4, O6)
Improving and developing the main and supporting mangrove ecotourism facilities with environmentally friendly technology (S1, S3, S4, S5, S6, S10, O2, O4, O7, O8, O9, O10)

S-T Strategy:
Executing mangrove rehabilitation independently to minimize abrasion (S1, S4, T1)
Diversifying ecotourism products so that trading can be distributed evenly and do not dominate in the same product to minimize conflict (S7, S8, O2)
Conducting socialization and counseling regarding the functions and benefits of mangroves (S1, S2, S4, S9, T3, T4)

W

W-O Strategy:
Coordinating with relevant stakeholders for mangrove ecotourism management (W5, O10)
Utilizing information technology and holding a training organized by the government and non-government to develop the quality of human resources (S1, O8)
Utilizing community involvement in managing mangrove ecotourism (S2, S3, S4, S6, O3, O5, O6)

W-T Strategy:
Optimizing the role of the community and the role of the government in managing mangrove ecotourism (W1, W5, T2, T3, T4)
Utilizing local wisdom to manage mangrove ecotourism (W4, T2, T3, T4)
Optimizing natural seeds to repair damaged mangroves (W6, O1)

Efforts to achieve a sustainable mangrove ecotourism management strategy with the S-O strategy include:
a. Improving the quality of mangrove ecotourism products by utilizing local wisdom and ecological characteristics, such as:
1. Implementing management based on ecotourism principles;
2. Regulating mangrove planting based on regional characteristics;
3. Setting the schedule and number of tourist visits;
4. Developing independent mangrove nurseries to produce quality mangrove seedlings;
5. Developing ecotourism attractions that utilize and maintain ecological sustainability and local culture;

6. Applying appropriate technology in developing and utilizing ecotourism to overcome the declining environmental carrying capacity;

7. Making use of spatial planning for mangrove planting sustainably so that the potential of the land can be optimized according to the carrying capacity of the environment.

b. Improving the quality of human resources to manage and produce competitive ecotourism products, including:

1. Training to improve the skills of promotion technology and environmentally friendly technology;

2. Increasing the number and quality of courses and training on mangrove ecotourism management;

3. Increasing counseling for technology mastery in ecotourism management to produce tourism products that can compete in regional, national, and international markets;

4. Implementing continuous monitoring of mangroves;

5. Increasing the number and quality of extension workers and state apparatus in ecotourism management;

6. Improving managers' skills, skills, and abilities to increase productivity;

7. Developing regulations that can improve the sustainability of mangrove ecotourism;

8. Synergizing between the community, government, and managers related to ecotourism management.

c. Improving and developing the main and supporting mangrove ecotourism facilities with environmentally friendly technology, including:

1. Procurement of main and supporting ecotourism facilities from local governments or private parties by implementing a profit-sharing system.

2. Building physical facilities by considering ecological sustainability and using environmentally friendly raw materials.

3. Developing ecotourism facilities that can increase community involvement, skills, and economy in souvenir shops, food shops, and other facilities.

CONCLUSION

The local government of the Gresik Regency is committed to managing and developing mangrove ecotourism by allocating a particular budget for BMC ecotourism. The role of the government, management, and stakeholders in the development of ecotourism is to develop environmentally-friendly tourist attractions and plant mangrove trees every year. Furthermore, mangroves must be protected by raising public awareness and refraining from damaging actions. Even though BMC ecotourism is moderately sustainable, it still needs perpetual management and development.

The long-term management strategy that can be carried out is improving and developing product quality, human resources, and mangrove ecotourism facilities while maintaining ecological sustainability. This research suggested that the government needs to commit to managing and developing BMC ecotourism sustainably. In the short-term, the management needs to develop mangrove tree nurseries, continue rehabilitating mangroves, then continue in the medium term that needs to promote tourist visits to BMC while adhering to ecotourism principles.

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THE IMPACT OF BORDER RESTRICTIONS RELATED TO THE COVID-19 PANDEMIC ON THE INTENSITY OF INTERNATIONAL TOURIST TRAFFIC IN EUROPEAN RECEPTION COUNTRIES

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Abstract: The aim of the article is to show the impact of the introduction of border restrictions related to the COVID-19 pandemic on the intensity of tourist traffic in European reception countries. The article uses two indicators of the intensity of tourism - Defert's index and Schneider's index. The analysis of the indicators was based on the division of countries due to border control (A countries - partial border closure, B countries - PCR test or quarantine, and C countries - complete border closure for foreign tourists). Based on the research results, it was found that the changes in border crossing were important only in the initial period of the pandemic, later they were not of great importance and the values of both Defert and Schneider indicators did not differ from those in the pre-pandemic period (i.e. the same period in 2019). The study also indicated that the largest drops in the values of the Defert and Schneider indexes were recorded in Austria and the Czech Republic, i.e. countries with different responses to the COVID-19 pandemic. The largest drops in tourist traffic intensity indicators were recorded in countries where the obligatory PCR test and quarantine were introduced. The article fills the research gap and is intended to help the governments of various countries in the future to find the most optimal solution in the context of fighting future epidemic waves.

Key words: pandemic, COVID-19, Europe, borders, international tourism

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INTRODUCTION

The economic crisis of the 21st century caused by the COVID-19 pandemic significantly influenced the purchasing behavior of tourists - they changed the methods and forms of satisfying tourist needs. Foreign tourism is a business that brings relatively quick profits, but is also heavily dependent on social, economic and political determinant (Tosun, 1998). This is demonstrated by the revenues from international tourism, which have broken new records each year - USD 1.350 billion in 2017, USD 1.462 billion in 2018 and USD 1.494 billion in 2019 (UNWTO, 2021). These influences also translated into the still growing occupancy of tourist accommodation facilities, where Europe was the region with the highest occupancy rate every year (Ţîţu et al., 2016). Analyzing every year the growing revenues from international tourism and the dynamic development of the accommodation base, further development of tourism in the world was expected. However, these prospects were in ruins as a result of the COVID-19 pandemic. The tourism industry has become one of the economic sectors most affected by the pandemic, both nationally and internationally (Bailey et al., 2020; Škare et al., 2021). It was not only influenced by political decisions related to, inter alia, restrictions on travel, which was to be one of the forms of fighting the coronavirus (Oum and Wang, 2020). The result of political decisions was changes in the occupancy of tourist accommodation facilities, which in Central Europe itself was characterized by a decrease of approx. 85% in the first half of 2020 compared to the same period last year (Korinth, 2021). It is indicated that, for example, in Poland in March 2020, when the pandemic began, international passenger air traffic decreased by approximately 80-90% compared to the previous year (Korinth and Ranasinghe, 2020).

The spread of the SARS-CoV-2 coronavirus has completely changed the face of the modern world. Nowadays, it has become a phenomenon in the scientific community and issues related to it have appeared in foreign literature all over the world. The most numerous group of articles focuses on the implications of the pandemic on the global economy, pointing to its recession (Barua, 2020), deglobalization and destabilization (Guan et al., 2020), especially in the case of the mining industry (Laing, 2020) and services (Nicola, 2020). A global trend is the creation of a large number of articles analyzing the impact of the pandemic on the tourism sector. In the early stages of the pandemic, scientists paid special attention to the area of Asia, where it began (Guerche-Seblain et al., 2021). Even then, the negative effects of the spread of the COVID-19 pandemic were predicted, which were to affect, inter alia, a change in consumption of travel in China (Wen et al., 2020) and the perception of China as a tourist destination (Zheng et al., 2020). In the case of Europe, Italy was subjected to a special analysis in terms of tourism, where the pandemic was relatively drastic (Onder et al., 2020). The problem of tourism from a broader perspective was analyzed by Link with others (2020), who in their publication indicate the correlation of tourism mobility of the society with the increase in the number of COVID-19 cases, especially in countries such as Spain and France. The problem of mobility and international tourism transport later became the subject of numerous scientific considerations, especially in the context of the effects of the pandemic. Więckowski (2021) pointed out that the global situation has resulted in

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a reorientation of tourists towards sustainable transport, i.e. one that is close and low-energy. The mental condition and motivation of travelers are also of great importance for cross-border transport, which was researched by Wut et al. (2022).

A relatively large part of the articles focuses on the analysis of the impact of the COVID-19 pandemic on accommodation. In the literature on the subject, you can find articles analyzing such countries as Italy (Aiello et al., 2020) or Greece (Pappas and Glyptou, 2021). In both cases, it was found that the decrease in the number of tourists was mainly related to the lack of a sense of security during the trip. Many publications analyze the impact of a pandemic on the functioning of hotel facilities and their economic consequences. It is explicitly stated that the problems resulting from the lack of cash have halted the expansion of domestic hotel groups in China until 2020 and led to the ruin of the entire hotel industry in that country (Hao et al., 2020). Noteworthy is the increase in publications glorifying agritourism as the type of accommodation that gained (or will gain in the future) the most as a result of the pandemic. As Kazlouski (2020) stated, agritourism has the greatest potential for stability and development on the market in the context of the global tourism crisis caused by the COVID-19 pandemic. The questionnaire surveys (e.g. in Poland) also spoke in favor of agritourism, which stated directly that in the era of a pandemic, agritourism farms would be a frequent choice (Wojcieszak-Zbierska et al., 2020) which will fit in with the trend for ecological and sustainable tourism (Dmitriyev et al., 2022). A study by Roman and Grudzień (2021) positively confirmed that owning agritourism during the COVID-19 pandemic was profitable.

In the literature on the subject, much attention is paid to the reaction of countries to the pandemic, which, in order to curb the incidence of coronavirus, began to introduce restrictions when crossing borders. Following the UNWTO (2021), it is necessary to divide those countries into those that have closed their borders completely or partially to foreign tourists, have completely lifted the restrictions or limited themselves to the PCR test and quarantine. Issues related to the situation on the border and foreign traffic are reflected in the literature on the subject, especially when taking into account the destination countries to which the flows of tourists are directed. Such analyzes were carried out, among others, on the basis of Spain, which has been in the forefront in the world in recent years in terms of international tourist arrivals (Rodríguez-Anton and Alonso-Almeida, 2020; Donaire et al., 2021). An interesting study on the validity of international travel restrictions was carried out by Moosa and Chatatbeh (2020). The authors, examining the correlation between the number of international arrivals and the incidence of COVID-19, indicated that the imposition of foreign travel bans is justified in order to contain the virus. Thus, this confirms the legitimacy of at least partial closing of borders or the introduction of increased controls in their area. The study by Seyfi et al. (2020), who discussed the degree of selectivity of border restrictions applied by major tourist destinations in the world, is important from the point of view of this work. They indicated that although there are health reasons for closing borders to tourists, the process is much more complex and partly dependent on geopolitics in a given country. At the end of the article, the authors point out that sanctions related to the mobility of tourists have recently become the subject of interest for tourism researchers - this is a research gap, and this article may fill this gap.

The aim of this study is to analyze the impact of introducing border restrictions related to the pandemic on the intensity of tourist traffic in selected European countries. The main research hypothesis, in turn, is the statement that the intensity of international tourist traffic in a pandemic era depends on restrictions on crossing the border in a given country. Two indicators showing this intensity were used for the analysis - the Defert index, which determines the number of tourists staying overnight per 1 km^2 of the area, and the Schneider index, which is expressed as the number of tourists staying overnight per 100 inhabitants. It is worth noting that so far the use of tourist traffic intensity indicators in the context of border restrictions has not occurred in the literature on the subject. Based on the analysis of the research results, it was found that the initial duration of the pandemic was a breakthrough for border restrictions. The most restrictions were recorded in February 2021, when a large part of countries closed their borders to foreign tourists completely. During the entire pandemic, most countries opted for partial border closure or introduced the requirement to perform a PCR test for the presence of coronavirus. All these activities had an impact on the intensity of foreign tourist traffic, which was examined using two indicators - the Defert index and the Schneider index. The study of both of them indicated that the study indicated that the introduction of the obligatory PCR test and quarantine (which was proved on the example of Austria) had the greatest drops in tourist traffic intensity indicators. It was also shown that border crossing restrictions only played a large role in the initial period of the pandemic, and that they were not of great importance thereafter. A study of the intensity of international tourism has shown that the values of both indicators have almost returned to their pre-pandemic levels in June 2021.

MATERIALS AND METHODS

The research method in this work consisted of several elements as shown in the figure number 1. Initially, a table was created that presents the position of selected European countries in terms of the number of tourists, the number of foreign tourists in 2019, the area and population in 2019 (Table 1), which allowed for the identification of countries with the highest intensity of tourist traffic in Europe. Then, based on the information on the border situation obtained from the UNWTO (2021), the countries were classified into 3 groups: a group of countries where a partial border closure was introduced (group A, orange colour), a group of countries where only the PCR test or quarantine was introduced (group B) and a group of countries where complete border closure for foreign tourists was introduced (group C).
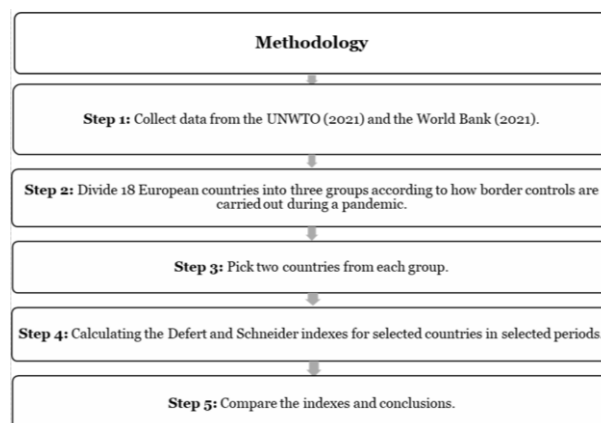
Figure 1. Research methodology (Source: Own study)

It is worth noting that the selected countries also changed their approach in the analyzed periods. In order to simplify the understanding of the analyzed period, it was decided to present in orange the time when it was decided to partially close the borders, in blue the time of introducing the PCR test, and in red - the complete closing of the borders.

It was decided to select two countries from each group. Group A was represented by Spain and Greece, group B was represented by Austria and Croatia, and group C was represented by Hungary and the Czech Republic.

Table1. Characteristics of European countries based on selected variables
(Source: Own study based on UNWTO (2021) and the World Bank, (2021)

The position of the country in terms of the number of foreign tourists	Country name	The number of foreign tourists in 2019	Population in 2019 (million)	Area of the country (km²)
1	France	89.4	67,39	543 940
2	Spain	82.8	47,35	505 990
5	Italy	61.6	59,55	301 340
9	Germany	38.9	83,24	357 386
10	United Kingdom	38.7	67,22	242 495
12	Austria	30.8	8,917	83 879
13	Greece	30.1	10,72	131 957
15	Portugal	22.8	10,31	92 212
19	Poland	19.6	37,95	312 679
20	Netherlands	18.8	17,74	41 543
26	Croatia	16.6	4,047	56 594
27	Hungary	17.2	9,75	93 030
31	Czechia	14.3	10,7	78 871
32	Ukraine	14.2	44,13	603 628
33	Denmark	12.7	5,831	42 933
37	Switzerland	11.7	8,637	41 285
42	Belgium	9.1	11,56	30 689
46	Sweden	7.4	10,35	450 295

The choice of countries was random. For the countries divided in this way, two tourist traffic intensity indicators were calculated for three periods - November 2019, February 2020 and June 2020. The selection of three periods was dictated by the availability of data. Two indicators of the intensity of tourist traffic were selected for the analysis - the Defert index (Baretje and Defert, 1972) and the Schneider index (Defert, 1967). The first of them was calculated on the basis of the formula:

$$Wd = \frac{number\ of\ foreign\ tourists\ using\ accommodation}{country\ area\ (km^2)}$$

The second index used in this study was the Schneider index, which was calculated on the basis of the formula:

$$Ws = \frac{number\ of\ foreign\ tourists\ using\ accommodation}{number\ of\ people} \times 100$$

In the case of the above-mentioned indicators, a modification was applied consisting in selecting only foreign tourists from the total number of tourists. The original formula takes into account the total number of tourists, including domestic tourists. Such a procedure was necessary to show the scale of the phenomenon of closing borders to international traffic. The Defert index was also used after reworking in the article on the development of rural tourism in Lithuania in the years 2003-2010, therefore such modifications are also justified in this article (Baležentis et al., 2012). It should be noted that the Defert index is a popular index used for various types of analyzes in tourism. It was used, inter alia, to analyze the intensity of tourism in Slovakia (Štefko et al., 2018) or to analyze the spatial differentiation of the development of the tourism function in the north-western part of Poland (Borzyszkowski et al., 2016). The Schneider index is also a popular index used in many research studies in the field of tourism. It has been used, inter alia, to analyze the functions of Polish macroregions in the light of the economic crisis in the 21st century (Niemczyk and Zacłona, 2015) or to analyze the Polish coast of the Baltic Sea as a tourist area (Parzych, 2020). Importantly, the analysis of these two indicators often occurs together. So this confirms the legitimacy of using both of them in this work.

RESULTS

Figure 2 shows the borderline situation in selected European countries broken down into groups and time ranges.

Based on the analysis of the data presented in Figure 2, it should be noted that most European countries introduced partial border closure during the pandemic. Examples of such countries were mainly those located in the Mediterranean basin - Italy, Spain, France, Greece and Portugal. There were also countries where the main requirement for crossing the border was quarantine and the PCR test, but this requirement dominated mainly in the initial period of the pandemic - in November 2020 and February 2020. It should also be noted that in the analyzed period there were countries in which it was decided to completely close the borders, and tourism was based only on the national scale. The largest number of

countries that introduced a complete border closure to foreign tourist traffic was noticed in February 2021. These were Denmark, Poland, Germany, Hungary, the Czech Republic and Belgium.
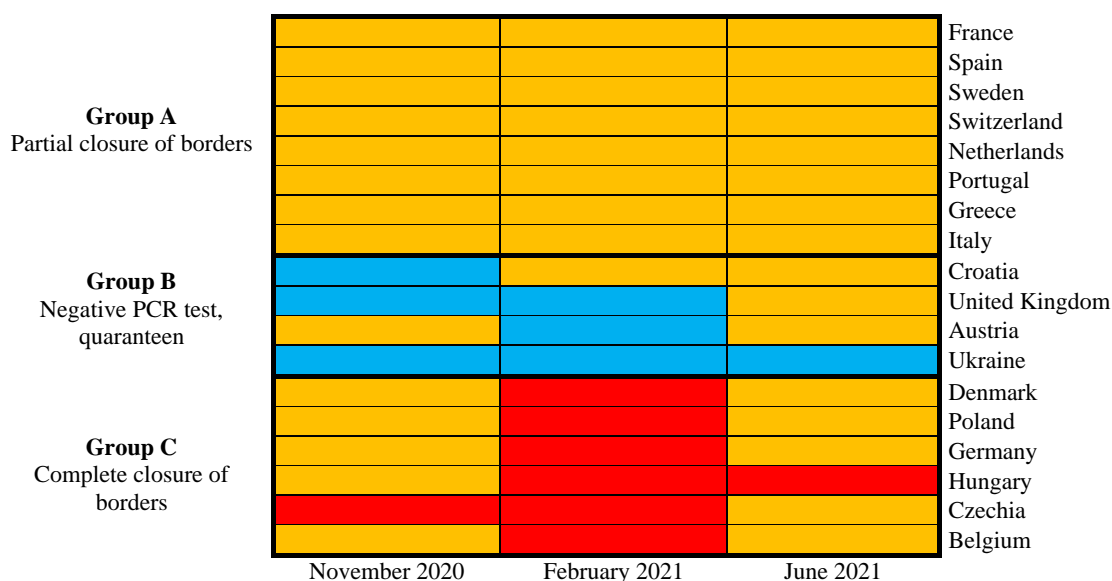
Figure 2. Border situation in selected European countries broken down into groups (Source: Own study based on UNWTO, 2021)

The study of changes in the intensity of tourist traffic presented in Figure 3 shows a certain correlation between border restrictions and the values of the Defert index. In countries from group A (partial border closure), such as Spain and Sweden, slight decreases of the variable were noticed in each of the analyzed periods, although in the case of Sweden these decreases were much smaller. In countries from group B (PCR test, quarantine), the drops in the indicator were much greater, which was especially noticeable in February 2021. An example of a country in this group is Austria, for which the Defert index value, compared to the same period in 2019, dropped significantly in November 2020 by almost 68% and in February 2021 by 82%. The Defert index behaved completely differently in the case of Croatia, where the declines were even smaller than in the A-group countries. It is also worth noting that Croatia was the only country that in June 2021 recorded a Defert index higher than in the year preceding the pandemic.
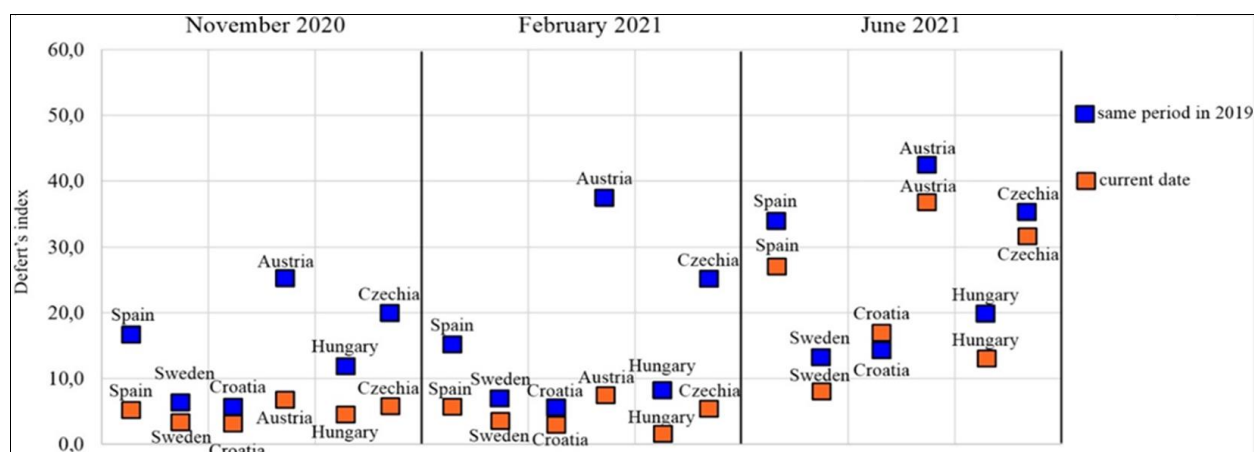
Figure 3. Defert index for selected European countries in selected periods (Source: Own study based on table 1)

Large drops in the indicator were also noticed in the C countries (complete border closure), such as the Czech Republic. In this country, foreign tourist traffic was blocked in two analyzed periods - in February and June 2021. The decreases in the Defert index were comparable for the above-mentioned Austria and amounted to 76% in November 2020 and 83% in February 2021, respectively. The analysis of the chart on the time scale shows that after the reduction of border restrictions in Austria and the Czech Republic (in June 2021), the differences in the value of the Defert index decreased significantly. For all countries included in the analysis, a general upward trend in the index from November 2020 to June 2021 was also noted. The differences in the decline of the variable, especially in the last analyzed period, were not so large. The time analysis also shows that some countries have changed their approach to border crossing throughout the pandemic. For example, in Austria, the control of the abbot on checking the PCR test and quarantine occurred only in February 2021 - then this country recorded the largest decrease in the analyzed indicator.

In the case of Hungary, however, it was not completely closed to the pandemic only in the initial period under analysis, and yet there was no significant difference between the declines in the rate later.

The study of changes in tourist traffic intensity with the use of the Schnieder index is shown in Figure 4. When analyzing the data, it should be noted that the changes in the index value are very similar to the Defret index presented in the earlier part of the study. As previously noted, the drops in the value of the Schnieder index are smaller in countries that have not introduced such serious restrictions as complete border closure or requirements for PCR and quarantine testing (including in Sweden, although here relatively better values were noted in the case of the Defert index). The largest decreases were again recorded in countries that introduced mandatory PCR testing and quarantine (group B) and in countries that decided to close their borders completely (group C). As before, however, relatively large drops in the Schnieder index in the case of Austria were noted. Similarly, to the Defert index, the changes in the Schnieder index behaved in the time range. Here, too, smaller declines were noticed at the end of this study.
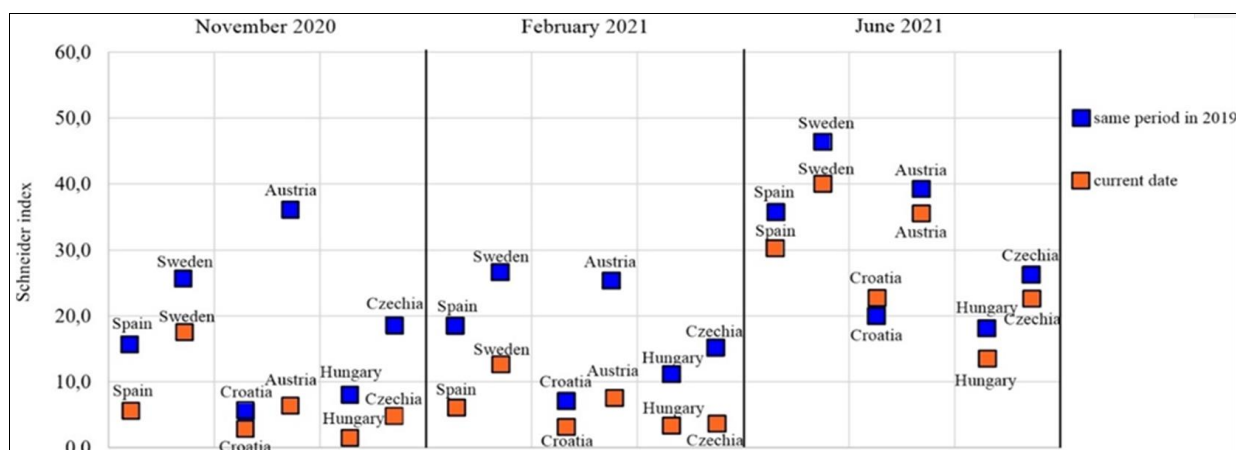
Figure 4. Schnieder index for selected European countries in selected periods (Source: Own study based on Table 1)

DISCUSSION

Since the outbreak of the pandemic, there have been many scientific publications dealing with the impact of the COVID-19 pandemic on international tourism. Some of them analyze issues related to tourist traffic and the occupancy of tourist accommodation facilities. Widomski (2020) indicates that for international tourism, the period with the greatest losses was March and April 2020, where the tourism market collapsed and the tourist traffic dropped significantly. These months have not been analyzed in this study due to the lack of data availability. It should be noted, however, that in fact March 2020 was a particularly difficult period for foreign tourism, which was confirmed by the research of Korinth and Ranasinghe (2020). Nevertheless, in this work a different, much larger period of time is explored.

Additionally, it should be noted that the countries changed the entry rules during the analyzed period. For example, in this study, the countries in red did not have their borders fully closed (e.g. Poland in February 2021 allowed entry under certain conditions). In this study, the rules of entry are based on data from the UNWTO reports, which describe the rules of crossing the borders very generally. It should be noted that countries very often introduced additional requirements to generally accepted rules, and information about the possibility of entering the country had to be found on the government websites of each of them. There were even discrepancies in the coronavirus testing itself. It is also worth noting here that border crossing was conditioned before the pandemic and the lack of an appropriate number of cross-border transport was indicated as a barrier. Medeiros (2019) in his work points out that in 2019 cross-border transport was not sufficiently developed in relation to the growing needs of citizens of the European Union.

It is worth noting that the indicators used in this study are not the only ones used in research on the impact of introducing border restrictions on international tourism. A very important supplement to this study is the Tourism Restrictiveness Index, which was run by the University of Oxford (2021). It is on a scale from 0 to 100 and it takes into account as many as 17 variables, which have been divided into 4 groups. These included the overall government response rate (stronger or weaker), health index (related to testing policy and vaccine investment), economic support index (income support), and the original policy restrictiveness index. The analysis of this indicator shows that in terms of time, as in the case of the indicators of tourist traffic intensity used in the study, a positive trend has been noticed.

In three selected countries (Austria, the Czech Republic and Sweden), it was noticed that in the period from November 2020 to June 2021, the tourism restrictiveness indicator decreased. For example, in the Czech Republic it dropped from the value of 69.44 in November to 37.96 in June 2021. This is therefore confirmed by the research carried out in the study. This research is also complemented by the research conducted by Korinth and Wendt (2021).

The authors, using the Perkal index, found that the pandemic crisis hit the countries around the Mediterranean Sea the most, and the Scandinavian countries, the Baltic countries and those in the central part of the European continent the least. We can notice here some differences in comparison to this study, which are probably due to the fact that the aforementioned Perkal index was based on more indicators (including the number of people employed in tourism) and not, as in the case of this work, only on the number of foreign tourists. However, the assumption of this work was not a detailed assessment of the condition of the tourism economy, but finding a relationship between tourism and the situation at the borders of selected countries.

CONCLUSIONS

On the basis of the conducted research, it should be indicated that the largest drops in the values of the Defert and Schneider indexes were recorded by Austria and the Czech Republic, i.e. countries with different responses to the COVID-19 pandemic, being in group C (complete border closure) and in group B (PCR test required, quarantine), which showed that it is impossible to clearly divide countries according to the way of fighting the pandemic. The study also indicated that the greatest drops in tourist traffic intensity indicators were caused by the introduction of the obligatory PCR test and quarantine, which was shown by the indicators characterizing Austria. Her Schneider intensity index declining records occurred in February, which was the result of bans on ski-related tourism, when the country was most profitable in previous years.

Changes in border crossing were important only in the initial period of the pandemic, later they were not of great importance and the values of both Defert and Schnieder indicators did not differ from those in the pre-pandemic period (i.e. in 2019), which indicates a gradual improvement in the situation in the receiving countries. The introduction of various entry rules for foreign tourists had a fragmentary impact on the intensity of tourist traffic. The smallest decreases in the case of the Defert and Schneider index in the entire analyzed period were recorded in Sweden and Croatia.

In the case of Sweden, the reason for this is a more liberal approach. From the very beginning of the epidemic threat, the Swedish government issued no orders and bans, only recommendations. It is worth noting that the requirement to show a negative COVID test was introduced by the government in December 2021, i.e. in the period not covered by this study. Therefore, it is worth considering this issue based on the latest data in future research.

The use of research methods in the study proved to be successful in verifying the hypothesis put forward in the study. This verification showed that the intensity of international tourist traffic in the pandemic era depends on the restrictions on crossing the border in a given country. However, due to the similarity of the obtained results, it can be concluded that the use of two indicators (Schneider and Defert) was not necessary because the results were similar. Therefore, they can be treated as complementary methods.

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GEOTOURISM CURRENT STATE AND FUTURE PROSPECTS: A CASE STUDY IN THE CAO BANG UNESCO GLOBAL GEOPARK, VIETNAM

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Abstract: Cao Bang Geopark is one of three UNESCO heritage sites in Vietnam, with unique geological, landscape and cultural properties of high value to tourism. This study aims to provide a better understanding of the potential for geotourism development in Cao Bang Global Geopark, thereby proposing reasonable development strategies in the future. The research using the multi-criteria assessment and SWOT analysis tool found that Cao Bang Global Geopark has a high ability to attract tourists and exploit large tourism resources globally. However, the infrastructure, technical facilities, human resources and investment capital for geotourism are still limited and need to be improved. The research results can be considered useful references for academia and managers in finding strategies and solutions for sustainable geotourism development at Cao Bang Geopark in the future.

Key words: geodiversity; geoheritage; geopark; geotourism; UNESCO Global Geopark Cao Bang

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INTRODUCTION

Tourism is now an important economic sector of many countries worldwide due to its rapid development speed and high economic efficiency (Tue et al., 2018). Among the types of tourism, geotourism has long been considered a popular thematic form of tourism. Newsome and Dowling (2010) described geotourism as a form of tourism that specifically focuses on geology and landscape. Unlike ecotourism, which by definition can only take place in natural areas, they argued that geotourism can occur in either natural or human modified environments. It is viewed as promoting tourism to geological sites (geosites), the conservation of geological diversity (geodiversity), and an understanding of earth sciences through appreciation and learning. This is achieved through independent visits to geological features, use of geological trails (geotrails) and view points, guided tours, geo-activities and patronage of geo-site visitor centres (Dowling, 2013). Since the 1990s, geotourism has been discussed and evaluated by many researchers and measures to use and improve the exploitation efficiency of this good type of tourism. "Global Geopark" is a natural area with clear geographical-administrative boundaries, containing a collection of geological and landscape heritage of international stature of scientific, educational, sustainable development, along with other values of biodiversity, archeology, history, culture and society and has a large area to develop the local economy, through the development of tourism and other ancillary services recognized by UNESCO (Justice, 2018).

Cao Bang Geopark is Vietnam's second global geopark, covering an area of more than 3,390 square kilometers, covering the entire administrative boundary of Ha Quang, Trung Khanh, Ha Lang and Quang Hoa districts and part of the area Hoa An, Nguyen Binh and Thach An districts. It is an area with over 500 million years of development history with many unique natural features, especially geological values. The park has a very complex and diverse terrain, mountainous climate, diverse landscape ecosystems. At the same time, this is also where the Tay, Nung, and Mong Dao, San Chi, Lo Lo, Hoa, Kinh ethnic groups live with many unique historical relics, tangible and intangible cultural heritages (Thuy, 2022). These are very important geotourism strengths that Cao Bang needs exploitation in local socio-economic development.

The research objective is to evaluate the potential for geotourism development at Cao Bang Global Geopark by the multi-criteria assessment method and SWOT analysis tool. The research results are the basis for proposing orientations for sustainable and effective exploitation of the geotourism potentials of Cao Bang Global Geopark in the future. The study also presents a method of the comprehensive assessment of geotourism resources in a locality that can be applied to research for other potential areas in Vietnam. Therefore, three research questions must be addressed:

1. To evaluate the overall potential for geotourism development in an area, what criteria?

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2. What is the potential and extent of Cao Bang Global Geopark for geotourism development?
3. What strategy should be applied to effectively and sustainably exploit tourism potential in Cao Bang Global Geopark?

LITERATURE REVIEW

Geotourism is one of the newest concepts in recent decades in tourism research (Tessema et al., 2022). It has become an essential resource for economic and social development at the local, regional and international levels (Ruban, 2015), and its popularity is overgrowing. Dowling (2006) defines geotourism as "sustainable tourism with a primary focus on experiencing the Earth's geologic features in a way that fosters environmental and cultural understanding, appreciation and conservation, and is locally beneficial. Geotourism product protects, communicates and promotes geoheritage, helps build communities and works with a wide range of different people." Meanwhile, Hose (2012) defines geotourism is "the provision of interpretative and service facilities for geosites and geomorphosites and their encompassing topography, together with their associated in situ and ex situartefacts, to constituency-build for their conservation by generating appreciation, learning and research by and for current and future generations." Martini et al. (2012) definition: "Geotourism allows tourists to know the local geology but also to better understand that this geology is closely related to all the other assets of the territory, such as biodiversity, archaeological and cultural values, gastronomy, etc."

Parallel to the development of geotourism is the establishment of geoparks in many countries of the world. The concept of geopark has been diffused since 1996 (Zouros, 2012) and was also supported and endorsed by the Division of Earth Science at United Nations Educational, Scientific and Cultural Organization (UNESCO), which proposed a program named the "UNESCO's Geoparks Programme" (Eder, 2004; Zouros, 2012). According to a definition proposed by UNESCO, a geopark is a unified area with geological heritage of international significance. Geoparks are not new forms of nature protection as they are usually established based on the already existing forms, e.g., national parks or landscape parks. At present, geoparks are the basis for the development of geotourism, i.e., "a knowledge-based tourism, an interdisciplinary integration of the tourism industry with conservation and interpretation of abiotic nature attributes, besides considering related cultural issues, within the geosites for the general public (Hose, 2012). In recent decades, geotourism research has experienced growth around the world and will continue to be prominent in the future (Duarte, 2020). Most geotourism studies between 2012 and 2018 have been carried out in Europe (mainly in Italy and Poland) Asia (mainly in China and Iran), and South America (mainly in Brazil) (Ruban, 2015; Ólafsdóttir, 2018; Matshusa et al., 2021). Duarte et al., 2020 analysed the countries with the most publications on geotourism and development (2007-2018). The country with the most geotourism studies was Brazil, with 17 articles published, followed by Australia (16), Italy (14) and the UK (13). Other countries with less than 10 documents published were the USA (8), Poland and Portugal (7 each), France and Malaysia (6 each) and Serbia (5) (Matshusa et al., 2021).

For the research direction on assessing the development potential of geotourism, there have been many studies that can be mentioned, such as Pralong (2005), Reynard et al. (2015), Štrba et al. (2015), Brilha (2016), Martins et al. (2018) and Kubalíková (2019). In general, these studies have proposed assessment methods (including both qualitative and quantitative) for the potential for geotourism development, but they have been limited to an assessment of particular geological or geomorphological sites. For larger areas, studies are typically evaluated by GIS-based analytical methods, such as those of Reynard (2005), Serrano (2007), Pellitero et al. (2011), Pereira et al. (2013) and Zwoliński et al. (2018). However, these studies often focus on geological heritage management or impacts on geological conservation without exploiting economic and cultural factors related to tourism development. Meanwhile, to realize the potential for geotourism development in an area, it is necessary to carry out a detailed assessment of the resource types (natural and human) and the additional conditions and readiness to welcome them receive tourists from the area. For the study area, Vietnam in general and specific areas in the territory of Vietnam in particular, there are very few research n geotourism. Compared to other countries, Vietnam is still lagging in geotourism research. It shows that research on geotourism in Vietnam is influenced mainly by western theories. However, due to cultural, political, and historical differences, Western geotourism theories cannot fully explain the factors affecting the development of geotourism in different regions in developing countries like Vietnam. Therefore, it is necessary to find criteria to evaluate the aggregate geotourism potential suitable to the conditions in Vietnam. This study can also improve the knowledge of geotourism in Vietnam, which is a valuable reference for further studies.

STUDY AREA

Located in the northeast of Vietnam, Cao Bang Geopark is about 300km from Hanoi has a convenient location for attracting domestic and international tourists. The Geopark has a road and waterway system adjacent to China, and many tourist attractions are located near the Vietnam-China border. This borderline is up to 333km long with many pairs of border gates, creating an advantage in attracting international tourists from the large Chinese market. In addition, the road network adjacent to Bac Kan, Lang Son and Ha Giang creates favorable conditions for Cao Bang province in developing linkages and attracting tourists from key tourist areas in the region Red River Delta and Northeast Coast.

Cao Bang UNESCO Global Geopark has many values for geotourism development, specifically as follows:

Geomorphological value: Studies show that Cao Bang experienced a complex geological development history, extending over 500 million years from the Paleozoic to the Cenozoic (Thao, 2000; Thanh et al., 2005; Dzung, 2020). That long-term development has created unique features and exceptional geological values for Cao Bang province. This area has many individual geological heritage sites with diverse topography and limestone landscapes. Scientists have discovered, evaluated, and proposed to rank over 130 unique geological heritage sites with rich and varied limestone terrains and landscapes, such as stone towers and cones, valleys, caves, river and lake systems, and underground caves (Thien and Phuong, 2021). In addition, there are many other types of geological heritage, such as paleontological fossils boundaries between geographical units. It can

be said that geological conditions are the core factors that make up the uniqueness and difference of the Central Park Geopark, containing scientific, cultural, and aesthetic values... attracting tourists scientists and tourists come to this land (Dzung, 2020).

In terms of space, the UNESCO Global Geopark Cao Bang is divided into three quite different areas with different geological features, including a limestone area in the east, a mountainous area in the west, and the middle is plains (CBPPCb, 2021). The limestone area in the east, the site in the west, and a part of the delta area are the most valuable for geological tourism activities. The limestone area in the east accounts for more than 60% of the size of Cao Bang Geopark and here has gathered the most unique and complete features of a tropical karst evolutionary cycle entire hot and humid climate from the linear limestone terrain of the early stage, the conical limestone terrain surrounding the round, deep, closed valleys of the early stage, to the towering limestone terrain scattered over the mountains open valley, long, wide, flat, rich in both soil and water of the adult stage. Finally, the landscape remains in the form of remnants of the above limestone towers, gradually disappearing into small ridges on the wings karst field with many rivers, streams, and lakes. Suppose Dong Van Karst Plateau Geopark is famous for its karst terrain, mainly in its infancy and early stage. In that case, Cao Bang is notable mainly for its geographical karst formations in the mature background and remnants form spectacular landscapes, such as Nguom Ngao grotto, Bat cave, Nguom Phuc grotto, Ban Gioc waterfall and Thang Hen lake (CBPPCb, 2021). The western area with mainly mountainous terrain is composed of sandstone, siltstone, and claystone mixed with little limestone and especially has quite a lot of igneous rock. The Phja Oac is nearly 2,000m high, the highest of Cao Bang Geopark, made of this rock. Under the influence of leaching and erosion processes, the stones mentioned above have created the soft and gentle mountainous terrain in the western region, which is quite different from the rugged and rugged limestone terrain in the eastern region. And it is the interaction between these rocks has produced in the Phja Oac, Phja Den area many types of minerals, such as gold, tin, tungsten, fluorite, uranium (Dzung, 2020; CBPPCb, 2021).

Historical value: Since the early twentieth century, archaeologists have discovered dozens of sites from the Old Stone Age and Neolithic Age to the Metal Age in Cao Bang. Many places have been surveyed and excavated, and thousands of artifacts have been collected at Cao Bang Museum, proving that Cao Bang is one of the cradles of prehistoric people, a land with a rich cultural tradition culture and long history. The relics of Au Lac period in Cao Bang are found in the ruins of Ban Phu citadel in Cao Bang city. In addition, there are many relics of different historical periods, from ancient, middle to near and modern. According to statistics, the Cao Bang Geopark area has more than 93 ranked cultural and historical relics. There are three national monuments, especially Pac Bo Special National Monument and Tran Hung Dao Forest 1950 Border Victory Site Historic Site (Thien and Phuong, 2021).

Cultural values: Cao Bang is a diverse and rich cultural region with the cultural harmony of many ethnic groups: the Tay and Nung live in the valleys, the Dao live in the mountains, and the Mong people live in the valleys. Kinh, Hoa and San Chi are ethnic groups living together in the high mountains. They have traditional cultural heritages to contribute to creating unique and unique cultural values about the site costumes, festivals, traditional arts, folk art, dishes with culinary, aesthetic, and humanistic values, and craft villages. The tradition is still handed down the handicrafts such as forging, incense making, and paper-making.

Table 1. Summary of criteria for assessing geotourism potential

	1	2	3	4	5
A. ABILITY TO ATTRACT VISITORS					
1. Attractiveness					
- Geological history	Small participation at local level	Moderate participation in local level	Great participation in local level	Moderate participation at regional level	Great participation at regional level
- Diversity of landscape	1	<3	<5	<10	>10
- Representative	Not at all	Low	Medium	High	Unique
- Types of tours that can be organized	1	<3	<5	<7	>10
2. Safety					
- Ecologically safe	Not at all	Low	Medium	High	Very high
- Society's vices	-	-	-	-	Not at all
- Disease, pollution	-	-	-	-	Not at all
3. Connectivity					
Number of nearby resource points	0	<2	<3	<4	>5
4. Infrastructure and Tourism technical facilities					
- Synchronism	Not at all	Low	Medium	High	Very high
- Convenience	Not at all	Low	Medium	High	Very high
- Accessibility	Not at all	Low	Medium	High	Very high
B. ABILITY TO EXPLOIT					
1. Seasonality					
- Number of days that can be organized	<100	<150	<180	<250	>250
2. Sustainability					
- Conservation level	Totally damaged	Low	Medium	High	Intact
- Resilience	Not at all	Low	Medium	High	Very high
- Possibility of existence	<10	<15	<50	<100	>100
3. Capacity					
- Moment capacity	<50	<100	<150	<250	>250

Biodiversity values: As the second geopark after Dong Van Karst Plateau, Cao Bang UNESCO Geopark contains almost intact and diverse natural and artificial ecosystems, predominantly flora and fauna rich diversity. Cao Bang has

ten different ecosystems belonging to 2 groups: natural and artificial ecosystems. The province's forest area is 372,908.24 ha, accounting for 55.59% of the natural area. The area of natural forest ecosystems located in conservation zones and biodiversity corridors is planned to be 44,353.21 ha (accounting for 6.62% of the total forest area). The most critical value in biodiversity is Phja Oac - Phja Den National Park (CBPPCa, 2015).

RESEARCH METHODOLOGY

From the fact of Cao Bang Geopark, after reviewing the current state of resources, we realize that the park's resources for geotourism are in a potential aspect. Therefore, in this study, we apply the "multi-criteria assessment" method combined with the expert method to assess the value for exploitation and the ability to develop geotourism activities. Based on consulting 05 experts (including 02 experts from the Vietnam National Administration of Tourism, 02 experts from the Institute of Geography and 01 expert from the Department of Culture, Sports and Tourism of Cao Bang province), we use 02 groups of criteria, including (i) the group of criteria of ability to attract visitors (04 criteria: attractiveness, safety, connectivity and infrastructure - tourism technical facilities); and (ii) the group of criteria on exploitability (03 criteria: seasonality, sustainability, capacity) are shown in detail in Table 1.

These indicators are evaluated based on a rating scale from 1 (lowest value) to 5 (highest value). After calculating the score for the factors, the total score is calculated according to the formula by (Thang, 2012) is:

$$F = \sum_{i=1}^{n} Mi * Xi$$

In which: *Mi is the multiplier; Xi is the evaluation criterion; i = 1 → n; n: number of factors.* Based on previous authors' research overview and consultation with 05 consultants, we determine the multiplier for attractiveness and safety at 3; connectivity, infrastructure, tourism facilities, seasonality, sustainability is 2, and capacity is 1. The assessment of other attractiveness and exploitation is graded based on according to formula (Armand, 1973).

$$S = \frac{Smax - Smin}{B}$$

In which: *Smax is maximum attraction value; Smin is minimum attraction value; & B is the evaluation term* The specific rating and rating points apply as follows:

(i) For the ability to attract tourists, if the total score is > 42, the area has a high ability to attract tourists. In the case of 42 > total score > 34, the area has an average ability to attract tourists; if the total score is < 26, the area has a low ability to attract visitors.

(ii) For exploitability, if the total score is > 21, the area has high exploitability. In the case of 21 > total score > 17, the site has average exploitation ability; if the total score is < 17, the area has poor exploitation ability.

Agreeing on the evaluation criteria, we sent questionnaires (online) to 60 experts. They are highly qualified experts in tourism, geology, and geography who are eligible to provide statements and opinions that ensure transparency and objectivity about the research content (Table 2). The survey was conducted in November 2021 (from 5/11 to 20/11), and the number of collected respondents was 56. After processing and cleaning, there were 52 valid respondence. The demographic profile of the respondents is shown in Table 2.

According to the criteria, we continue to use the SWOT analysis tool after the aggregate evaluation (Table 3). Basic SWOT analysis has been already employed for the assessment of geotourist resources to identify strengths, weaknesses, opportunities, and threats to the development of geotourism in Cao Bang Geopark as a basis for orientation to exploit them most effectively.

Table 2. Demographic characteristics of the respondents

Group	Composition	Number of people	Percentage (%)
Gender	Male	35	67,3
	Female	17	32,7
Age	Under 40	16	30,7
	From 41 to 50	14	26,9
	From 51 to 60	15	28,8
	Over 60	07	13,6
Degree	Undergraduate	14	26,9
	Postgraduate	38	73,1
Professional research experience	Under 05 years	3	5,7
	From 5 years to 10 years	11	21,2
	From 10 years to 15 years	12	23,1
	Over 15 years	26	50,0

Table 3. SWOT analysis (or so-called "TOWS matrix")

	Strengths	Weaknesses
Opportunities	Strengths - Opportunities (S-O) strategy (maxi-maxi): use strengths to take advantage of opportunities	Weaknesses - Opportunities (W-O) strategy (mini-maxi): overcome weaknesses by taking advantages of opportunities
Threats	Strengths - Threats (S-T) strategy (maxi-mini): use strengths to avoid the threats	Weaknesses - Threats (W-T) strategy (mini-mini): minimize weaknesses and avoid threats

Table 4. Geological tourism resource scoring at Cao Bang Geopark

	Score	Number	Total
A. ABILITY TO ATTRACT VISITORS			**43.35**
1. Attractiveness	4.54	3	13.62
2. Safety	4.45	3	13.35
3. Connectivity	5.00	2	10.00
4. Infrastructure and Tourism technical facilities	3.19	2	6.38
B. ABILITY TO EXPLOIT			**22.5**
1. Seasonality	4.50	2	9.00
2. Sustainability	4.10	2	8.20
3. Capacity	5.00	1	5.00

RESULTS AND DISCUSSION

Assess the potential for tourism development

Applying the scoring method in this study, assessing the potential for geotourism development in Cao Bang Geopark is based on the proposed criteria. The results of the evaluation are shown in Table 4. Experts assess the attractiveness of the resources of the Cao Bang geological plateau with a relatively high average score (43.35 points) in the group of high exploitability. The geological attractiveness has a high rating (4.54 points) because the area has a long history of over 500 million years, from the

Paleozoic to the Cenozoic, with many unique natural features. The long history of a geological formation is the basis for this area to form many natural landscapes, ecosystems, and heritage sites with unique and distinctive geological appearances that are highly representative of an evolutionary cycle complete karst culture in the tropics such as Nguom Phuc grotto system (Thach An), Doi grotto (Ha Lang), Nguom Ngao grotto (Trung Khanh), Pac Bo cave (Ha Quang); system of rivers, streams and lakes, including Quay Son river, Ban Gioc waterfall (Trung Khanh); Lenin stream (Ha Quang), Thang Hen lake (Trung Khanh); Phja Oac primeval forest (Nguyen Binh); Thach An forest; Hoang Tung rock garden (Hoa An); Luc Khu rocky valley (Ha Quang); Ma Phuc pass, Mat Than mountain (Trung Khanh). The diversity of landscapes creates favorable conditions for Cao Bang Geopark to organize many typical geological types such as cave tourism and research tropical karst landscape, adventure tourism, eco-tourism etc. The connectivity of the resource is also highly appreciated (5.00 points) because it can be linked with many other resources in the area.

However, tourism infrastructure and technical facilities have a very low rating (3.19 points) due to the specific reality of Cao Bang's topography, mainly high mountains, high roads, and high mountains difficult traffic. Cao Bang has no airways, railways or waterways. From other localities in the country, visitors to the Geopark mainly go through National Highway 3, National Highway 4 and Highway 34 with many steep, winding, winding passes, severely degraded and frequently subject to landslides rainy season. In particular, many traffic routes to districts, communes and mountainous areas to access tourist attractions in the park are quite narrow, winding, degraded, frequent landslides in the rainy season, many tourist attractions only can be approached by high-rise passenger cars or passenger cars of less than 25 people, causing difficulties for tourists to travel. Besides, accommodation facilities are lacking in quantity and weak in quality. There is no system of services and shopping points dedicated to serving tourists in the area. The propaganda and promotion of tourism have not been promoted. These are the factual bases to consider in coming up with solutions.

In the exploitation capacity, the criterion of capacity has the highest score (5.00) because the geopark has a large area, and many attractions can take place simultaneously in all three main tourist routes. Seasonality has an average score of 4.50 due to different opinions of experts on the scale, ability to organize different types of tourism, and the level of infrastructure & facilities available. Sustainability has the lowest average score (4.10 points) because the limestone landscape is susceptible to damage caused by mass tourism activities and lack of management and regulation sustainable plan. In general, this area with highly exploitable tourism resources (22.5 points) needs to invest in developing geotourism.

Through the above assessment results, we see that the geotourism resources at Cao Bang Geopark are rich and have high-value great exploitation potential with a favorable international scale of operation for the development of many types of tourism, including many types of tourism associated with specific products of the region.

It is not only of great significance in developing and enhancing the position of Cao Bang tourism compared to other localities in the Northern Midlands and Mountains and the whole country.

SWOT Analysis

To comprehensively assess the potential for geotourism development of the Cao Bang geological park, we have analyzed the region's strengths, weaknesses, opportunities, and challenges (SWOT) to propose strategies suitable for tourism development for the area in the future. The results of the analysis are shown in Table 5.

Table 5. Results of the SWOT (strengths, weaknesses, opportunities, and threats)

Strengths (S)	Weaknesses (W)
1. Diverse geological resources. Many related tourism resources have been exploited.	1. The terrain is difficult. There are many unusual natural disasters
2. Tourism resources are distributed adjacent to each other, easily combined according to routes.	2. Awareness of local authorities and communities about geotourism is not high
3. It is possible to develop many specific geological tourism products such as caves, adventure exploration combined with historical research, etc.	3. Poor quality traffic network, difficult to circulate
4. The environment has not been polluted.	4. Accommodation facilities have low capacity, tourism services have not yet developed
5. Many high-capacity resource points.	5. Lack of labor to meet the needs of tourism development, especially the team of managers, planners, and geological tour guides.
6. Associating with many historical and revolutionary landmarks and being the residence of many ethnic groups with unique cultural features recognized as national heritage.	6. Lack of investment capital for infrastructure upgrading and tourism promotion.
7. The locality has many policies to support tourism development.	7. Lack of framework for tourism development and management in Geopark
Opportunities (O)	**Threats (T)**
1. The trend of increasing international and domestic tourist flows after the COVID-19 pandemic	1. Tourism management is still overlapping between stakeholders. The document system and legal corridor are not synchronized.
2. Attracting the flow of Chinese tourists by road through border gates	2. Invasion of foreign cultures and tourists
3. The network of connections between global geoparks is expanding	3. Unattractive tourism model, weak competitiveness compared to localities with similar resources.
4. The ability to connect with neighboring areas is increasingly developing	4. Environmental degradation, resource degradation
5. The State has many guidelines and policies to support localities in tourism development	

The strategies to be implemented are derived from the strengths, weaknesses, opportunities and challenges of Cao Bang Geopark, specifically as follows:

- Coordinate S_{1-7}/O_{1-5}; S_{1-5}/T_3; W_4/O_{1-5}; $W_{3,4,6}/T_{2-4}$: Diversify types of tourism associated with the exploitation of geological resources in a sustainable; Develop many specific geological programs; Promote the exploitation of

geological tourist routes related to the border gate; Improve the level of management staff, workforce directly participating in geotourism activities.

- Coordinate S_{4-7}/O_{1-6}; S_{4-5}/T_{2-4}; W_{3-6}/O_{1-4}; $W_{3-6}/T_{2,3}$: Complete infrastructure, accommodation and services at tourist attractions in the geopark; To develop many large-scale tourist areas, combining geological tourism with ecological, cultural and historical tourism.

- Coordinate S_{4-6}/O_{1-5}; S_{4-5}/T_{3-4}; $W_{3,4}/O_{1-4}$; $W_{3,4,5}/T_{3-4}$: Rule-based development planning and close supervision; Well manage the organization of geological tourism activities at resource points.

Future development direction

Geotourism activities are increasing rapidly worldwide (Newsome et al., 2018; Drinia et al., 2021) and geological sites of considerable value should be considered the primary natural resource for these initiatives. Geotourism development will improve the attraction of the destination, preserve and promote geological and geomorphological values, raise community awareness, and contribute to the socio-economic development of the local association (CBPPCb, 2021). Cao Bang Geopark, classed as a world geological heritage, will attract many geological tourists interested in visiting the unique natural landscapes and gaining knowledge of history and the evolution of the Earth. Based on the fundamental analysis and survey results, we propose the development orientation and development phase for Cao Bang Geopark, the content of which is shown in Table 6.

Table 6. Summary of development orientation of Cao Bang Geopark

1. Development orientation	
- Development of typical geotourism types	Visiting and exploring caves; mountain resort; study geology, flora and fauna; community eco-tourism
- Developing typical tourism products associated with geological resources	- Visiting geological landscapes, caves and ecosystems in the geopark; - Community eco-tourism associated with indigenous culture; - Mountain resort tourism; adventure travel - Border tourism
2. Development divergence	
Period 2022 - 2025	- Invest in building facilities, develop additional heritage sites in 3 tourist routes of Cao Bang Geopark - Improve the quality and effectively exploit 03 existing geotourism routes; research and use new tourist routes in the Northwest tourist cluster (Bao Lac, Bao Lam areas), develop tourist routes connecting the geopark with inter-regional and inter-national tourist routes. - Completing investment projects, protecting the environment and ecosystems in the Geopark, creating a foundation for developing eco-friendly geo-tourism types according to UNESCO's criteria. - Building a brand, expanding the global geopark partner network - Invest in completing the infrastructure system, internal road system, sightseeing and developing additional services at attractions - Develop accommodation facilities and tourism services to meet the requirements of tourists.
Period 2026 - 2030	- Continue to invest in perfecting the technical infrastructure & facilities for the key attractions in the Geopark. Continue developing and exploiting tourist routes connecting the Geopark with inter-regional and inter-country tourist destinations and routes between Cao Bang (Vietnam) and Guangxi (China). - Preserve and promote geopark values as recommended by UNESCO.

Recommendations

To achieve the goals mentioned above, a lot of related work has to be done, including:

(1) Developing mechanisms and policies for geotourism: Mechanisms and policies directly impact the development of tourism activities in general and geotourism in geoparks in particular. Vietnam has issued many policies for tourism development (Tue et al., 2018), but to promote the development of geological activities, it is necessary to have separate policies for geotourism. For geotourism in Vietnam's geoparks in general and Cao Bang Geopark in particular, we think it is required to issue groups of policies: (i) Group of guiding policies for geotourism; (ii) Group of policies related to geotourism development associated with natural environment protection and cultural and social environment; (iii) Group of policies related to tourist management, coordination and monitoring of tourist attractions related to geological resources; and (iv) Group of policies related to human resource development, promotion and product development related to geological and geomorphological resources.

(2) Increase investment in infrastructure and technical facilities for geotourism: Infrastructure and technical facilities are the weakest affecting the exploitation of local tourism potential substances at Cao Bang Geopark (CBPPCb, 2021). In the condition that the province's budget and the capacity of businesses located in the area are limited, Cao Bang and the province's tourism industry need to plan to mobilize investment capital from a combination of social resources, socialization, national target programs and attracting investment capital from outside. In addition to the priority policy for key tourism development projects as recommended by UNESCO, there should be orientations in investment for each tourist spot and cluster in the entire Geopark. Based on the divergence of exploitation and development of geotourism resources and products and the existing financial capacity of the locality, we propose that in the first phase, focus on investing in building and completing several archaeological sites properties belonging to three tourist routes in the Geopark according to UNESCO's standards, upgrading the Geopark information and display center; construction of the fourth tourist route. In the next phase, there should be a project to improve traffic connections at border gates, tourist

zones and attractions; To encourage investment in building and upgrading tourist accommodation establishments; Develop food and beverage services, entertainment, and shopping facilities to serve tourists.

(3) Improving the training of human resources: To promote geotourism activities in Cao Bang Geopark, a very important factor to have is the human resource for geotourism. The locality should have the policy to prepare and encourage staff training for geotourism. In the immediate period, it is possible to take advantage and take advantage of international cooperation relationships in UNESCO's global geological heritage network to foster, train staff and exchange experiences. In addition, it is necessary to pay attention to the training of staff and guides for geotourism, which will play an important role in promoting the development of geotourism activities in the geopark.

(4) Promote promotion of geotourism activities: After the pandemic, tourists' demand for unspoiled natural destinations, away from crowded destinations that are less affected by human people, is increasing. It is a great opportunity for destinations with untapped potentials, such as Cao Bang Geopark. The target international tourist markets are France, Japan, Germany, Australia and other countries, and the domestic market is focused on big cities such as Hanoi, Hai Phong, and Da Nang, Ho Chi Minh City... For a new destination like Cao Bang Geopark, in our opinion, it is necessary to complete the website http://caobanggeopark.com, in addition to the Vietnamese and English versions, it is essential to add Chinese and articles need to be more attractive and have more images to attract visitors. At the same time, promote tourism information on social networks reputable TV channels, provide publications, travel brochures, maps to visitors through agencies, travel agents, travel centers, etc. Information center, border gate to welcome guests. Coordinate with related industries to organize seminars and press conferences to introduce the potentials and characteristics of the resources and at the same time integrate the introduction of local geotourism programs and products.

(5) Improving the organization of tourism in tourist sites, resource sites and programs: Researching and promulgating regulations and guiding principles on management and organization of activities appropriate to the situation the reality of each area and resource score; Develop detailed instructions for program implementation at resource points such as visiting time, number of visitors, travel speed, etc. Minimizing the impact on the environment.

(6) Raise awareness of the local community and protect the tourism environment, adapt to climate change: Promote educational activities to raise community awareness about the value of geological heritage; Increase participation and enhance the role of the community in exploiting geotourism values in destinations. Deploy appropriate models of community eco-tourism. Develop response strategies and plans, especially with contingency scenarios for climate change. Encourage the development of ecotourism programs with little impact or no resource consumption. Propagating and mobilizing local communities, tourists, and tourism businesses to be aware of climate change issues, to limit the effects on the environment to adapt and mitigate consequences with climate change.

CONCLUSION

Cao Bang Geopark is one of three UNESCO-recognized geoparks in Vietnam for its outstanding values of scale, landscape, educational values, and conservation of important geological features important. Through the multi-criteria assessment method and consultation with leading experts in the fields of tourism, geology - geomorphology, the study shows that on the potential for geotourism development in the local park area, Cao Bang has high tourist attraction value and great ability to exploit natural resources for tourism development at the global level. However, the strengths for tourism development here are mainly in the form of potential. The story of exploitation of tourism resources is only concentrated in a few traditional spots, infrastructure and facilities. Tourism quality has not developed synchronously, tourism services have been almost undeveloped. Therefore, in the future, to effectively exploit the geotourism potential here, it is necessary to focus on implementing strategies to diversify tourism types, develop specific geotourism products, use the new tour program. In addition, Cao Bang Global Geopark also needs to invest in completing infrastructure, accommodation and services at tourist destinations, training and improving the qualifications of workers directly involved in geotourism activities, development based on planning and with close supervision; Well manage the organization of geotourism activities at resource sites in association with environmental landscape protection and response to climate change.

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DOES DEMOGRAPHIC FACTOR AFFECT TOURIST BEHAVIOUR? FINDINGS FROM THE RELIGIOUS SITE OF JAGANNATH DHAM, INDIA

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Abstract: According to a report by UNWTO 'Asia and the pacific region' is considered as the core of the world's religious tourism as half of the world's religious voyages take place in this region only. In this context the 'Great India temples' play a major role in attracting crores of pilgrims along with the tourists of varied interests. These tourists exhibit different types of behaviour during their travel. As the behaviour is largely dependent upon the tourists' nature (belief, trust, motivation), place of residence, state, age, education etc, hence analyzing the same will help the Destination Management Organisations (DMOs) for 'planning, development and marketing' of its products and services in a better way. The current research intends to find out the demographic profile of the tourists visiting Jagannath Dham, Puri (India) and analyse the 'socio-religious behaviour' of the tourists from their demographic characteristics to provide suggestive measures for the development of the destination. The responses from the tourists (404) were collected through a structured questionnaire via convenience sampling. Initially, the demographic profile was analysed through percentage analysis and later the behavioural analysis was carried out by testing the instrument's reliability through (α), and the sample's adequacy via KMO & Bartlett's test. Later the factors were reduced via PCA and analysed through Levene's test, ANOVA & Post-Hoc tests. From the analysis, it was observed that behavioural characteristics are significantly associated only with the 'state of the residence' and 'nature of residence' of the travelers. Whereas other demographic factors like age, education, gender, and marital status are not significantly affecting the tourist behaviour. The results revealed that people from 'all age groups' show a very little dependency on the temple staff but 'moderate to high interest' in local culture. While metropolitan tourists don't show much desire in partaking Mahaprashada (the religious food offering of the temple), the rural people are less 'adhering to rituals' in comparison to the metropolitan and semi-urban tourists. Apart from this, there were few other revelations based on which suggestions have been given which were if implemented will certainly result in attracting more number of tourist to the destination.

Key words: religious tourism, Jagannath Dham, tourist behaviour, religious belief

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INTRODUCTION

According to Yeoman (2008), religious tourism can be defined as, *"Travelling to visit a place, a building or a Shrine, which is sacred"*. Religious tourism is a direct result of the people's urge and motivation to participate in religious activities (Zhou, 2021; Avci and Kayar, 2021), as 60 percent of the world's population practice a 'religion' during their lifetime (UNWTO, 2011). Depending on one's faith and trust, people travel either to view the form of their God (pilgrimage) or get indulged in induced products like art, heritage, architecture, customs and tradition etc (SIGA, 2012; Ki, 2022). The several variants of religious tourism are pilgrimage tourism, faith tourism, spiritual tourism etc (Bari and Shaheen, 2020, Pageh et al., 2022). According to a recent report, the global religious tourism market in 2020 was approximately $1,071 Million which is expected to grow at a rate of 6% and reach $ 1704.2 million by 2028 (VMR, 2021). Another report by UNWTO identifies 'Asia and the pacific region' as the core of the world's religious tourism and stated that about half of the world's religious voyages take place in this region only (Yasuda et al., 2018). As India is the home to 'five out of the ten' most visited holy places on earth, its contribution can't be ignored in the above milieu. Among these places are the 'Great India temples' which play a major role and attract crores of pilgrims & religious tourists annually (Sharma and Deshpande, 2017). Such a Hindu religious site of great importance situated at Puri (India) is, Jagannath Dham (abode of Lord Jagannath) which is also a part of the sacred *Chaar Dham* (four holy abodes of Lord *Vishnu*). It attracts more than 1.5 million tourists every year (OSB, 2020) and is among the ten most visited religious sites in India. The principal deities here are Lord Jagannath, Lord Balabhadra & Goddess Subhadra. Puri has garnered a significant place among the pilgrims due to the *Mahaprashada* (ecstatic religious food offering of the deity). Though indigenous food preparations change over time (Nair et al., 2020), the above religious food is still prepared in ancient techniques i.e. in earthen pots over wood fire hearths, keeping its 'Eno-gastronomic' value intact. Hence each & every tourist visiting here partakes *Mahaprashada* (religious food offering') with complete faith and utmost devotion. It is also the site for the famous Chariot Festival which is held annually

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with lots of pomp n' show and tourists from across the globe visit this small religious town of Puri to witness the religious grandeur and the divinity of this place. Furthermore due to the presence of several sacred water bodies including that of *Mahodadhi* (the Bay of Bengal) people arrive here for leisure, business & getting indulged in various religious activities along with pilgrimage. These tourists exhibit different types of behaviour during their travel.

As the behaviour is largely dependent upon the tourists' nature (belief, trust, motivation), place of residence, state, age, education etc, hence analyzing the same will help the Destination Management Organisations (DMOs) for 'planning, development and marketing' of its products and services in a better way. This will ultimately result in the growth of the destination (Van-Vuuren and Slabbert, 2011). But there are very fewer studies related to the 'tourist behaviour' in India and hardly any studies on the travelers visiting "Jagannath Dham", Puri. Hence the current research intends to analyse the 'socio-religious behaviour' of the tourists visiting the destination (Puri, India) from their demographic characteristics.

LITERATURE REVIEW

The literatures were reviewed under three major areas i.e. benefits of analysing Tourist Behaviour, factors affecting tourist behaviour & analysing Religious tourist behaviour.

Benefits of analysing Tourist Behaviour

Clawson and Knetsch (1966) and Goodall (1991) analysed the entire phenomenon associated with the tourist behaviour and stated that it is a result of various inter-connected steps like need assessment, consumption, post-travel experience & revisiting intentions etc. Therefore in-depth analysis of the tourist behaviour will not only help the DMOs (policymakers), DMCs, community, researchers etc but also the tourists arriving at the destination (Pearce, 2005). Similarly, Erasmus et al. (2001) in their model of consumer (tourist) behaviour have given an account of different pre & post-purchase phases and stated that analysis of the consumer behaviour is necessary for adapting to specific situations or specific products that are on offer. According to Juvan et al. (2017) one of the important factors taken into account while planning and formulation of marketing strategies is the analysis of behavioural characteristics of the travelers. As the tourists vary from each other in terms of their behaviour hence DMOs need to segment the tourists so that each of them could be provided with different products and services as per their expectation, need and motivation. Moutinho (1987) argued that recognising & analysing the behaviour of the tourists at different stages of travel is of utmost importance for the tour operators, as it will help them in evaluating the effectiveness of their marketing plans and assist them while developing and implementing tourism-related packages/activities.

Factors affecting tourist behaviour

Moutinho (1987) stated that tourist behaviour is dependent upon various economic and sociological factors like income, education, social status etc. Kassarjian (1971) and Bray (2008) in their studies on consumer behaviour presented that the behaviour is highly dependent & affected by the personality traits of the individual. As people acquire/ learn the traits/ characteristics over a period hence it relies on various environmental factors, In a nutshell, we can say that individuals' behaviour is dependent upon their age, experience and learning aspects. Similarly, Li et al. (2013) argued that tourist behaviour is dependent upon the "generation/ time- period" to which he or she belongs.

This signifies that people from different age groups have different histories, wishes & preferences and hence will exhibit different types of behaviour. According to Sinha and Nair (2021) tourist behaviour is affected by socio-demographic factors like age, gender, marital status, education & income etc. Similarly, Point (2022) identified that several factors that affect tourist behaviour are 'place of origin', 'education' and 'social factors'.

Analysing Religious tourist behaviour

As far as measuring the tourist socio-religious behaviour is concerned Hu and Morrison (2002) stated that one of the major dimensions that can be taken into account is tourists' willingness to interact with the local community and fellow tourists. Similarly, Irimias et al. (2016) argued that other factors that can be used to analyze the religious tourist behaviour are moral obligation, firm religious belief, willingness to donate, purchasing sacred souvenirs etc. Öter and Çetinkaya (2016) studied the behaviour of the tourists visiting the holy site of "House of the Virgin Mary", Turkey, from their demographic characteristics like religion, age, gender etc, and found that young Muslim tourists connect superficially with the place. In the case of 'Euro Turks' & 'male students from younger age group', the superficiality is higher. As far as interest & respect is concerned it increases with age irrespective of the tourists' religion. Similarly, interest is higher among female Muslims in comparison to males. Another research by Liro et al. (2017) regarding the behaviour and motivation of the tourists (visiting the religious site of Krakow, Poland) stated that here tourists exhibit diversified motivation and behaviour. In their study based on the place of origin of the tourists, they found that visitors from Poland show a great interest in the cultural facilities, food outlets /restaurants, handicraft/souvenir shops, sanctuary etc apart from religious objects/ buildings. Further Collins-Kreiner and Kliot (2000) analysed the behaviour of the Christian pilgrims visiting the holy sites in Israel and found that the major influencing factors are age, 'social & economic status' and religious affiliation, whereas the less influencing factors are gender, nationality and race. According to Sârbu et al. (2021) religious belief & participation in religious activities of the younger people are affected by gender, socio-economic status & relationship with parents. But there is hardly any research regarding the behaviour of the tourists travelling to Jagannath Dham, Puri (India). Hence the present study is an attempt to examine the socio-religious behaviour of the tourists from their demographic perspective and suggest quintessential measures for the policymakers and the temple authorities. So the present research has the following objectives;

OBJECTIVES

1. To find out the demographic characteristics of the tourists visiting Jagannath Dham, Puri.

2. To analyse the tourist behaviour (socio-religious) from their demographic characteristics.
3. To identify significant demographic characteristics affecting Tourists' Behaviour & provide suggestive measures.

RESEARCH METHODOLOGY

For achieving the desired results, a systematic research approach was adopted which has been presented in Figure-1. Initially after the reviewing the literature and identifying the research gap, objectives were finalised and hypotheses were formulated. Later a structured questionnaire was devised which had two major sections. The initial section was designed to collect the data related to the demographic characteristics of the tourists visiting Jagannath Dham, Puri like age, gender, marital status, education, state of residence & nature residence. The second section had a total of 17 questions which collected the responses of the tourists related to their socio-religious behaviour, via Likert Scale (values ranging from 5- Strongly Agree [SA] to 1-Strongly Disagree [SD]). A total of 416 tourists were surveyed outside the main entrance of the Jagannath Dham (temple) via convenience sampling, keeping the huge flux of tourists in mind. Later the data cleaning was carried out which resulted in a total of 404 samples which were further analysed as per the objectives. Based on the annual tourist footfall at Puri which is around 1.5 million (OSB, 2020) the sample size of 404 was considered adequate (Leedy and Ormrod, 2005). First of all, the demographic characteristics were studied through frequency and percentage analysis followed by the socio-religious behaviours. The behavioural instrument was first of all tested for reliability (Cronbach's alpha test) and then the factor

Figure 1. Flow chart of the research methodology

reduction technique (PCA) was applied to arrive at fewer dimensions/ factors. So to find the sample's adequacy for factor analysis KMO & Bartlett's Test of Sphericity was carried out before it. Later, 'the obtained factors' were analysed from the demographic characteristics of the respondents through the use of Levene's test, ANOVA/ Robust tests & Post-Hoc tests. Hence a total of six hypotheses were framed which are as follows;

- $H_1 1$: Behaviours of the tourists are significantly associated with their age
- $H_1 2$: Behaviours of the tourists are significantly associated with their nature of residence
- $H_1 3$: Behaviours of the tourists are significantly associated with their marital status
- $H_1 4$: Behaviours of the tourists are significantly associated with their state of residence
- $H_1 5$: Behaviours of the tourists are significantly associated with their education
- $H_1 6$: Behaviours of the tourists are significantly associated with their gender

Apart from the primary data, the secondary data were collected from journal articles, books, conference proceedings, state government reports, websites of DMOs, educational institutions forums/websites, Ph.D. thesis, SIGA/FICCI reports, and Research firm publications, etc.

DATA ANALYSIS AND INTERPRETATION

The collected data were analysed for each of the objectives separately and presented below.

Objective 1: To find out the demographic characteristics of the tourists visiting Jagannath Dham, Puri

The data relating to the demographic characteristics of the tourists (sample size 'N'=404) were collected under six major headings namely; age, nature of residence, marital status, state, education and gender. The results were furnished through frequency and percentage measurement. (Table 1) From the analysis, it could be inferred that 49% of tourists are from the younger age group i.e. (up to 30 years of age). Similarly, people from urban/city areas constitute the majority of the crowd (68.4%). While the number of married people is greater than the unmarried ones, males ousted the females gender-wise. Further, it was observed that most of the tourists (44.8%) are graduates and a nearly similar percentage of tourists arrive from outside Odisha.

Objective 2: To analyse the tourist behaviour (socio-religious) from demographic characteristics

For accomplishing the second objective of the research, the survey questionnaire was initially tested for reliability which gave a positive result i.e. the value of Cronbach's alpha was found to be 0.721 (i.e. α.>0.6). Hence it was considered suitable for further analysis (Tavakol and Dennick, 2011). Later the 17 variables/items used for collecting the data (related
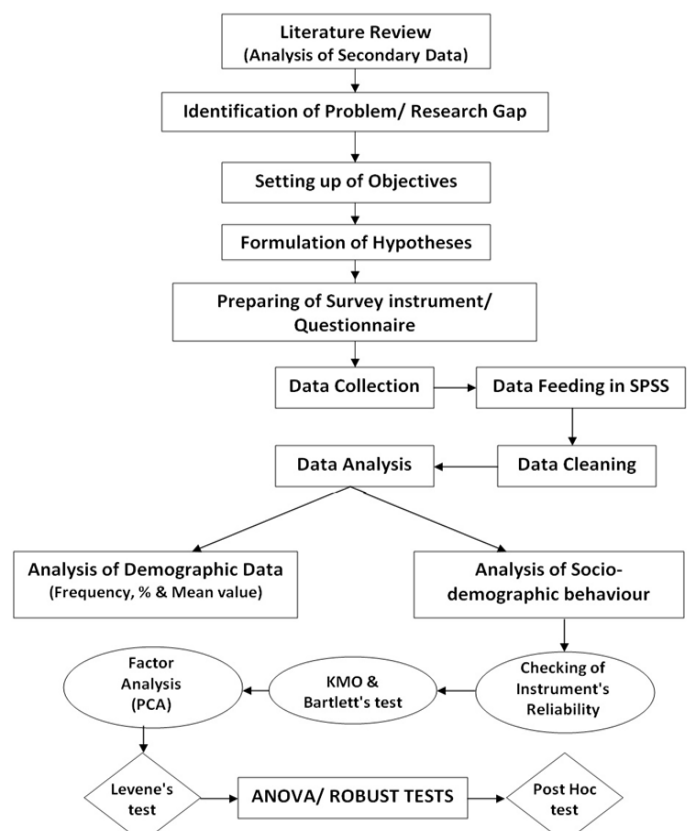
to the socio-religious behaviour of the tourists) were reduced through factor analysis. Bur prior to that, the sample's adequacy was checked through KMO and Bartlett's test which gave the following results i.e. KMO: - 0.608 and Bartlett's Test of Sphericity (sig,): -0.000. Therefore the data were found to be adequate for factor analysis (Rossoni et al., 2016).

Table 1. Demographic characteristics of the tourists visiting Jagannath Dham, Puri (Source: Primary Data) *Total Sample Size (N) = 402*

	Age			Nature of Residence				Marital Status	
	Up to 30 yrs.	31-50 years	51 years & above	Metropolitan	Urban/City	Semi-Urban	Rural/ Village	Single	Married
Frequency	197	145	60	23	275	48	56	171	231
Percentage	49%	36.1%	14.9 %	5.7%	68.4%	11.9%	13.9%	42.5%	57.5%

	State			Education				Gender	
	Odisha	Other East Indian States	Rest of India	Up to (10th) matriculation	Intermediate (+2)	Graduate (+3)	PG & above	Male	Female
Frequency	221	89	92	90	79	180	53	337	65
Percentage	55%	22.1%	22.9%	22.4%	19.7%	44.8%	13.1%	83.8	16.2

2.1 Factor Analysis for Behavioural Dimensions

The application of factor analysis resulted in 7 factors (dimensions) explaining about 60.1% of the variance (Table 2). While the maximum factor loading value was 0.866, the lowest was at 0.530 As the factor loadings were above the accepted limit (i.e. loading> 0.5), the extracted factors were subjected to further analysis (Walker and Maddan, 2013). These seven factors which represent the socio-religious behaviour of the tourists visiting Jagannath Dham, Puri are religious customs adherence, dependence on temple staff, interest in local culture, religious motivation, religious devotion, partaking Mahaprashada, and temple ritual adherence. The initial factor/dimension 'religious customs adherence' comprehended three variables & tourists possessing such behaviour are sincere towards following religious customs like remaining on empty stomach, dressing appropriately and donating while visiting the temple. The second dimension i.e. 'dependence on temple staff' included two variables and this behaviour explains the tourists' level of faith in the temple staff & guides while getting involved in the religious activities.

Table 2. Extracted behavioural factors/ dimensions through factor analysis (Source: Primary Data)

Factors/Dimensions		Variables/ Items	Factor Loading	Composite reliability (α)
F1	Religious customs adherence	I dress in appropriate attire while visiting the temple	.718	0.834
		I prefer to visit the temple empty stomach	.671	
		I donate to the temple as a part of religious practice	.643	
F2	Dependence on temple staff	I prefer to obey the temple staff/priests	.721	0.769
		I take the help of temple guides while visiting the temple	.703	
F3	Interest in local culture	I like to interact with local people	.764	0.714
		I am excited to see the local culture	.626	
		I prefer to shop for Local handicraft products	.601	
		I prefer to consume local cuisine/food	.589	
F4	Religious motivation	I perform the funeral rites of my ancestors	.769	0.701
		I am excited to pay a visit to the Deities (Trinity)	.709	
F5	Religious devotion	I prefer to visit the temple during peak hours	.824	0.689
		I like to take Holy dips at the sacred water bodies	.642	
F6	Partaking Mahaprashada	I prefer to partake Mahaprashada	.866	0.711
		I prefer to have my daily meals at Jagannath temple	.530	
F7	Temple ritual adherence	I respect & attend the religious ceremonies of the Jagannath temple	.699	0.722
		I follow the ritual obligations in the temple	.586	
*Note: KMO- 0.608, Bartlett-848.341, p<0.001.Total Variance Explained 60.1 percent				

'Interest in local culture' is the third behavioural dimension which represents the tourists' likeliness to interact with the local people, enjoy the local culture, purchase ethnic handicrafts & tasting the regional cuisine. Tourists with such behaviour are more attracted to the cultural diversity of the place. The next behavioural dimension is 'religious motivation' which signifies the tourists' motivational level for visiting Puri. Tourists with higher responses are strongly religious (devotees) and their primary motivation for arriving at Puri is 'paying a visit to Lord Jagannath and /or performing Pinda Daan (funeral rites of the ancestor)' to obtain the blessing of the almighty & attain Moksha (Salvation). 'Religious devotion' is the fifth dimension which depicts the tourist's level of willingness to undertake holy dips in the sacred water bodies & visit the temple during peak hours (Morning and evening Aarti i.e. waiving of Lamps in front of the deity). Tourists exhibiting such behaviour are highly dedicated to religious activities and never hesitate to participate irrespective of the heavy crowd during auspicious hours. Another behavioural dimension is 'Partaking Mahaprashada' which represents the tourists' inclination toward the temple's religious food offering. Tourists with such behaviour are highly amazed by the divinity of Mahaprashada hence they love to take it regularly during their stay at Puri instead of partaking it once as a custom. The seventh and final behavioural dimension 'temple ritual adherence' included two variables for measuring the tourists' desire to participate in the religious ceremonies of the temple & the sacred rituals. Tourists with higher responses possess a stronger desire for the religious festivals and rituals obligations while visiting holy places.

Figure 2. Extracted behavioural factors/ dimensions through factor analysis (Source: Primary Data)
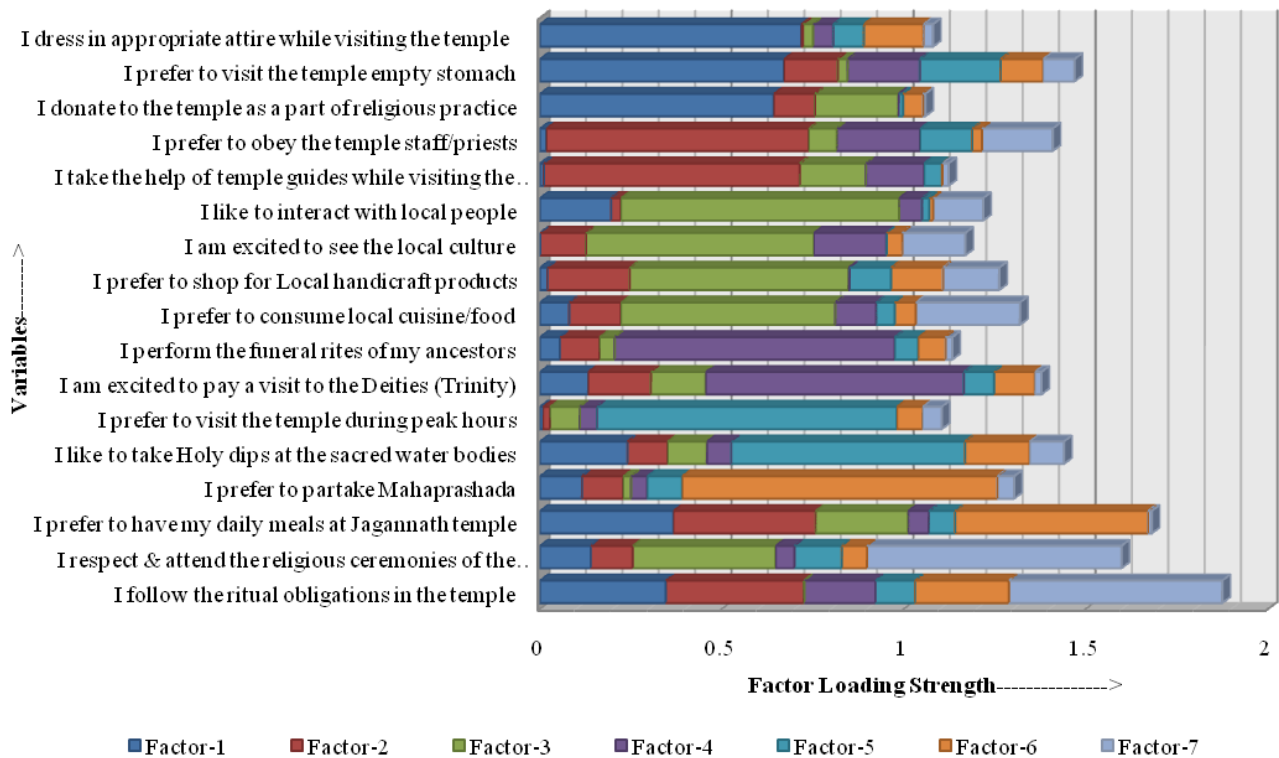
2.2 Analysing the Behavioural Dimensions from Demographic Characteristics:

To accomplish the above, the seven behavioural factors/dimensions were studied against the six demographic characteristics of the respondents by using 'One way ANOVA'/ *t*-test. The demographics which were considered for analysis were age, nature of residence, marital status, state, education & gender.

Table 3. ANOVA on behavioural dimensions for age (Source: Primary Data)

	Factors / Dimensions	Levene Sig.	ANOVA/ Robust Test	Sig. Difference Among Groups		Age Groups Means for Significant Differences		
						Up to 30 years	31--50 years	51 years & above
F1	Religious customs adherence	0.084	ANOVA	.148	No	Non Significant (4.398)		
F2	Dependence on temple staff	0.116	ANOVA	.676	No	Non Significant (2.139)		
F3	Interest in local culture	0.900	ANOVA	.192	No	Non Significant (3.853)		
F4	Religious motivation	0.002	Welch	.037	Yes	3.083	3.227	3.233
			Brown-Forsythe	.043				
F5	Religious devotion	0.160	ANOVA	.006	Yes	3.718	3.375	3.191
F6	Partaking *Mahaprashada*	1.000	ANOVA	.228	No	Non Significant (4.133)		
F7	Temple ritual adherence	0.295	ANOVA	.031	Yes	4.370	4.496	4.575

2.2.1 ANOVA on behavioural dimensions for age

From the application of ANOVA, it was revealed that out of seven behavioural dimensions only one dimension (F4) is giving significant results for 'Levene statistic' (Table 3). Hence for these dimensions, the mean difference was assessed using Welch & Brown-Forsythe test. For the rest of the dimensions, the significance value of ANOVA was used to check the difference in means. The test revealed that four out of the seven dimensions are not having significant differences in their values for different age groups. For 'Religious customs adherence' the mean value is 4.398, which means that tourists of all age groups are adhering to the religious customs. On the contrary, the tourists are not too much dependent on the temple staff for their visit (2.139) & this opinion of tourists is not changing with their age. Further, it was observed that the tourists are showing a considerably strong inclination towards local culture (3.853) irrespective of their age. Apart from this, tourists from all age groups love to Partake *Mahaprashada* (4.133).

But as far as 'religious motivation', 'religious devotion' & 'temple ritual adherence' are concerned, they are found to be varying with the age of the tourists. So to understand more about this difference, the Post Hoc test was applied.

Post Hoc test (Table 4) revealed that as far as 'religious motivation' is concerned, the tourists from the age group of '51 years & above' are significantly higher (3.233) than the ones belonging to the age group of 'up to 30 years' (3.083). But in the case of 'religious devotion', the tourists 'up to 30 years' of age have significantly higher devotion levels (3.718) in comparison to the tourists above 31 years of age (3.375 & 3.191). As far as 'temple ritual adherence' is concerned tourists from the age group of '51 years & above' strongly adhere (4.575) to the sacred rituals of the temple in comparison to the ones 'up to 30 years' (4.370) and this difference is significant. So here it was observed that four out of seven behavioural dimensions are not showing any significant relationship with the age groups hence the alternate hypothesis is rejected.

Table 4. Post Hoc Tests -In-Depth Analysis of Age with behavioural Dimensions (Source: Primary Data) * Only significant results are reported

	Factors / Dimensions	Post Hoc Test	Age Group	Age Group	Sig.
F4	Religious motivation	Tamhane's T2	Up to 30 years	51 years & above	0.045
F5	Religious devotion	Bonferroni	Up to 30 years	31--50 years	0.048
				51 years & above	0.018
F7	Temple ritual adherence	LSD (Least Square difference)	Up to 30 years	51 years & above	0.020

2.2.2 ANOVA on behavioural dimensions for Nature of Residence

To find out the significant difference in the behaviour of the tourists arriving from various places, the behavioural dimensions were analyzed against the tourists' nature of residence i.e. whether they belong to Metropolitan areas/ urban areas/ semi-urban or rural areas. The test results (Table 5) show that the Leven statistic is significant only for the first dimension i.e. Religious custom adherence, hence the value of Welch' & 'Brown-Forsythe' test was considered for analysis. For the rest of the behavioural dimensions, the significance value of ANOVA depicted the difference in mean values. Further it can also be seen that three behavioural dimensions i.e. religious custom adherence, interest in local culture and religious motivation, are showing non-significant results as far as their association with the nature of residence is concerned. It means these behaviours of tourists are not varying with their place of residence. From the analysis of mean values, it can also be stated that devotees remain very much adhered (4.398) to the religious customs irrespective of their 'nature of residence'. Similar is the case for their interest in local culture, which shows a mean value of 4.060, but the religious motivation is found to be moderate among the tourists from different residence groups (3.158). As the remaining four behavioural dimensions are showing significant differences in their values across the various residence groups, it was further analyzed via Post Hoc tests (Table 6).

Table 5. ANOVA on behavioural dimensions for Nature of Residence (Source: Primary Data)

	Factors/ Dimensions	Levene Sig.	ANOVA/ Robust Test	Sig. Difference Among Groups		Nature of residence Means for Significant Differences			
						Metropolitan	Urban/City	Semi-urban	Rural/ Village
F1	Religious customs adherence	0.026	Welch	0.239	No	Non Significant (4.398)			
			Brown-Forsythe	0.268					
F2	Dependence on temple staff	0.610	ANOVA	0.000	Yes	3.087	2.016	2.447	2.089
F3	Interest in local culture	0.111	ANOVA	0.360	No	Non Significant (4.060)			
F4	Religious motivation	0.069	ANOVA	0.494	No	Non Significant (3.158)			
F5	Religious devotion	0.711	ANOVA	0.036	Yes	3.000	3.607	3.166	3.580
F6	Partaking *Mahaprashada*	0.298	ANOVA	0.028	Yes	3.739	4.154	4.020	4.285
F7	Temple ritual adherence	0.341	ANOVA	0.001	Yes	4.434	4.105	4.402	3.994

Table 6. Post Hoc Tests: In-Depth Analysis of Nature of residence with behavioural Dimensions* Only significant results are reported

	Factors/ Dimensions	Post Hoc Test	Nature of Residence	Nature of Residence	Sig.
F2	Dependence on temple staff	Bonferroni	Metropolitan	Urban/City	.000
				Rural/ Village	.004
F5	Religious devotion	Bonferroni	Metropolitan	Urban/City	.032
			Urban/ City	Semi-Urban	.031
F6	Partaking *Mahaprashada*	Bonferroni	Metropolitan	Rural/ Village	.030
F7	Temple ritual adherence	Bonferroni	Rural/ Village	Metropolitan	.024
				Semi urban	.005
			Urban/ City	Semi-Urban	.013

From the Post Hoc tests it was found that, as far as dependence on temple staff is concerned, the Metropolitan tourists are significantly different from the tourists who are from urban and rural areas. Similarly, for religious devotion, the tourists from metropolitan areas are found to be of a different opinion from those of the urbanites and the urbanites also vary from the tourists of semi-urban areas. The willingness to Partake 'religious food offering' (*Mahaprashada*) is also found to be significantly different between the devotees of Metropolitan areas and villages. The final behavioural aspect i.e. 'adhering to the temple rituals' is also varying significantly between the tourists of Metropolitan and rural areas. Similarly, the urbanites are also varying from semi-urbanites and semi-urbanites to villagers in terms of their practice of adhering to temple rituals. Further, the analysis of the mean value shows that, while Metropolitan tourists are indecisive (3.087) about taking the help of temple staff, the urbanites and villagers prefer not to take any help from the staff & visit the temple on their own. The 'religious devotion' is also found to be more among the urban and rural tourists in comparison to metropolitan and semi-urbanites. Though the desire to partake *Mahaprashada* is found to be high among all the tourists, it is higher among the villagers (4.285) in comparison to the Metropolitan tourists (3.739). Further metropolitans and semi-urban tourists are showing strong adherence to the temple rituals (4.434 & 4.402) though tourists from Urban and rural areas also love to participate in the ritualistic activities of the temple (4.105 & 3.994). So based on the behavioural analysis of tourists with their 'nature of residences', it can be stated that the behaviour of the tourists visiting Jagannath Dham, Puri is significantly associated with their places of residence. Hence the alternate hypothesis is accepted.

2.2.3 Independent sample '*t*-test' on behavioural dimensions for Marital Status

The significant difference in the behaviour of the single and married tourists are analysed through the independent sample '*t*-test' (Table 7). It can be seen here that the value of Levene statistic is significant for three dimensions i.e. religious customs adherence, dependence on temple staffs & religious motivation. For the rest four dimensions, it was found to be non-significant. Hence keeping in mind the significance values of Leven statistic, the results of the *t*-test were interpreted.

Table 7. Independent sample '*t*-test' on behavioural dimensions for Marital Status

Factors / Dimensions		Levene Sig.	*t*-test Sig. (2-tailed)	Mean Values	
				Single	Married
F1	Religious customs adherence	.001	.004	4.261	4.498
F2	Dependence on temple staff	.004	.462	Non Significant (2.130)	
F3	Interest in local culture	.898	.632	Non Significant (4.058)	
F4	Religious motivation	.011	.024	3.081	3.208
F5	Religious devotion	.123	.003	3.745	3.350
F6	Partaking *Mahaprashada*	.501	.645	Non Significant (4.129)	
F7	Temple ritual adherence	.292	.169	Non Significant (4.138)	

It was observed that the mean values of three dimensions i.e. 'Religious customs adherence, religious motivation & religious devotion' were varying significantly with the marital status but for the rest of the dimensions, there is no significant difference in the mean values of single & married persons. As far as adherence to the religious customs of the temple is concerned, the married persons are found to be more interested (4.498) in following the religious customs of the Jagannath temple in comparison to the singles (4.261). Further, though both the married and single persons are found to be indecisive as far as religious motivation is concerned, the married persons are seen to be more decisive (3.208) in comparison to the singles (3.081). On the contrary, the religious devotion among the singles (3.745) is found to be higher than that of the married persons (3.350). The rest of the behavioural dimensions are not affected by the marital status of the respondents. This signifies that irrespective of their marital status, tourists possess a higher interest in local culture, partaking of *Mahaprashada* & adhering to temple rituals. But they don't feel like being dependent on the temple staff for visiting the temple. Hence it can be stated that the behavioural dimensions of tourists are not significantly associated with their marital status. Therefore the alternate hypothesis is rejected.

2.2.4 ANOVA on behavioural dimensions for State

The seven behavioural dimensions were analyzed against three state groups i.e. Odisha, Other East Indian states & rest of India. The results of Leven statistics were found to be non-significant for 3 dimensions i.e. religious custom adherence, religious devotion & temple ritual adherence, for which the Significance value of ANOVA was considered for analysis. For the rest four dimensions, the value of Welch & Brown-Forsythe Test was analyzed (Table 8). The test results depicted that tourists' interest in local culture, their religious devotion, and willingness to adhere to the temple rituals, are not affected by their state of residence. From the mean values, it can be seen that all the tourists were very much interested (4.060) in the local culture of the region & moreover loved to follow the rituals of the temple (4.144). On the contrary, the tourists didn't possess a strong devotion (3.516) towards religious activities. The other behavioural dimensions show a significant difference in their mean values among the tourists from various state groups, hence were further studied through Post Hoc Tests.

Table 8. ANOVA on behavioural dimensions for State

Factors/ Dimensions		Levene Sig.	ANOVA/ Robust Test	Sig. Difference Among Groups		State Means for Significant Differences		
						Odisha	Other East Indian States	Rest of India
F1	Religious customs adherence	0.127	ANOVA	.031	Yes	4.334	4.588	4.369
F2	Dependence on temple staff	0.016	Welch	.000	Yes	1.855	2.500	2.472
			Brown-Forsythe	.000				
F3	Interest in local culture	0.041	Welch	.530	No	Non Significant (4.060)		
			Brown-Forsythe	.502				
F4	Religious motivation	0.000	Welch	.000	Yes	3.278	3.016	3.005
			Brown-Forsythe	.000				
F5	Religious devotion	0.144	ANOVA	.068	No	Non Significant (3.516)		
F6	Partaking *Mahaprashada*	0.041	Welch	.000	Yes	4.366	3.887	3.809
			Brown-Forsythe	.000				
F7	Temple ritual adherence	0.904	ANOVA	.556	No	Non Significant (4.144)		

Table 9. Post Hoc Tests: In-Depth Analysis of state with behavioural Dimensions* Only significant results are reported

Factors/ Dimension		Post Hoc Test	State	State	Sig
F1	Religious customs adherence	Bonferroni	Odisha	Other East Indian States	.028
F2	Dependence on temple staff	Tamhane's T2	Odisha	Other East Indian States	.000
				Rest of India	.000
F4	Religious motivation	Tamhane's T2	Odisha	Other East Indian States	.000
				Rest of India	.000
F6	Partaking *Mahaprashada*	Tamhane's T2	Odisha	Other East Indian States	.000
				Rest of India	.000

From the analysis of Post Hoc tests (Table 9), it can be stated that as far as adhering to the religious customs is concerned, Odisha tourists are showing a significant difference in their behaviour in comparison to the tourists from other East Indian states. But for other behavioural aspects like dependence on temple staff, religious motivation & Partaking of *Mahaprashada*, the Tourists from Odisha are different in their opinion from all other tourists coming from outside the state. For behaviour associated with 'religious customs adherence', the mean value for 'other East Indian

states' is higher (4.588), as against the tourists from Odisha (4.334). It means the tourists from the other East Indian states are more sincere about following the religious customs of the temple. Further, it was observed that, though all the tourists show a very little dependency on the temple staff, the Odisha tourists are the ones who have the least faith (1.855) in the temple staff and prefer to visit without shouting any assistance from them. On the contrary, the local (Odisha) tourists are a bit highly motivated (3.278) to visit Jagannath Dham in comparison to the tourists from outside the state, though all of them have a fair motivation to travel Puri. The willingness to partake *Mahaprashada* is found to be highest (4.366) among the tourists from Odisha, followed by the tourists from other East Indian states (3.887) & rest of the states in the country (3.809). This signifies that the desire for partaking *Mahaprashada* has decreased considerably among the tourists who are staying far away from the canopy of Lord Jagannath. Hence overall, it can be argued that behaviour of the respondents is significantly changing with their state of residence. So the alternate hypothesis is accepted.

2.2.5 ANOVA on behavioural dimensions for Education

From the analysis of education with behavioural dimensions, it was revealed that the Levene statistic is non-significant for all the dimensions hence the significance value of ANOVA was considered for analysis.

Table 10. ANOVA on behavioural dimensions for Education

	Factors/ Dimensions	Levene Sig.	ANOVA/ Robust Test	Sig. Difference Among Groups		Educations Means for Significant Differences			
						Up to 10th /Matric.	Intermediate (+2)	Graduate (+3)	P.G & above
F1	Religious customs adherence	0.343	ANOVA	.506	No	Non Significant (4.398)			
F2	Dependence on temple staff	0.984	ANOVA	.923	No	Non Significant (2.139)			
F3	Interest in local culture	0.789	ANOVA	.623	No	Non Significant (3.853)			
F4	Religious motivation	0.057	ANOVA	.426	No	Non Significant (3.158)			
F5	Religious devotion	0.303	ANOVA	.536	No	Non Significant (3.516)			
F6	Partaking *Mahaprashada*	0.666	ANOVA	.000	Yes	4.444	4.113	3.963	4.207
F7	Temple ritual adherence	0.357	ANOVA	.120	No	Non Significant (4.446)			

The results of ANOVA (Table 10) revealed that out of seven dimensions only one (Partaking *Mahaprashada*) is giving significant results. This signifies that the rest six behavioural dimensions i.e. religious customs adherence, dependence on temple staff, interest in local culture, religious motivation, religious devotion & temple ritual adherence are not changing with the education of the tourists. From the analysis of mean values, it can be stated that tourists are showing a great deal of adherence to the religious customs (4.398) & temple rituals (4.446), irrespective of their education. It means though tourists are having different levels of education, they respect the religious customs and rituals of the temple from the core of their hearts. Similarly, the tourists have a higher interest in local culture (3.853) irrespective of their level of education. As far as religious motivation and devotion are considered it was observed that all the tourists have a fair amount of motivation and devotion towards the deities and the religious activities of the temple, and their education doesn't have any impact on it. Further, it was also found that tourists from all education groups are showing very less faith (2.139) in the staff of the temple and mostly they prefer to visit the temple on their own. The only behavioural dimension (Partaking *Mahaprashada*) which shows a significant difference between the 'educations groups' is further analyzed through Post Hoc Tests. The results of Post Hoc tests (Table 11) illustrated that tourists with education 'up to 10th/matriculation' are different from the intermediate (+2) & graduate (+3) tourists in terms of their willingness to Partake *Mahaprashada*. While the willingness was found to be highest (4.444) in the case of visitors with the education of 'up to 10th', it was lowest among the intermediates (4.113) & graduates (3.963). Irrespective of the above difference tourists from all education groups are having a higher interest in Partaking *Mahaprashada* as the mean value stands close to (4.000). Hence overall we can argue that education has hardly any effect on the behaviour of tourists visiting Jagannath Dham. Therefore the alternate hypothesis is rejected.

Table 11. Post Hoc Tests: In-Depth Analysis of Education with behavioural Dimensions* Only significant results are reported

	Factors / Dimensions	Post Hoc Test	Education	Education	Sig.
F6	Partaking *Mahaprashada*	Bonferroni	Up to 10th /Matriculation	Intermediate (+2)	.033
				Graduate (+3)	.000

2.2.6 Independent sample '*t*-test' on behavioural dimensions for Gender

The results of *t*he t-test were interpreted keeping in mind the significance of the Levene statistic. Table 12 depicts that mean values of the first and third dimensions i.e. religious custom adherence & interest in local culture, are varying significantly with gender. For the rest of the dimensions, there is no difference in the mean for males and females. For religious customer adherence, the mean value for females (4.589) is high in comparison to males (4.362). This signifies that female tourists are more concerned about following the religious customs of Jagannath temple at Puri. On the contrary, males are more interested in local culture (4.120) in comparison to females (3.753). The rest of the five behavioural dimensions are not impacted by the gender of the respondents. It means that irrespective of their gender, tourists are hardly depending on temple staff (2.194) and they have a fair motivation level & devotion towards religious activities (3.162 & 3.459). Similarly, all the tourists agreed that they adhere to the rituals of the temple (4.143) & love to partake *Mahaprashada* (4.107). Hence in overall, it can be said that behavioural dimensions of tourists in Jagannath Dham are not dependent on their gender. Therefore the alternate hypothesis is rejected.

Table 12. Independent sample '*t*-test' on behavioural dimensions for Gender

	Factors/ Dimensions	Levene Sig.	*t*-test Sig. (2-tailed)	Mean Values	
				Male	Female
F1	Religious customs adherence	.077	.030	4.362	4.589
F2	Dependence on temple staffs	.870	.311	Non Significant (2.194)	
F3	Interest in local culture	.454	.001	4.120	3.753
F4	Religious motivation	.749	.861	Non Significant (3.162)	
F5	Religious devotion	.026	.306	Non Significant (3.459)	
F6	Partaking *Mahaprashada*	.081	.476	Non Significant (4.107)	
F7	Temple ritual adherence	.038	.991	Non Significant (4.143)	

Objective 3: To identify the significant demographic characteristics affecting Tourists' Behaviour and provide suggestive measures

The analysis of tourist behaviour from their demographic characteristics resulted in the following findings;

1. The socio-religious behaviour of tourists is *not significantly* associated with their age.
2. The socio-religious behaviour of tourists is *significantly* associated with their 'nature of residence'.
3. The socio-religious behaviour of tourists is *not significantly* associated with their marital status.
4. The socio-religious behaviour of tourists is *significantly* associated with their state of residence.
5. The socio-religious behaviour of tourists is *not significantly* associated with their education.
6. The socio-religious behaviour of tourists is *not significantly* associated with their gender.

Hence from the above findings, it can be concluded that the '**Nature of residence'** and '**State'** of the respondents are the only **two significant demographic factors** affecting the tourist behaviour**.** The rest of the demographic factors don't affect the socio-religious behaviour of the tourists significantly as only a few of the behavioural dimensions were influenced by these characteristics.

RECOMMENDATION / SUGGESTIONS

On the basis of various findings, the following measures were suggested for the betterment of the destination as well as the cumulative development of the society. They are:

1. As the percentage of old aged tourists (51 years & above) is minimal i.e. 14.9%, hence the temple administration and local DMO must take necessary steps for attracting aged tourists such as senior citizen service centres, free shuttle vehicles, separate queues in the temple, assisted service providers, emergency free medical services etc.

2. Jagannath Dham, Puri receives only 22.9% of the tourists from across the country (apart from the east Indian states) and further a mere 5.7% of tourists from Metropolitan areas. It signifies the need for its marketing & promotion across the various states of the country along with the thriving metropolitan areas.

3. It was observed that 77.6% of the tourists arriving at Puri were literate hence it will be easier to create awareness as well as implement various rules and regulations related to cleanliness, crowd management and sustainability practices etc.

4. As people from all age groups were showing a very low dependency on the temple staff (due to the fear of cheating), hence the temple authority should promote **faith-building activities** like the appointment of official temple guides, rate fixation for different activities, 'etiquette & behavioural training' of temple staffs etc.

5. The tourists' moderate to high interest in local culture (3.853) irrespective of their age shows the potential of the cultural tourism market hence the local tourism authority should take necessary steps for encouraging residents to capture the entrepreneurship opportunities in the field of 'handicrafts', 'religious food' and 'rural tourism'.

6. Tourists from all age groups are partaking *Mahaprashada* (4.133) hence they must be made aware of the 'food tour facility' available for witnessing the preparation of the divine food offering, in turn adding a value-added religious service for the tourists.

7. As it was observed that people from the age group of '51 years & above' are having a stronger adherence to the temple rituals (4.575) in comparison to the younger ones, hence the temple administration should focus on crowd management & assisted service.

8. The desire to partake *Mahaprashada* is found to be less in the case of Metropolitan tourists (3.739) as well as tourists from outside Odisha, hence it is necessary to create awareness about the divinity of this religious food offering through local interpreters (guides).

9. The rural/village people are found to be less adhering to temple rituals (3.994) in comparison to the metropolitan and semi-urban tourists so there is a need to attract these segments of tourists to the temple festivals and rituals to increase their duration of stay at Puri (Odisha).

CONCLUSION

Jagannath Dham, India has been a site of great religious importance since eternity. Apart from this, its image as a vacation destination has also been sought by several tourists (Sahoo, 2018). Hence behavioural difference among the tourists is quite obvious. So upon the analysis of the tourists' behaviour from their demographic profile, it was observed that behavioural characteristics are significantly associated only with the 'state of the residence' and 'nature of residence' of the travelers. Whereas other demographic factors like age, education, gender and marital status are not significantly affecting the tourist behaviour. Among the major findings were that the share of tourists arriving from across the country is less than 23% and the percentage of old aged tourists (51 years & above) is very minimal. Further people from 'all age groups' show a very little dependency on the temple staff but 'moderate to high interest' in local culture. Likewise the 'Metropolitan tourists' &

'tourists from outside Odisha' show a lesser desire to partake Mahaprashada in comparison to others whereas rural people are less adhering to rituals in comparison to the metropolitan and semi-urban tourists. Hence if the given suggestions were implemented then certainly the destination will be able to create a better image among the tourists and attract them positively.

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ECONOMIC VALUATION AND THE DETERMINANTS OF DEMAND FACTORS OF BANDUNG STRAWBERRY AGROTOURISM, WEST JAVA, INDONESIA

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Abstract: Strawberry agrotourism is the most extensive strawberry farming in Bandung, West Java. This agrotourism has the potential for nature, tourism, conservation, and regional economic potential. This research aims to identify the characteristics and assessment of visitors, identify factors influencing tourism demand, and estimate the value of the agrotourism economy. The economic value is analyzed using the method of TCM (Travel Cost Method). This method is calculated based on total consumer surplus, travel cost coefficient, and respondent visits. The average travel cost incurred by 379 respondents during the trip is IDR. 413,699, and the total cost of the entire journey is IDR.156,792,000. The surplus of consumer visits is IDR. 12,670, and the individual consumer surplus visits are IDR.33. The economic value generated for one year is IDR. 237,600. The factors that influence the demand are income, distance, and time to know the location. At the same time, the factors that do not affect the market are travel cost, education, number of dependents in the family, gender, and age of visitors.

Key words: Agrotourism, Economic Value, Travel Cost Method (TCM)

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INTRODUCTION

Bandung Regency has high tourism potential. Bandung Regency has five key development priorities to boost regional economic growth. The six top sectors are determined by examining their current contribution and potential development opportunities. Bandung Regency's economic development priorities include, among others, agribusiness, tourism, household crafts, manufacturing industry, and trade in services (Bandung, 2021). The attraction is dominated by scenic beauty in the area and the culture in the city. The homogeneity has satisfied tourists to visit only one or two of them, for they have represented all of them. Another consequence is that they choose the relatively close ones to the city as a tourism gate from the northern Bandung. Bandung has recently developed many more tourist recreation areas, one of which is Strawberry Agrotourism. Strawberry Agrotourism is a strawberry picking tour in the Ciwidey area, Bandung, West Java, with about three hectares of garden area. This tourist spot provides an opportunity for consumers who want to pick strawberries and fresh vegetables directly in the garden, so this business is also known as a tourist spot that is a choice for many local and foreign tourists. Strawberry agrotourism also attracts tourism, research, conservation, and other interests.

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This agrotourism has a good impact as an innovation in agribusiness in creating added value for business and improving the economy in Indonesia. The situation follows the government's priority program in developing leading sectors in 2021, namely the tourism sector, which can be created from the agricultural industry. This agrotourism is right in the southern Bandung, Ciwidey Subdistrict, which becomes a challenge for this business development process. These challenges can be in the form of opportunities for land conversion, contamination of tourist sites due to community activities, and other impacts that can affect the surrounding environmental conditions. Based on these conditions, it is necessary to study how much people are willing to maintain the existence of agrotourism locations by looking at the economic value of their natural resources (Brundtland Commission, 1987; UNWTO, 2018). The formulation of this study's problem is how visitors' characteristics and assessment of Strawberry Agrotourism objects, what factors influence the demand for Strawberry Agrotourism recreation, and how the economic value generated by Strawberry Agrotourism with Travel Cost Methods approach. The purpose of the research is to identify the characteristics and assessments of visitors to the Strawberry Agrotourism object, find out what factors influence the demand for Strawberry Agrotourism recreation, and estimate the economic value generated by the Strawberry Agrotourism object with the Travel Cost Methods approach.

LITERATURE REVIEW AND METHODS

For many authors, the key distinguishing feature of agritourism is a working farm; tourism is an additional source of income for farm households (Gladstone and Morris, 2000; Iakovidou, 1997; Kizos and Iosifides, 2007; Sonnino, 2004). As a result, many definitions of 'nonworking farm' (NWF) agritourism could be identified as generic rural tourism, making it the most contentious type of agritourism in the proposed typology. Although much of the literature excludes tourism that is not based on a working farm, there are some examples where it has been suggested that tourists can participate in agritourism in which the connection to farming is made in some other way. Indeed, Fleischer and Tchetchik (2005) conclude that a working farm is unnecessary from a tourist's standpoint. According to Jaworski and Lawson's (2005) findings, new agritourism providers, such as "increasingly present sanitized depictions of farming, lapsed farmers and townies settling in the countryside". In most cases, NWF agritourism is realized through agricultural heritage or imagery (e.g., lodging in a converted farmhouse) or where agricultural practices, past or present, are incorporated into the tourist product (e.g., sheep shearing demonstrations located at a woolen mill). Farm heritage attractions and tourism activities based on converted farms are other examples of NWF agritourism (e.g., horse riding). They might be able to have farmers' markets and farmland access (e.g., walking where the working farm is not central to tourist activity). What distinguishes NWF agritourism from rural tourism is the connection to agriculture or agricultural heritage made in a way other than a working farm location. Several research explained that agricultural cultivation objects or attractions that have the potential and can be used for agrotourism include plantations, food crops, horticulture, livestock, and fisheries (Schlapfer et al., 2015; Santos et al., 2016; Rostika et al., 2018; Khan et al., 2020; Farkas et al., 2022).

Factors Affecting Agrotourism Demand

Luechinger (2008) and Rizal and Dewanti (2017) said that tourism demand factors are: (1) physical motivation, namely the interest in returning to fitness because of continuous work; (2) cultural motivation, namely the willingness to witness the level of cultural progress of a nation; (3) personal motivation, namely the desire to visit relatives who have not seen each other for a long time; (4) status and prestige motivation, namely people who think that traveling can improve the family status and show they have the ability than other people. Panduro and Veie (2013) said that those that affect tourism demand are price, income, socio-cultural, socio-political, family intensity, expenses of substitute goods, and costs of complementary goods. Shammin (1999) said that the aspects of tourism offerings are attraction, transportation, facilities, and institutions.

Tourism Economic Value

Economic valuation is a measurement method for transforming the value of non-market goods or services into monetary value. An economic valuation can be used for several purposes, including examining some of the contributions made by an ecosystem to human well-being, understanding the consequences that policymakers will face in managing ecosystems, and evaluating the implications of the actions taken (Ward and Beal, 2000; Lansdell and Gangadharan, 2003; Perman et al., 2003; Rizal, 2016; Farkas et al., 2022). The economic valuation method is also explained by Luechinger (2009) and Santos et al. (2016) that the valuation approach can use several methods, including: (1) market price method; (2) productivity methods; (3) hedonic price method; (4) method of travel expenses; (5) methods of avoiding the cost of damage; (6) uncertainty assessment method; (7) the method of choice of uncertainty; and (8) benefit transfer method.

Travel Cost Method (TCM)

The Travel Cost Method assesses a resource with no market value (non-market resources) and can model the demand for environmental services in recreational activities (Shammin, 1999; Ward and Beal, 2000; Lansdell and Gangadharan, 2003). According to Perman et al. (2003), Rizal (2016), and Rizal and Dewanti (2017), the travel cost method analyzes the market for outdoor recreation, such as fishing, hunting, hiking, and other events outdoor recreation. In simple terms, the above query function can be written as follows (Shammin, 1999; Ward and Beal, 2000; Lansdell and Gangadharan, 2003; Perman et al., 2003; Rizal, 2016): $Vij = f (Cij, Tij, Qij, Sij, Mi)$

Where: **Vij:** number of visits by individual-i to location-j; **Cij:** travel expenses incurred by individual-i to visit location; **Tij:** cost of time required by individual-i to visit location-j; **Qij:** respondent's perception of the environmental quality of the place visited; **Sij:** the characteristic of substitution that may exist elsewhere, and Mi is the income of the individual-i.

Travel Expenses

The calculation of travel costs, as has been done by Ward and Beal (2000), Lansdell and Gangadharan (2003), Perman et al (2003), Rizal (2016) can be formulated as follows:

BPt = BTr + BDk + BK + BP + BSv + BTk + BL … (Ward and Beal, 2000; Rizal, 2016). Where: **BPt** = Travel Cost (IDR/person/visit); **BTr** = Transportation Cost (IDR/person/visit); **BDk** = Documentation Fee (IDR/person/visit); **BK** = Consumption Cost During Recreation (IDR/person/visit); **BP** = Parking Fee (IDR/person/visit); **BSv** = Souvenir Fee (IDR/person/visit); **BTk** = Entrance Fee (IDR/person/visit); **BL** = Other Costs (IDR/person/visit).

Travel Cost Approach Teknik

Shammin (1999), Ward and Beal (2000), Lansdell and Gangadharan (2003), Perman et al. (2003) and Rizal (2016) describe, in general, there are two simple techniques used to determine economic value based on the travel cost method. The methods are (1) the zone travel cost method (ZTCM) and (2) ITCM (individual travel expense method) that specify a recreation area, divide the surrounding area into concentric zones at wider intervals, and raise the rank of travel expenses. Similar to ZTCM, but uses survey data from individual visitors for statistical analysis of each zone. This method requires more data collection and more complex analysis but will give more precise results.

In this section, we will look at how ZTCM can be used to estimate demand and consumer surplus. The cost of travel, including any possible entry fees, and other independent relevant variables determine demand. A common approach is the procedure used and discussed by Shammin (1999), Ward and Beal (2000), Perman et al. (2003), and later by Prayaga et al (2006). OLS derives the "trip generation function" (TGF) from average zonal travel costs and other variables. Ward and Beal (2000) define it as a "demand function for the site's recreational experiences." Lansdell and Gangadharan (2003) propose the TGF specification $vi = f (TC_i, X1_i, . . ., Xni)$. The dependent variable "visits per year from zone i (vi)" is regressed on the independent variables "average travel cost from zone i (TC_i)" and socio-economic variables $(X1_i..., Xn_i)$ (averaged for zones, might be included). The "entry price (P)" variable would be added to the TC_i variable. After estimating the functional relationship using survey data, it is used to estimate other points on the demand curve.

Consumer Surplus Model

Turnovsky et al., (1980), Ward and Beal (2000) and Lansdell and Gangadharan (2003) explains that consumer surplus measures the excess value received by consumers from an item over what they pay for. Consumer surplus is a proxy of the value of WTP to recreational locations to estimate economic value. The consumer surplus can be measured through the formula (Ward and Beal, 2000; Lansdell and Gangadharan, 2003):

WTP the $\approx$ *Consumer Surplus $(CS_1) \approx N^2/2b_1$* for the linear demand function, and

WTP $\approx$ *Consumer Surplus $(CS_2) \approx N/\alpha_1$*, for the log-linear demand function

The average consumer surplus can be calculated by dividing the linear TGF equation above by the number of visits, namely: $(CS/V) = (\beta_0/2\beta_1)$ (Ward and Beal, 2000; Lansdell and Gangadharan, 2003):

for the log-linear function of consumer surplus is:

$CS = V/2\beta_1 = (e^{(\beta_0 + \beta_1 TC)})/2\beta_1$ (Ward and Beal, 2000; Lansdell and Gangadharan, 2003):

with an average consumer surplus of:

$(CS/V) = (1/2\beta_1)$ (Ward and Beal, 2000; Lansdell and Gangadharan, 2003):

while for the inverse log function, the consumer surplus is obtained by Ward and Beal (2000) and Lansdell and Gangadharan (2003): $CS = \beta_1 (e^{\beta_0/\beta_1} - TC) - \beta_0 TC + \beta_1 TC \ln TC$

or the average consumer surplus (Ward and Beal, 2000; Lansdell and Gangadharan, 2003):

$(CS/V) = [((\beta_1 (e^{\beta_0/\beta_1} - TC))/2\beta_1)/ (\beta_0 - \beta_1 \ln TC)] - TC$

Where: CS = consumer surplus; β_{0-1} = Coefficient; V = number of visits; TC = travel expenses; In = inverse

Multiple Linear Regression

Analysis of the factors that influence the frequency of visits was carried out using multiple linear regression. Regression shows the relationship between two variables which shows the overall pattern of the dependent variable (Y) against an independent variable or explanatory variable (X). Multiple linear regression, according to Gujarati (2012), takes the form:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + ... + \beta_k X_{ki} + \varepsilon_k$ (Gujarati, 2012)

Where: Y = linear function of some independent variables $X_1, X_2, …, X_k$, and the error component; i = observation number from 1 to N for population data, or up to n for sample data; X_{ki} = the i-th observation for the independent variable X_k; k = regression model intercept; ε = random confounding variable.

Method of Sampling

The population of this study was limited to local visitors who came to the Strawberry agrotourism site in the southern Bandung, Ciwidey Subdistrict, West Java Province. Meanwhile, sampling was carried out using a nonprobability sampling method with a quota sampling technique. Determination of the number of samples from the population is done using the slovin formula (Sevilla, 2007), namely: $n = N / (1 + N (e)^2)$ (Sevilla, 2007)

Where: n = sample size; N = population size; e = percent leeway by 5%;

Based on this formula, the number of samples was 379 respondents with an error limit of 5%. Data collection in the study was carried out using a survey method, namely through interviews, questionnaires, and observations. The data collected consists of two types, namely primary data and secondary data. Primary data include: 1) Characteristics of visitors such as age, gender, education, occupation, income, motivation to visit, and manner of arrival; 2) Place of origin; 3) The number of

recreational visits made; 4) Total recreation costs incurred by each individual; 5) Visitors' assessment of the area and services such as location, air cleanliness, environmental Hygiene, recreational facilities, security, as well as services and information from the manager. Secondary data needed include the characteristics of Strawberry Agrotourism such as history and status of the area, area, location, physical condition, tourism potential, supporting facilities, and so on obtained from literature studies.

DATA ANALYSIS
Variable Determination and Measurement
There are so many factors that influence the demand for tourism; therefore, in this analysis, only a few factors are selected that generally affect the demand for tourism (agrotourism). These factors include travel costs, income level, education level, family dependents, distance traveled, gender, length of time knowing the location, and age of visitors.

Identifying the Demand Factors for Strawberry Agrotourism
The demand function for Strawberry Agrotourism and the factors that influence it are modeled in the form of regression and are estimated as follows (Ward and Beal, 2000; Lansdell and Gangadharan, 2003):

$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + e$

Where: Y = Frequency of visits to Strawberry Agrotourism; X_1 = travel costs incurred by each individual to the location of Strawberry Agrotourism (IDR/person); X_2 = visitor income level (IDR/month); X_3 = education level (years); X_4 = dependents in the family (person); X_5 = distance traveled (km); X_6 = Gender (1 = male, 0 = female); X_7 = long time knowing Strawberry Agrotourism (years); X_8 = visitor age (years); $B_0 - b_8$ = regression coefficient; e = error term.

The best linear unbiased estimator Test Criteria
- **Normality test:** According to Lista (2014), the normality test is needed to test whether the error term of the observation data is close to the normal distribution so that the t statistic can be said to be valid.

- **Multicollinearity Test:** Multicollinearity means that there are multiple perfect linear relationships between the regression model's independent variables (X) (Lista, 2014).

- **Heteroscedasticity Test:** Lista (2014) says that the variation of the confounding factor is always the same from one observation data to another. If this characteristic is fulfilled, it means that the variation of the confounding factor in the data group is homoscedasticity or var $(\varepsilon_i^2) = \sigma^2$. The steps for testing heteroscedasticity with the Glejser test, namely by regressing the absolute value of the residual with the independent variable, as for the description as follows:

$| s_t | = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + ... + \beta_n X_n + \varepsilon$ … (Lista, 2014) H_0: no heteroscedasticity; H_1: there is a heteroscedasticity problem

If F-count < F-table or by using P-value > α, then accept H_0 or there is no heteroscedasticity residual

- **Autocorrelation Test:** This test looks for temporal (time series) or spatial (cross-section) correlations between datasets. Autocorrelation detection is performed using the Durbin-Watson (DW) test with the following assumptions (Lista, 2014): H_0: there is no serial autocorrelation, either positive or negative; H_1: there is a serial autocorrelation;

H_0 is rejected if $d < dL$ or $d > 4 - dL$ and H0 is accepted if $dU < d < 4 - dU$;

Analysis of the Economic Value of Strawberry Agrotourism
The calculation of travel expenses was conducted by Shammin (1999), Ward and Beal, 2000; and Lansdell and Gangadharan, 2003 research can be formulated as follows (Ward and Beal, 2000; Lansdell and Gangadharan, 2003):

$BPt = BTr + BDk + BK + BP + BSv + BTk + BL$ - Where: BPt = Travel Cost (IDR/person/day); BTr = Transportation Cost (IDR/person/day); BDk = Documentation Fee (IDR); BK = Consumption Cost During Recreation (IDR/person/day); BP = Parking Fee (IDR); BSv = Souvenir Fee (IDR); BTk = Admission Fee (IDR); BL = Other Costs (IDR)

Meanwhile, the calculation of the average cost of a visitor's trip to Strawberry Agrotourism uses the following formula (Ward and Beal, 2000; Lansdell and Gangadharan, 2003; Rizal, 2016):

$ATC = \sum(BPT/n)$ (Ward and Beal, 2000; Lansdell and Gangadharan, 2003). Where: ATC = Average cost of a visitor's trip; BPT = Total amount of visitor's travel cost; n = Number of visitors interviewed.

The value of consumer surplus can be calculated using the travel cost coefficient with the following formula (Turnovsky et al., 1980; Ward and Beal, 2000; Lansdell and Gangadharan, 2003): $SK = (\beta_0 - \beta_1 TC)^2 / 2\beta_1$

This equation can also be simplified to (Ward and Beal, 2000; Lansdell and Gangadharan, 2003):

$SK = N^2/2b_1$ - Where: SK = Visitor consumer surplus (IDR); N = Number of visits period; β_1 = Travel cost coefficient

Furthermore, to estimate the economic value of visits to Strawberry agrotourism activities, this value is obtained from the total consumer surplus of visitors (Ward and Beal, 2000; Lansdell and Gangadharan, 2003).

$NE = SK \times TP$ - Where: NE = Strawberry agrotourism economic value in one year; SK = Visitor consumer surplus IDR); TP = Total number of visitors in one year.

RESULTS DISCUSSIONS
Strawberry Agrotourism was founded in 2008 and is one of the tourist attractions in the Ciwidey area of Bandung that offers strawberry picking tours directly from the garden. In 2013 Strawberry Agrotourism added to its business by creating a new branch in the Ciwidey Resort area. The land located in Ciwidey Resort is also leased land. The vision of Strawberry Agrotourism is to become the widest strawberry agrotourism for the West Java region, especially the Ciwidey area and its

surroundings. Strawberry agrotourism also has a mission: to become an agrotourism that is mutually beneficial between stakeholders and can empower the surrounding community. This agrotourism location can be reached by using private vehicles or public transportation. The main object of the Strawberry agrotourism ride is strawberry picking and organic vegetables. Strawberry also provides a variety of play facilities, ranging from passages such as the All-Terrain Vehicle (ATV), wagons, and riding horses. Some Strawberry Agrotourism areas can also be used as minimalist outbound areas, such as a place to play stilts, sack races, tug of war, to fishing competitions in several spots in the form of ponds. Besides enjoying the natural atmosphere while picking strawberries and vegetables, the manager also offers educational packages about strawberries, ranging from learning to plant to processing techniques for strawberries into lunkhead or jam.

Characteristics of Strawberry Agrotourism Visitors

The number of visitors who were selected as respondents was 379 people. 192 people, or 50.7%, were men, and the remaining 187 people, or 49.3%, were women. In comparison, the percentage of visitors' age is shown in Table 1.

The average visitor comes from Jakarta, Bogor, Depok, Tangerang, and Bekasi (Jabodetabek). Figure 1 below illustrates the percentage of visitors (%). The town of Jakarta is the most significant region of beginning for Bandung agrotourism visitors. As the nation's capital, Jakarta, has an excessive depth for its citizens in sporting out their day by day lives, each work, school, and interactions among citizens, which is exacerbated with the aid of using the Covid 19 pandemic which limits the gap for citizens to move, this consequences in extended physical, mental, and emotional stress, this issue is what drives a person to tour to a visitor appeal which consistent with him will deliver an experience of love, pleasure, joy, and satisfaction, specifically in nature tourism activities (Chebli and Foued, 2020; Ioannides and Gyimóthy, 2020).

On the other hand, agritourism visitors coming from the city of Jakarta have relatively higher levels of education than visitors from other cities; visitors with a higher level of education tend to be more open-minded and have an academic motivation that can provide benefits and add value through their insight, experience, and knowledge of nature. In contrast, the characteristics of education can be seen in Table 2. Based on the type of work, the average visitor working as a private employee is 36.1% or 137 people, active as a student is 25.9%, entrepreneur (16.1%), Housewife (7, 9 %), not working (7.4% %), government employees (4.2 %), retirees (1.1 %), housemaids and teachers (0.5 %), and Tour Guides (0.3 %). Visitors who come to tourist sites on average have a purpose for refreshing with a percentage of 56.7%, picnics or gathering with family by 32.7%, education (10%), shooting and shooting each by 0.3%. The average visitor to this agrotourism location is a first-time tourist, as seen by the 176 people (46.6 percent) who visited once. The frequency of visits twice is 17.7%, three visits are 12.4%, four visits is 11.6%, five visits is 1.3%, and those who visit Strawberry agrotourism places more than five visits are 10. ,6%. Based on the means of transportation used, the average visitor uses a private car for recreation, 54.1%, motorbikes (37.0%), and rental cars (9.0%). Characteristics of the distance from which visitors live to tourist sites can be seen in Figure 2.

Table 1. Characteristics of respondents of strawberry agrotourism objects by age

Age (Year)	Number (person)	Percentage (%)
<= 20	64	16.9
21 – 30	202	53.3
31 – 40	58	15.3
41 – 50	35	9.2
51 – 60	16	4.2
61+	4	1.1
Total	**379**	**100**

Table 2. Characteristics of strawberry agrotourism visitors based on educational status

Education	Number (Person)	Percentage (%)
Elementary school	3	0.8
Junior high school	30	7.9
High school	153	40.4
Diploma	56	14.8
Bachelor	133	35.1
Master Degree/Postgraduate	4	1.1
Total	**379**	**100**
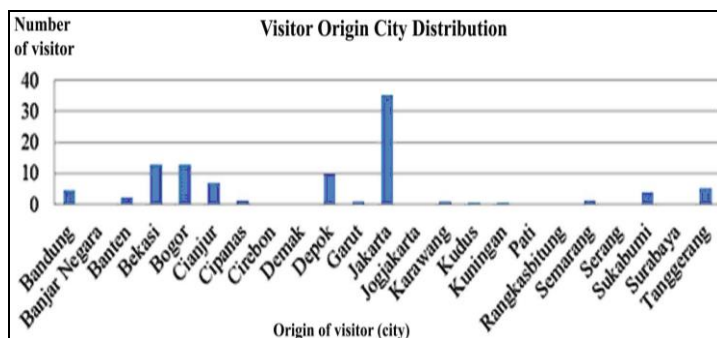
Figure 1. Place of origin of visitors
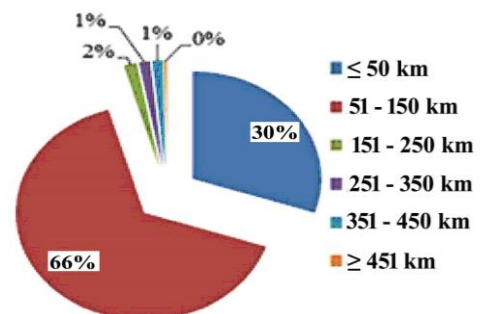
Figure 2. Percentage of distance from visitors' residence to agrotourism locations

The characteristics of the number of visitors' incomes vary according to the profession or type of work occupied. The highest percentage of total income ranges from IDR. 2,500,000 to IDR. 4,000,000, - with a percentage of 27.70%.

With a percentage of 22.70%, the second-largest income is between IDR.1,000,000 to IDR. 2,500,000, total income less than IDR.1.000.000 is 25.9%, IDR. 4,000,000 to IDR. 5,500,000 of 16.90 %, IDR. 5,500,000 to IDR.7,000,000 amounted to 3.20%, and income more than IDR.7,000,000 amounted to 12.10%. The assessment covers eight aspects, including (1) road access to the location; (2) information obtained from the media; (3) the level of environmental Hygiene, (4) facilities and infrastructure; (5) the beauty of agrotourism; (6) air cleanliness condition; (7) sound state (noise pollution); and (8) security level. The percentage of visitor ratings can be seen in Figure 3.
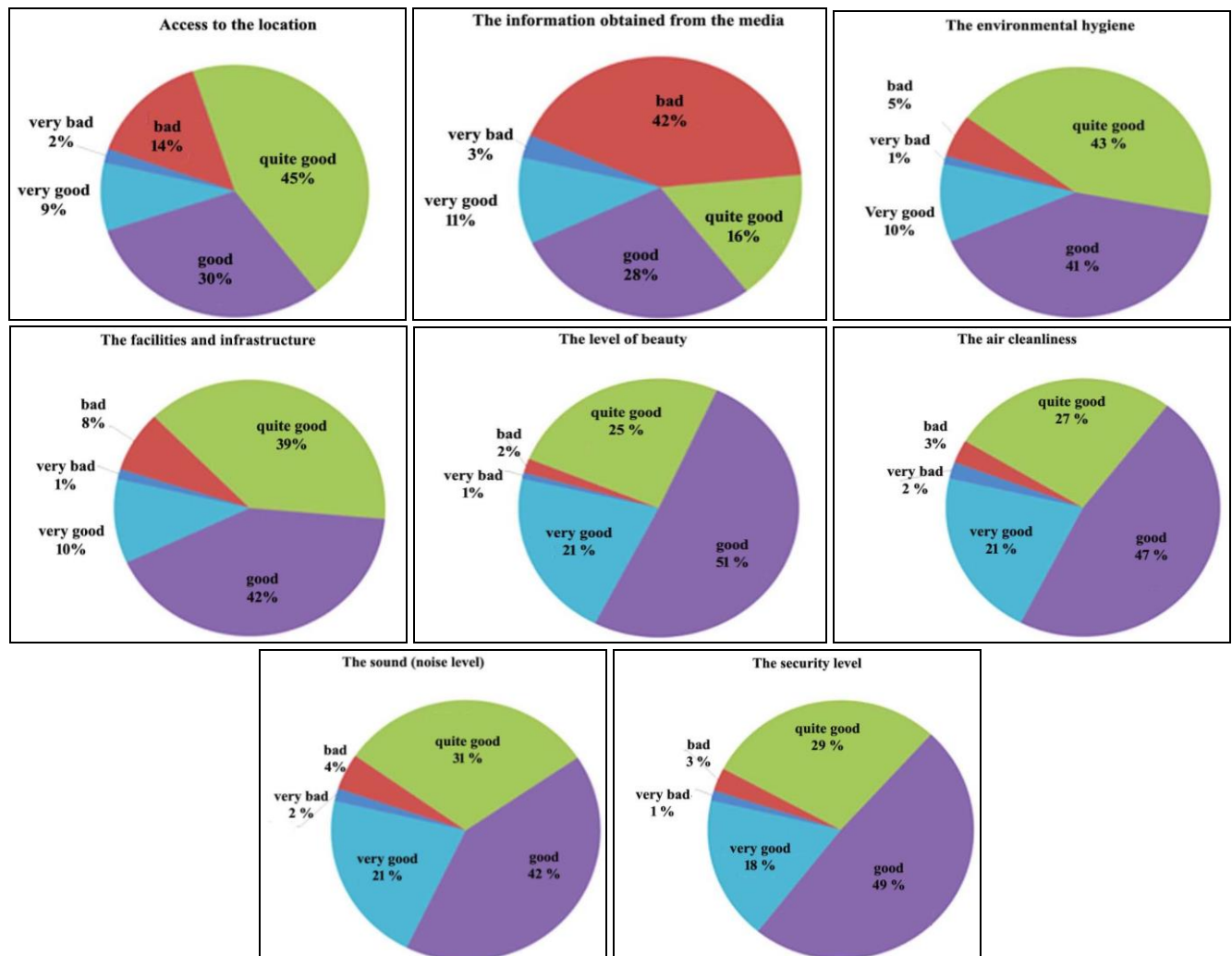
Figure 3. Percentage of visitors' rating of strawberry agrotourism

Factors Affecting Demand for Strawberry Agrotourism

1. Strawberry Agrotourism Demand Function

There are eight independent variables used to analyze their effect on the number of visits (dependent variables), namely: (1) travel costs; (2) income level; (3) education level; (4) dependents in the family; (5) mileage; (6) Gender; (7) long time knowing agrotourism; and (8) age of visitors. Based on the results of data processing using XLSTAT, the results of the regression analysis are as follows:

Table 3. Multiple linear regression analysis results

Source	Value	Standard error	T	Pr > |t|= P-count	Lower bound (95%)	Upper bound (95%)
Intercept	0.5531	0.4180	1.3233	0.1866	-0.2688	1.3751
X_1	0.0397	0.0291	1.3651	0.1730	-0.0175	0.0968
X_2	-0.0796	0.0259	-3.0714	0.0023	-0.1305	-0.0286
X_3	0.0039	0.0101	0.3847	0.7007	-0.0159	0.0236
X_4	0.0361	0.0283	1.2734	0.2037	-0.0196	0.0918
X_5	-0.0017	0.0004	-4.3675	< 0.0001	-0.0024	-0.0009
X_6	0.0903	0.0460	1.9641	0.0503	-0.0001	0.1807
X_7	0.2819	0.0117	24.1302	< 0.0001	0.2589	0.3049
X_8	0.0018	0.0033	0.5423	0.5880	-0.0046	0.0082

Based on Table 4, it can be seen that the recreational demand function for Swetberry agrotourism is as follows:

$Y = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + e$; $LnY = 0.55311 + 0.03968*X_1 - 0.07955*X_2 + 0.00387*X_3 + 0.03608*X_4 - 0.00165*X_5 + 0.09030*X_6 + 0.28191*X_7 + 0.00176*X_8$

Data Normality Test

The Kolmogorov-Smirnov test is one of many methods for determining the normality of data, and it was utilized in this study. The test produces a P-Value of 0.0516, which is greater than the 5% significance level, then H0 is accepted, and it can be concluded that the error has spread normally.

Multicollinearity Test

According to Lista (2014), the existence or absence of multicollinearity in a model can be determined from the outcomes of data processing by looking at the Variance Inflation Factor (VIF); if the VIF is more than 10, the model is multicollinear.

Based on the results of the multicollinearity test in Table 5, there is no multicollinearity because the VIF value of each variable is less than 10. The X1 variable shows the VIF value of 1.2708, X_2 of 1.5391, and X_3, X_4, X_5, X_6, X_7, and X_8, respectively. of 1.1650, 2.2767, 1.1753, 1.0726, 1.0397, and 2.4138.

Heteroscedasticity Test

In this test, the researchers used the White Test method. These test results will not be much different from other tests. This test is considered the most suitable and easy to use with the type of data obtained. If F-count < F-table or using P-value > α, then accept H0 or no heteroscedasticity residual. The test results show that the P-value of 0.1471 is greater than the alpha (α), which is 0.05, or a real level of 5%, which means that the data meets the heteroscedasticity test criteria.

Table 4. Multicollinearity test results

Statistic	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8
Tolerance	0.7869	0.6497	0.8584	0.4392	0.8509	0.9323	0.9618	0.4143
VIF	1.2708	1.5391	1.1650	2.2767	1.1753	1.0726	1.0397	2.4138

Autocorrelation Test

Based on the DW value test, it produces a value of 1.8020, which shows the DW value is almost close to 2; this value already indicates that the data does not occur autocorrelation. Based on the type of data obtained from the field, theoretical DW analysis no longer needs to be carried out because the sequence of data/samples is human data that is not time-based (time series). According to Lista (2014), this test is used to examine if there is a correlation between a set of data organized by time (time series) or by space (space series) (cross-section).

Model Interpretation

The results of the regression analysis show that three variables have a significant effect on the number of Strawberry agrotourism visits, including income (X_2), distance (X_5), and time to know the location (X_7). In contrast, the variable that does not affect agrotourism demand is travel costs (X_1), education (X_3), family dependents (X_4), gender (X_6), and age (X_8). The effect of the variable or not depends on the P-count value. If the P-count is less than the 0.05 level of significance, the variable is declared to affect the independent variable significantly.

1. Travel Cost (X_1)

Based on the data processing results, it can be seen that travel costs do not affect the level of visits to Strawberry agrotourism. This can be seen from the regression probability value for the travel cost variable, 0.1866, which indicates that this variable has no significant effect on the visit rate at the 95% confidence level or greater than the 0.05 level of significance. The regression coefficient value of the travel cost variable is positive. This positive correlation indicates that an increase in travel costs by one percent will increase the frequency of visits by 0.0397%, and vice versa; if there is a decrease in travel costs, it will reduce the level of visits to tourist sites. Based on the study results, this happens because the average visitor who travels to the Strawberry agrotourism location is not the leading tourist destination of visitors.

2. Income (X_2)

Based on regression analysis, the income variable has a significant effect on the demand for Strawberry agrotourism; this is evidenced by the P-count value of 0.0023, which is smaller than the actual level of 0.05 with a coefficient of -0.0796. This value can indicate that a 1% increase in income will reduce the frequency of visits to Strawberry agrotourism by 0.0796 percent or that the higher the level of visitors' income, the lower the level of visits; if the income is high, visitors may be more interested in visiting other places that are better and more satisfying. This fact can happen because Strawberry agrotourism is a recreational area that is still newly developed, and the facilities are not yet complete, so it is natural that visitors still want other tourist locations to visit if they have higher income.

3. Education (X_3)

Based on the data processing results, it can be seen that the education variable does not affect the level of visits to Strawberry agrotourism. This can be seen from the P-count regression probability value for the education variable, 0.7007, which indicates that this variable has no significant effect on the visit rate at the 95% confidence level or greater than the 0.05 level of significance. The regression coefficient value of the education variable is positive. This positive correlation indicates that an increase in the length of education by one year will increase the frequency of visits by 0.0039%, and vice versa; if there is a decrease in the span of education, it will reduce the level of visits to tourist sites. The greater a person's education will influence the visit.

4. Number of Family Dependents (X_4)

The variable number of family dependents does not affect the level of visits to Strawberry agrotourism, as evidenced by the P-count regression probability value of 0.2037, which indicates that this variable has no significant effect on visit rate at the 95 percent confidence level or greater than the 0.05 level of significance. The regression coefficient value for the number of dependents in the family is positive at 0.0361. This positive correlation indicates that an increase in the number of family dependents by one person will increase the frequency of visits by 0.0361%, and vice versa; if there is a decrease in the number of dependents, it will reduce the level of visits to tourist sites.

5. Distance (X_5)

From the regression test results of the distance, the variable has a significant effect on the demand for Strawberry agrotourism; this is indicated by the P-count value of 0.0001, which is smaller than the actual level of 0.05 with a coefficient of -0.0017. This value explains that if there is an increase of one km in the distance to the Strawberry

agrotourism location, it will reduce the frequency of visits by 0.0017%. Based on the field observations, it is evident that the average visitor comes from the Greater Jakarta area. From outside Jabodetabek, the frequency of visits is minor because the distance to the Strawberry agrotourism location is very far.

6. Gender (X_6)

The regression test results show that the gender variable does not affect the level of visits to Strawberry agrotourism. This can be seen from the P-count regression probability value for the sex variable, which is 0.0503, which indicates that the variable has no significant effect on the visit rate at the 95% confidence level or greater than the 0.05 level of significance. The value of the regression coefficient of the sex variable is positive at 0.0903. This positive correlation indicates that male visitors will have a greater chance of visiting 0.0903 times than female visitors.

7. Long Knowing Strawberry Agrotourism (X7)

The regression test results of the old variable, knowing that tourist sites have a significant effect on the demand for Strawberry agrotourism, are indicated by the P-count value of 0.0001, which is smaller than the actual level of 0.05 with a coefficient of 0.2819. This value explains that every increase in knowing Strawberry agrotourism for one year will increase the frequency of visits by 0.2819% to agrotourism locations. Based on the results of this research, it can be proven that the average visitor who comes to this Strawberry location is someone who has known agrotourism for a long time.

8. Age (X8)

Based on the regression results, it can be seen that the family age variable does not affect the level of visits to Strawberry agrotourism. This can be seen from the P-count regression probability value for the age variable, which is 0.5880, indicating that the variable has no significant effect on the visit rate at the 95% confidence level or greater than the 0.05 level of significance. The regression coefficient value of the age variable is positive at 0.0018. This positive correlation indicates that an increase in age of one year will increase the frequency of visits by 0.0018%.

The Economic Value or Benefits of Strawberry Agrotourism

There is a mutually beneficial relationship between agrotourism business on the one hand and the conservation of natural resources and the environment on the other hand. The development of agrotourism is based on the principles of sustainable environmental management and perspectives. Managing an agrotourism with ecological awareness is naturally similar to conserving natural resources and the environment itself while taking benefits from the tourism services and the agricultural products, which, in turn, can be helpful in the conservation of the natural resources and the environment. Agrotourism is a long-term undertaking; therefore, every step in the business should be scaled long-term. Once a consumer or a tourist gets a negative impression of the condition of the tourism resources and the local environment, it needs a very long time to repair. It can be said that agrotourism is a business that requires harmony with the environment in every aspect (Sonnino, 2004; Panduro and Veie, 2013; Poczta-Wajda and Poczta, 2016; Rizal et al., 2019).

Agriculture is the result of natural resource management activities for the needs of human life; in the world of agriculture (agribusiness), some values have market prices in the form of agricultural products such as vegetables, fruits, and so on, which can be processed directly. Agriculture also has non-market value; for example, the attractiveness of agricultural things, such as landscape, beauty, agricultural air, and so on, is always appreciated by humans but is gained for free and is undervalued; thus, it does not have a market price. The travel cost approach is one way that can be used to estimate or estimate the economic value of recreational services. The basis for choosing this method is obtaining actual data from the cost of visits made by someone to enjoy recreational benefits. The hypothesis is that travel costs will be strongly influenced by visits to tourist attractions and are assumed to be negatively correlated, so a demand curve with a negative slope is obtained (Shammin, 1999; Phillip et al., 2010; Bilbao-Terol et al., 2017; Rizal and Dewanti, 2017).

Tabel 5. Average travel cost

Total Travel Cost (IDR)	Number (Person)	Percentage (%)
< 150,000	67	17.7
150,000 – 543,000	207	54.6
544,000 – 937,000	85	22.4
938,000 – 1,331,000	11	2.9
1,332,000 – 1,725,000	8	2.1
1,726,000 +	1	0.3
Total	**379**	**100**
Total Travel Cost (IDR)		**156,792,000**
Average (IDR)		**413,699**

Table 6. TCM estimation on strawberry agrotourism

Subject	Value
Number of respondents (person) (a)	379
Estimated number of respondents in 2021 (person) (b)	7,200
Number of respondent visits (y) (c)	1,006
Travel cost coefficient (b) (d)	0.0397
Consumer surplus (IDR) (e) SK= $y^2/2b$	12,752,324
Average visitor surplus (IDR) (f) = e/c	12,670
Average visitor/individual consumer surplus (IDR) (g) = f/a	33
The economic value of Strawberry Agrotourism in 2021 (IDR) (h) = g x b	237,600

Source: the author's field data processing results

Based on Table 5, the total travel costs incurred by visitors to travel to Strawberry agrotourism is IDR. 156.792.000,-. The average price of each visitor to travel is IDR. 413,699; this shows that visitors want to spend money or are willing to pay (Willingness To Pay) for tourist attractions of IDR. 413,699 visits. Below is a graph of the relationship between the distance traveled and the total cost of travel to Strawberry agrotourism.

Based on the line graph in Figure 4, there is a decrease in costs at a certain distance; this shows that travel costs are also not always affected by distance. There are several reasons why distance does not affect travel costs, including: (1), not all visitors incur transportation costs because they come with their families (borne by the family), even though transportation costs are the

highest on average; (2) not all visitors incur transportation costs because they come with their families (borne by the family); (3) not all visitors incur transportation costs because they come with their families (run by the family); and (4) not all visitors incur transportation costs because (2) The difference in modes of transportation has an impact on the size of the trip's expense.

On average, visitors who far away use motorbikes to travel, it could be that visitors who are near are more expensive than those far away. Usually, motorbikes don't cost as much as a private car; (3) someone who visits Strawberry agrotourism locations can also see other tourist attractions, so traveling to Strawberry is calculated with costs to other tourist locations. This fact can lead to high travel costs. Consumer surplus in TCM shows how much a person values a recreation area based on their visits

Figure 4. Relationship between mileage and total travel cost

(Shammin, 1999; Freeman et al., 2014; Koetse et al., 2015). The following is a function of demand or visits to Strawberry agrotourism, assuming that only travel costs affect the level of visits to Strawberry agrotourism.

$$Y = a + b X_1 + e; \qquad Y = 0.55311 + 0.03968X_1$$

The TCM value can be obtained by analyzing the number of respondents, the number of respondents' visits per year, the estimated number of visits per year, the TCM coefficient, and consumer surplus. Table 6 describes the calculation of the TCM estimation. The Average expenses during a visitor's tour are IDR. 413,699. The results of multiple regression analysis obtained a TCM coefficient of 0.0397. Based on Table 26, the total consumer surplus-value is IDR. 12,752,324. Visiting consumer surplus is IDR. 12,670, and the consumer surplus per individual visit is Rp. 33, so that in one year, Strawberry agrotourism produces a consumer surplus of IDR. 237,600. This value is generated from the multiplication of the consumer surplus per person visit with the estimated number of visitors for one year (population) of 7,200 people. Based on this value, it can be concluded that the economic value of agrotourism during 2017 is IDR. 237,600. This value is the economic value of natural resources and the agricultural environment (agribusiness) in Strawberry agrotourism, which the manager has not considered. Based on the value, it turns out that agrotourism has more value than the actual marketed value. The economic value also explains that visitors are still willing to pay more for Strawberry agrotourism places even though the value is minimal, namely IDR.33. Strawberry agrotourism has the opportunity to develop further because it still has a consumer surplus. Strawberry agrotourism can improve tourism services, facilities and infrastructure, tourist facilities, road access, promotions, and others, namely as an effort to increase consumer desire to visit (Delbecq et al., 2014; Czyzewski and Matuszczak, 2016).

CONCLUSION

Male dominates characteristics of visitors to Strawberry agrotourism, married visitors who come from the Greater Jakarta area with a mileage of 151 – 250 km by private car. The average education of visitors is high school, and they work as private employees with an average income of IDR. 2,500,000 to IDR. 4,000,000. Visitors who come to the Strawberry location are newcomers with an average purpose for refreshing. The access to the location is quite good, the information obtained from the media is not good, the environmental Hygiene is quite good, the facilities and infrastructure are good, the level of beauty is good, the air cleanliness condition is good, and the sound (noise level) and the security level are also good value, according to visitors' assessments of Strawberry agrotourism. The factors that influence the demand for Strawberry agrotourism are income, distance, and length of time knowing the location. In contrast, the factors that do not affect the demand are travel costs, education, number of dependents in the family, gender, and age of visitors. The consumer surplus describes the net benefits obtained by tourists from recreational activities in Strawberry agrotourism visits to this tourism demand model of IDR. 12,670 and the consumer surplus per individual visit is IDR.33. The consumer surplus in 2017, which describes the economic value of the Strawberry agrotourism object, is IDR. 237,600. Based on the economic value of agrotourism, which has not been calculated as a market value in business, companies must make efforts to improve the environment; this can be seen from the small economic value of IDR. 33, per individual per visit. Improvements can be preserving existing nature, adding tourist objects or the area of tourist sites, and improving existing facilities and infrastructure. These improvements are expected to increase the attractiveness of tourists to visit tourist sites and have a high willingness to pay so that managers can raise ticket prices and earn big profits. As an agrotourism development, the role of local government is very much needed in the aspect of increasing business capital, business training, and providing adequate facilities and infrastructure. This research should not be carried out yet sustainably because the economic value of tourism can change every year. The economic value can be compared with the current year, whether there is an increase or a decrease, so decision-making will be easier, then added by looking at visitor satisfaction with Strawberries agrotourism.
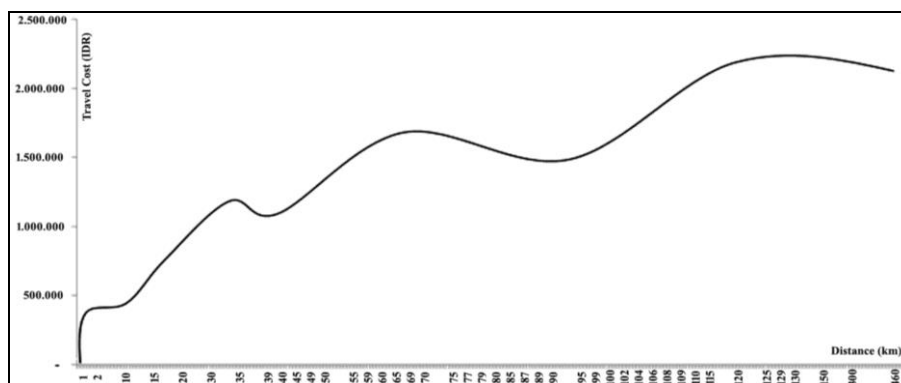
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THE IMPACT OF COVID-19 ON INTERNATIONAL
TRADE IN TOURISM SERVICES IN EUROPE

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Abstract: European tourism suffered the greatest crisis on record in 2020-2021 following an unprecedented health, social and economic emergency with the outbreak of the COVID-19 pandemic and quarantine restrictions. Thus, the aim of the article is to investigate the impact of COVID-19 on international trade in tourism services in Europe, as well as determining the development trends of international trade in tourism services in the regions of Europe and EU countries in the pre- and post-coronavirus period. To achieve the goal of the scientific research a quantitative research method, literature review method, retrospective analysis, statistical analysis has been used. In the study, secondary data of the international tourist arrivals in Europe, export/import of tourism services by European regions and EU in the pre-coronavirus and post-coronavirus period has been analyzed. The following trends have been identified: 1) an undulating trend in tourism exports in Europe in general, and European regions in particular, characterized by regional differentiation; 2) an alternation of peaks and troughs in the volume of imports of tourism services in Europe and a reversal of the main upward downward trend in all regions of Europe in 2020; 3) a differentiation of the response of European regions to the challenges of 2020 - regions with a passive trade balance showed a reduction in the deficit, while regions with an active trade balance, on the contrary, reduced its surplus; 4) a differentiation of the share of import/export of tourism services of total trade in services by regions of Europe with a gradual upward trend and a rapid downward trend break in 2020.

Key words: international trade, tourism services, Europe, European Union, international tourist arrivals, tourism market, COVID-19

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INTRODUCTION

Analysis of the world tourism market allows to conclude that international tourism is developing in close relationship with other spheres of international life and responds to the general economic state of the market and the political situation with an increase or decrease in growth rates (Trunina et al., 2020). The European tourism region is no exception, demonstrating this, among other things, by a sharp decline in tourism economic activity and the uncertainty of the regional economic security (Ivanova, 2018). At the same time, with a rich cultural heritage and diversity, and including some of the most popular tourist destinations and major markets in the world, Europe continues to be the most visited region, hosting half of the world's international tourist arrivals even under COVID-19 and quarantine restrictions. In pre-Covid 2019 the contribution of tourism to GDP in Europe was 9.5% of total economy (2,191.2 bn. USD), the tourism industry created jobs for 38.47 million people (10.1% of total employment) - due to its direct, indirect and induced impact on the economy (WTTC, 2021). Tourism has been one of the fastest growing sectors of the European economy, demonstrating its resilience and flexibility. In 2020 the contribution of tourism to GDP in Europe was 4.9%, the tourism industry created jobs for 34.87 million people (WTTC, 2021) (figure 1). Within Europe, the 27 countries of the European Union account for the bulk of international arrivals in the region, about 75% of the total in Europe and 44% of the global figure in 2020 (UNWTO, 2022).

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The global crisis caused by the coronavirus pandemic has radically changed the tourism industry around the world, and Europe is no exception. Tourism is one of the sectors of the world economy that has suffered the most due to restrictions on movement. The negative impact of COVID-19 is both economic and social, affecting the livelihoods of tourism, transport and supplier workers, as well as their families and entire communities. The closure of the borders of countries and individual cities, the restriction and ban on movement in Europe and the world led in 2020 to a significant reduction in both domestic and inbound tourism, as well as a change in the long-term upward trend in international tourist arrivals. The key indicator of tourism development is foreign trade in

Figure 1. Economic impact of travel and tourism
to the economy of the geographic regions in the world in 2020
(Source: the authors' own study based on the data of the WTTC, UNWTO)

tourism services, its circulation and balance. Since "expenditure by international visitors counts as exports for the destination country and as imports for the country of residence of the visitor" (ITC/UNWTO, 2015, 2) then a positive trade balance in tourism services indicates that the tourism industry is a source of foreign exchange earnings, revenues to the GDP of countries, replenishment of budgets at all levels and accelerates intensification of the reproductive process (Gorina, 2015b). Given this, it can be stated that the reduction in inbound tourist flows to Europe caused by COVID19 and quarantine restrictions is reflected in a decrease in the export of tourism services and a reduction in positive economic and social effects. In a world of dense and tightly connected supply chains, this impact has not only been felt by the sector itself, but also by other related industries, such as agriculture, construction, finance and information technology providers.

Considering the above the main aim of the scientific research is to investigate the impact of COVID-19 on international trade in tourism services in Europe, as well as determining development trends of international trade in tourism services in the regions of Europe and EU countries in the pre- and post-coronavirus period.

LITERATURE REVIEW
International trade in tourism services

Theoretical and applied issues of international trade in tourism services are reflected in the reports and working papers of international organizations which generate market knowledge, promotes competitive and sustainable tourism policies and instruments, carries out an analysis of T&T competitiveness etc. (Gorina, 2015a). An example of such report is the joint report of the International Trade Centre and the World Tourism Organization (ITC/UNWTO, 2015) which brings together complementary expertise of two organizations on the role of tourism in contributing to sustainable development and illustrates where and how trade, investment or visa policies matter for the tourism sector through two different angles – the point of view of the journey of an international tourist and the point of view of a firm supplying services or goods within a tourism value chain. In the working paper of the World Trade Organization (WTO) by Barkas et al. (2020) investigates tourism-related policy approaches that WTO member countries adopted in the early weeks of the COVID-19 crisis. The paper provides a systematic approach to map and analyses tourism-related policies for 59 WTO Members across all continents.

In the tourism literature, there are many examples of attempts to investigate and solve various issues which connected with international trade in tourism services at the local and regional levels. Mukesh et al. (2019) examine the nexus of trade, economic growth, and international tourism in the United States, using wavelet analysis to capture the lead-lag dynamics of this relationship based on frequency and time. Tamat and Norlida (2011) investigate whether there are any dynamic interrelationships between the tourism, trade and economic growth for Malaysia and its major tourism partner in ASEAN based on the export led growth (ELG) hypothesis. Xiaoli (2021) analyzes the importance of Hainan in the Belt and Road Initiative from the perspectives of history, location and culture. Countermeasures and suggestions for the development of trade in tourism service in Hainan are put forward combined with the strategic background of "One Belt, One Road". Xiang and Chen (2021) study the development situation of the tourism service trade in Zhejiang Province from four aspects. Based on the current situation and influencing factors of Zhejiang's tourism service trade puts forward the corresponding countermeasures and suggestions which could help Zhejiang Province find a way to promote tourism service trade in regional coordinated development. Zhang and Chiu (2020) applies the autoregressive distributed lag (ARDL) model to examine the impacts of globalization and country risks on China's tourism service trade. The results reveal that in the long run, globalization has a significant negative impact on tourism service exports and tourism service trade balances, while a significant positive impact on tourism service imports. Leitão (2011) examines the link between intra-industry trade and international tourism flows in the Portuguese. Bocharova (2021) analyzes the impact of competition and technology transfer on the development of national economies and their industries, the country's ability to be effectively engaged in international trade relations, develop tourism. Albaladejo et al. (2014) propose a theoretical model and an empirical study that highlight the role of quality of tourism services and endogenous tourism in long-run economic growth.

Some aspects of international trade in tourism services are fragmented in publications on the economics of tourism. Petit (2017) investigates the impact of the international openness in tourism services trade on wage inequality between
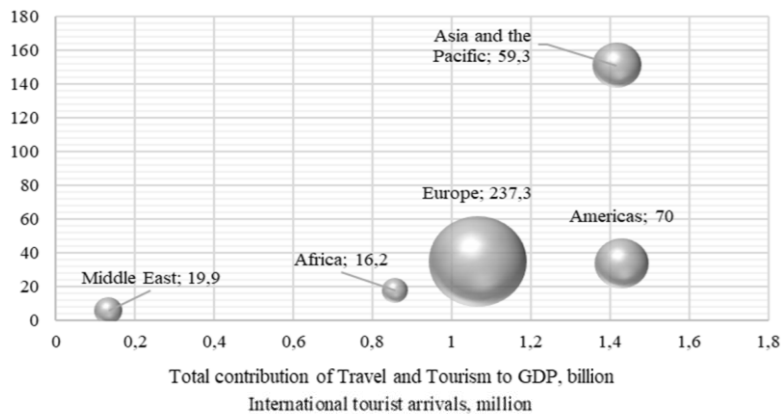
highly skilled, semi-skilled, and unskilled workers in the tourism industry. The findings point out that tourism increases wage inequality at the expense of the least skilled workers in the long run and the short run. Joshi and Malhotra (2014) make an in-depth analysis of patterns of international tourism especially with reference to World Trade Organization agreements. The authors critically evaluate GATS and its impact on patterns of international tourism. Besides they made an attempt to suggest a strategic framework to promote international tourism with special focus on developing countries. Chang (2011) investigates the features and determinants of the international travel and tourism service trade between the European, Asian and North American markets from 2000 to 2005. The empirical results reveal that the supply–pull effect from parent countries (the economic size of tourist origins) plays an important role in improving the tourism service exports of the various destinations.

The impact of COVID-19 on European tourism

The crisis caused by the COVID-19 pandemic has damaged the economies of European countries, particularly those that are more dependent on tourism. The pandemic has affected not only the European countries economy, but also the politics of countries and, to a large extent, the life of society. These and other problematic issues are reflected in the work of scientists in various fields of knowledge. Plzáková and Smeral (2021) concentrate on analyzing and forecasting demand for international travel of the euro area in terms of tourism imports. Scholars analyze effects of the key macroeconomic factors on tourism demand and develops a forecast model. Roman et al. (2022) try to give an overview of tourism at the time of the global crisis caused by the COVID-19 pandemic on European countries. They cluster European countries according to the influence that the COVID-19 pandemic has had on the tourism sector in a given country. Naramski et al. (2022) assess the impact of the COVID-19 crisis on the activities of cultural heritage tourism sites in Europe. The study indicates a strong impact of the pandemic on the examined sites, expressed in the limitation of the operating time of the sites, a decrease in the number of tourists attended to, and a decrease in revenues. Ardeljan et al. (2020) present a brief analysis of the developments in international tourism, especially regarding European tourism in the pre-pandemic context. Korinth and Wendt (2021) propose the use of the Perkal index to assess the impact of the pandemic on tourism in European countries. The proposed index allows to evaluate changes in a time series system and enables comparative analysis between territorial units.

Regional and country aspects of the COVID-19 impact on the tourism industry in Europe are of reasonable interest and are reflected in the work of a number of researchers. Sanabria-Díaz et al. (2021) explore the public strategies to rescue the tourism and hospitality sector in the context of the European Union. Grančay (2020) uses licensed tourist guides from Slovakia as a case study of how significant the financial impact of the crisis was and what effect it might have on the future competitiveness of the industry, as perceived by the tourist guides themselves. Nientie and Shutina (2021) discuss the current tourism conditions in Western Balkans and stresses the need for innovation and action-research to foster greener, more resilient and regional tourism in Western Balkans. Perić et al. (2021) examine the impact of Serbian tourists' risk perception on their intentions to travel during the COVID-19 pandemic with the control of socio-demographic characteristics. Mariolis et al. (2021) estimate the COVID-19 multiplier effects of tourism on gross domestic product (GDP), total employment, and trade balance of the Greek economy. Neise et al. (2021) analyse the impact of the COVID-19 crisis on owner's assessment of resilience in the German restaurant and bar industry and make recommendation for future research on the recovery and adaptability of the business sector. Boto-García (2022) explores a heterogeneous price response amid COVID-19 between professional and non-professional hosts in Barcelona. Pappasa and Glyptou examines the COVID-19 effect upon peoples' accommodation decisions in Greece. The study contributes towards the initiation of the theoretical discourse on the foundations of the exploration of tourists' accommodation choice triggers and dilemmas in times of pandemics. Tomčíková et al. (2021) focus on human resources management in relationship to organizational performance in global Covid-19 pandemic times, particularly in the tourism companies operating in the Slovak Republic. Kinczel and Müller (2022) focused on travel habits and leisure activities in the light of COVID-19 triggered changes of Hungarians living in two neighboring regions of Hungary and Romania. Volkmann et al. (2021) focus on assessing the main challenges of the tourism industry in Romania in autumn 2020 and identifying urgent measures to support the Romanian tourism sector. Researchers focus on the fact that The COVID-19 epidemic puts the EU tourism industry under unprecedented pressure. This resulted in the suspension of most domestic and international travel, significant reduction in revenue and liquidity problems for all tour operators.

MATERIALS AND METHODS
The study area

The world tourist space has a hierarchical structure in which macro-, mesoregions and separate countries are allocated. Four European geographic regions and European Union were chosen as the study area. It is important to notice that different international organizations which are an objective and reliable source of international tourism statistics needed for analysis offer their own spatial and territorial differentiation of European countries by tourist regions. The World Tourism Organization (UNWTO) divides Europe into 4 regions such as Northern Europe, Western Europe, Central/Eastern Europe, Southern Europe. In its turn The United Nations Conference on Trade and Development (UNCTAD) proposes the following division of Europe into geographical regions: Eastern Europe, Northern Europe, Southern Europe, Western Europe. Such inconsistency leads to a slight difference in the information provided, depending on the analyzed indicators.

Data

The study is focused on the analysis of defined data in the pre-coronavirus and post-coronavirus period. In the study, secondary data has been analyzed to identify the impact of COVID-19 on international trade in tourism services in Europe.

International tourist arrivals were analyzed based on the data presented by the World Tourism Organization.

The World Travel & Tourism Council acted as a source of "total contribution of travel and tourism to employment" and "total contribution of travel and tourism to GDP". According Travel & Tourism Economic Impact Research Methodology (WTTC/Oxford Economics, 2021, p. 29) the total contribution of Travel & Tourism to GDP is made up as follows:

$$TT\&T\ GDP = DT\&T\ GDP + ItT\&T\ GDP + IdT\&T\ GDP$$

Where TT&T GDP is total Travel & Tourism Gross Domestic Product (GDP), DT&T GDP is direct Travel & Tourism GDP, ItT&T GDP is indirect Travel & Tourism GDP, IdT&T GDP is induced Travel & Tourism GDP. In its turn direct and indirect contribution of Travel & Tourism to GDP is made up as follows (WTTC/Oxford Economics, 2021, p. 29):

$$DT\&T\ GDP = IlT\&T\ GDP - PT\&T$$

Where IlT&T GDP is Internal Travel & Tourism Consumption (i.e. visitor spending, domestic resident Travel & Tourism expenditure and government individual Travel & Tourism spending), PT&T is purchases (including imports) by Travel & Tourism providers.

$$ItT\&T\ GDP = DSC + CI + GCS - IG$$

Where DSC is domestic supply chain, CI is capital investment, GCS is government collective spending, IG is imported goods meeting indirect spending. UNCTAD was the source of the following indicators: export of tourism services (US dollars at current prices), import of tourism services (US dollars at current prices), export of tourism services in percentage of total trade in services, import of tourism services in percentage of total trade in services. The statistics presented by UNCTAD are correspond to the concepts and definitions of the IMF Balance of Payments and International Investment Position Manual, Sixth Edition (BPM6). According to the BPM6 "travel is an item of the goods and services account of the balance of payments: travel credits cover goods and services for own use or to give away acquired from an economy by non-residents during visits to that economy. Travel debits cover goods and services for own use or to give away acquired from other economies by residents during visits to other economies" (IMF, 2009).

Data analysis methods

To achieve the goal of the scientific research a quantitative research method is used. The literature review method allowed us to develop the theoretical basis and methodology of the study and identify issues that require further study. To identify what has been written on the topic being studied and synthesizes the extant literature the literature review was conducted by following subjects: 1) international trade in tourism services; 2) the impact of COVID-19 on European tourism. Retrospective analysis allowed to identify trends of international trade in tourism services in Europe, assess the total volume of export and import of tourism services by European regions and EU and the dynamics of its change. A time interval of 10 years (2011-2020) was chosen for the retrospective analysis. Statistical Analysis of secondary data allowed to assess the relationship between COVID-19 and quarantine restrictions and its economic impacts on international trade in tourism services in Europe.

Research questions

The research questions in this paper were formulated as follows:

1. How COVID-19 and quarantine restrictions affected the volume and dynamics of:

– international tourist arrivals in Europe;

– export of tourism services by European regions and EU;

– import of tourism services in European regions and EU.

2. How has the share of export of tourism services by European regions and EU of total trade in services changed under the influence of COVID-19 and quarantine restrictions?

3. How has the share of import of tourism services by European regions and EU of total trade in services changed under the influence of COVID-19 and quarantine restrictions?

RESULTS AND DISCUSSION

International tourist arrivals in Europe

Europe has traditionally been the center of tourism development, on the basis of which the bulk of tourism demand is formed, tourism infrastructure is concentrated, world tourist flows are born and directed, major innovations in the field of tourism are generated, advanced standards for creating a tourism product and serving tourists are being created, which, as a result of the process of spatial diffusion extend to peripheral destinations and tourism markets. According to the UNWTO, Europe is the most visited region in the world with a strong tourism industry that creates a positive multiplier effect on related sectors of the economy. Over the period 2011-2019, international tourist arrivals in Europe increased by 230.6 million visitors (168.9%) and reached 475 million in 2019. The rapid decline in international tourist arrivals in 2020, caused by the pandemic and quarantine restrictions, has broken a long-term positive trend. In 2020, compared to 2019, the volume of international tourist arrivals in Europe decreased by 509.7 million visitors (68.25%) and amounted to 237.3 million visitors (UNWTO). A more detailed analysis of the European tourism market allows us to state that the most visited geographic region has been and remains Southern Europe. For the period 2011-2019 the increase in international tourist arrivals in Southern Europe was 62.57% (117 million people) and amounted to 304 million in 2019. Western Europe had 204.2 million international visitors in 2019, showing an increase of 26.4% compared to 2011. The most dynamic growth of 49.7% and 51.4 million occurred in Central/Eastern Europe, which showed an increase from 103.9 million visitors in 2011 to 155.3 million in 2019. Northern

Europe has traditionally been the region with the fewest international visitors, due in part to the smaller number of countries that make up the region and the high cost of travel and related services. The upward trend has not bypassed the EU, where international tourist arrivals increased, except for 2018, during 2011-2019 and in 2019 reached 524.2 million people (Figure 2).
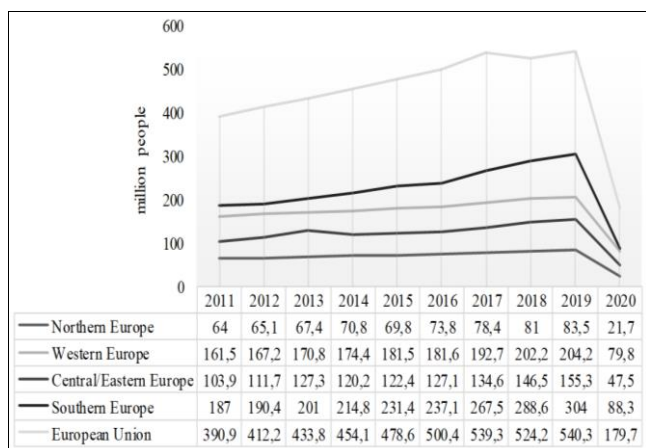
Figure 2. International tourist arrivals dynamics in Europe (Source: the authors' own study based on the data of the UNWTO)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Northern Europe	64	65,1	67,4	70,8	69,8	73,8	78,4	81	83,5	21,7
Western Europe	161,5	167,2	170,8	174,4	181,5	181,6	192,7	202,2	204,2	79,8
Central/Eastern Europe	103,9	111,7	127,3	120,2	122,4	127,1	134,6	146,5	155,3	47,5
Southern Europe	187	190,4	201	214,8	231,4	237,1	267,5	288,6	304	88,3
European Union	390,9	412,2	433,8	454,1	478,6	500,4	539,3	524,2	540,3	179,7

Figure 3. Export of tourism services by European regions and EU (trade partner – all world) (Source: the authors' own study based on the data of the UNCTAD)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Eastern Europe	48430	47105	49919	47173	39526	41047	47000	53644	53270	23079
Northern Europe	73547	75250	83821	91771	87325	88327	92270	93146	93978	34655
Southern Europe	156643	148337	161728	169234	149227	156471	177119	196180	197021	62891
Western Europe	166702	161562	172428	176020	157745	156891	167671	184272	180656	98267
European Union	360834	346969	374301	387673	343561	354685	393303	429391	424967	195065
Europe	445321	432255	467897	484198	433823	442736	484060	527242	524924	218892

2020 was reflected by a rapid decline in international tourist arrivals across all regions of Europe by an average of 68%. In physical terms, the number of international visitors by region decreased as follows: Northern Europe by 61.8 million people, Western Europe by 124.4 million people, Central/Eastern Europe by 107.8 million people, Southern Europe by 215.7 million people. International tourist arrivals in the EU decreased by 360.6 million visitors.

International trade in tourism services in Europe

International tourist arrivals have a direct impact on the performance of foreign trade in tourism services. This is especially true for the export indicator. Thus, the calculated correlation coefficient (r) revealed a tight direct relationship between international tourist arrivals and the export of tourist services in Europe for the period 2011-2020 and is equal to 0.9504. During the analyzed period (2011-2020) export of tourism services by Europe (trade partner – all world) had a ripple trend. Moreover, the peaks of exports fell in 2014 (484198 million US dollars at current prices) and 2018 (527242 million US dollars at current prices). However, the peak years were not identical for all European regions. Eastern Europe recorded the maximum export volumes for 2011-2020 in 2013 (49919 million US dollars at current prices) and in 2018 (53644 million US dollars at current prices). In Northern Europe, Southern Europe, Western Europe and the European Union, the first peak of exports occurred in 2014 and amounted to 91771 million US dollars, 169234 million US dollars, 176020 million US dollars, 387673 million US dollars, respectively. The second maximum value of exports of tourism services for Northern Europe and Southern Europe took place in 2019 and was equal to 93978 million US dollars and 197021 million US dollars. Western Europe and European Union showed the second peak of exports in 2018 with indicators of 184272 million US dollars and 429391 million US dollars (Figure 3).
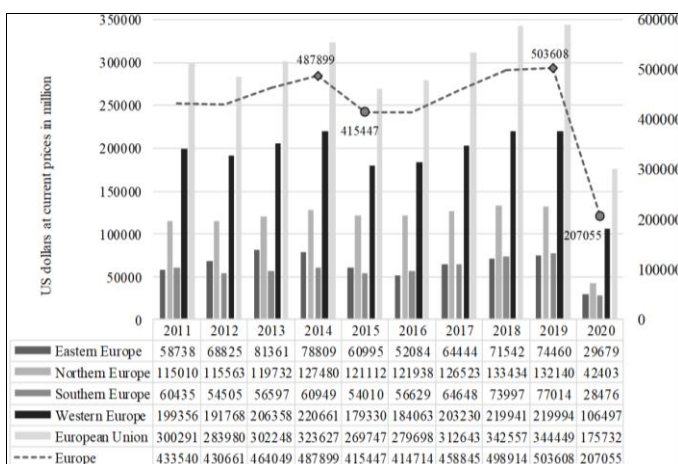
Figure 4. Import of tourism services in European regions and EU (trade partner – all world) (Source: the authors' own study based on the data of the UNCTAD)

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Eastern Europe	58738	68825	81361	78809	60995	52084	64444	71542	74460	29679
Northern Europe	115010	115563	119732	127480	121112	121938	126523	133434	132140	42403
Southern Europe	60435	54505	56597	60949	54010	56629	64648	73997	77014	28476
Western Europe	199356	191768	206358	220661	179330	184063	203230	219941	219994	106497
European Union	300291	283980	302248	323627	269747	279698	312643	342557	344449	175732
Europe	433540	430661	464049	487899	415447	414714	458845	498914	503608	207055

Figure 5. Trade balance of tourism services in European regions and EU (trade partner – all world) (Source: the authors' own study based on the data of the UNCTAD)

Pan-European declines in the export of tourist services for the analyzed period occurred in 2012, 2015 and 2020. The latter (the largest) is directly related to the COVID-19 pandemic and quarantine restrictions around the world, which led to a

significant reduction in international tourist arrivals to Europe and affected export volumes. Compared to 2019, in 2020 the export of tourist services in European regions decreased as follows: Eastern Europe at 56.6% (30191.0 million US dollars), Northern Europe at 63.1% (59322.9 million US dollars), Southern Europe at 68.0% (134129.9 million US dollars), Western Europe at 45.6% (82388.5 million US dollars) and European Union at 54.0% (229901.7 million US dollars). Similar to the export trend, the dynamics of imports of tourism services in the European region has a wavy trend. The peak of imports (consumption of foreign tourist services) in Europe was in 2014 and 2019 and was equal to 487899 and 503608 million US dollars, respectively. In the regional context, the situation regarding peaks in export volumes differs in Eastern Europe and Northern Europe, which are out of the general trend. Thus, Eastern Europe had its first peak, in contrast to the general European trend, in 2013, while Northern Europe had its second peak in 2018, a year ahead of European. Imports of tourism services from other regions reached their largest volumes in 2014 and 2019 (Southern Europe – 60949 and 77014 million US dollars; Western Europe – 220661 and 219994 million US dollars; European Union – 323627 and 344449 million US dollars (Figure 4).

The sharp drop in both exports and imports of tourism services in Europe in 2015 was influenced by global trends, including: unusually strong exchange rate fluctuations, the decline in the price of oil and other commodities, and increased global concern about safety and security (UNWTO, 2016). In 2015, compared to 2014, imports of tourist services decreased in Eastern Europe by 22.6%, in Northern Europe by 4.9%, in Southern Europe by 11.3%, in Western Europe by 18.7% and in European Union at 16.6%. But an unprecedented reduction in imports of tourist services in all regions of Europe occurred in 2020 following an unprecedented health, social and economic emergency, travel restrictions and a massive drop in demand amid the outbreak of the COVID-19 pandemic. In Europe as a whole, imports decreased by 49% and reached 175732.3 million US dollars, in Eastern Europe by 60.1%, in Northern Europe by 67.9%, in Southern Europe by 63%, in Western Europe by 51.6%. The key indicator of foreign trade in tourism services is the balance of foreign trade - the difference between financial receipts (as payment for tourism services provided by national producers) and expenditures (as payment for tourism services received by resident consumers from foreign manufacturers) for a certain period of time. An excess of cash receipts indicates a positive balance, an excess of costs indicates a negative balance. Analysis of export-import flows of tourism services in Europe in 2011-2020 indicates the presence of a positive trade balance, with the exception of 2014, when imports of tourism services exceeded exports by 3701.21 million US dollars and the trade balance was passive.

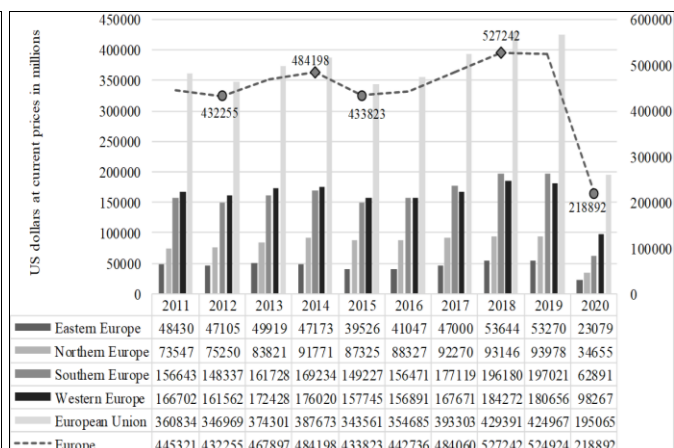The largest surplus was observed in 2018 and amounted to 28,327.72 million US dollars. In the current study, the interest is to compare the trade balance in Europe in 2019 and 2020 in order to determine the impact of COVID-19 and quarantine restrictions on the overall trend. Despite the decline in the value and volume of exports, the trade balance remained positive in 2020, reducing from 21316.2 million US dollars in 2019 to 11836.28 million US dollars in 2020. Southern Europe and European Union traditionally have a positive trade balance. For the period 2011-2020 the lower limit of the trade balance of Southern Europe was 93832.03 million US dollars in 2012, the upper limit was 122182.9 million US dollars in 2018. The pre-coronavirus trade balance of the European Union reached its minimum in 2011 (60,543.2 million US dollars) and the consolidation of the upward trend in 2018 - 86,834.6 million US dollars. The minimization of demand for tourism services in European countries from external consumers and the simultaneous reduction in the demand of European citizens for foreign tourism products in 2020 led to a sharp reduction in both exports and imports, which led to a decrease in foreign trade volumes and trade balance volumes. At the same time, the trade balance remained active (Figure 5).
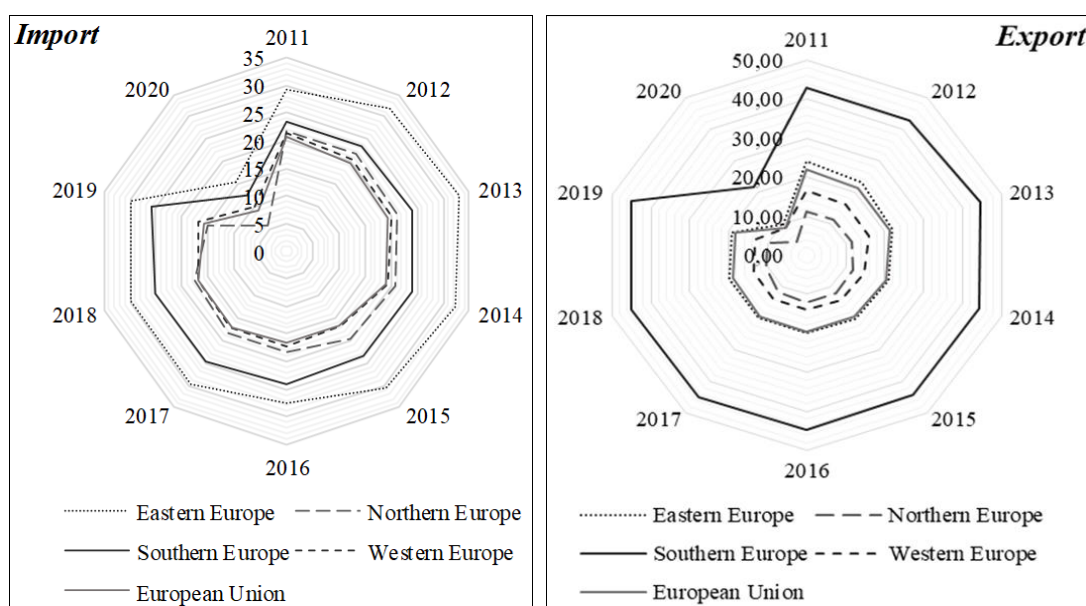
Figure 6. Import / export of tourism services by European regions and EU in percentage of total
trade in services (trade partner – all world) (Source: the authors' own study based on the data of the UNCTAD)

Eastern Europe, Western Europe and Northern Europe traditionally have a passive trade balance. A significant role in the formation of the deficit was played by the prevailing outbound flows of tourists and travelers over the inbound ones. The maximum passive trade balance for the period 2011-2020 for the regions under consideration was observed in 2014 for

Western Europe (-44641.8 million US dollars) and Eastern Europe (-31636.1 million US dollars) and in 2012 for Northern Europe (-40312/4 million US dollars). Negative trade balance of Eastern Europe in 2014 was mostly the result of a sharp drop in arrivals to Ukraine (-48%) due to the ongoing conflict. 2020 caused a decrease in outbound tourist flows and the maximum reduction of the trade deficit in the analyzed regions and amounted to -7748.4 million US dollars in Northern Europe, -6600.5 million US dollars in Eastern Europe and -8229.8 million US dollars in Western Europe. An additional indicator that allows assessing the importance and role of the tourism sector in shaping the total volume of foreign trade in services is import / export of tourism services by European regions and EU in percentage of total trade in services. In the regional context, the largest share of imports of tourism services of total trade in services falls on Eastern Europe, and excluding 2020, the average for 2011-2019 was 30.4%. In other regions of Europe the average share of imports of tourism services of total trade in services for the analyzed period was 19.3% in Northern Europe, 24.3% in Southern Europe, 18.4% in Western Europe and 17.9% in European Union. In 2020 import share of tourism services of total trade in services experienced a significant reduction across all regions of Europe and decreased to 15.5% in Eastern Europe, 5.8% in Northern Europe, 12.5% in Southern Europe, 9.8% in Western Europe and 8.9% in European Union. The largest reduction occurred in Northern Europe – 2.5 times (Figure 6). According to official UNCTAD statistics, the region of Europe with the largest share of export of tourism services of total trade in services is Southern Europe, which on average for 2011-2019 was 44.3%. Next, by a wide margin, are Eastern Europe – 20.1% avg, European Union – 20.1% avg, Western Europe – 14.6% avg and Northern Europe – 11.3% avg. 2020 was marked by a significant reduction in the share of exports of tourism services of total trade in services in all tourist destinations in Europe, which reached 9.87% in Eastern Europe, 4.12% in Northern Europe, 21.81% in Southern Europe, 8, 55% in Western Europe and 8.62% in the European Union.

CONCLUSION

The study made it possible to answer the research questions and identify the following trends specific to international trade in tourism services in Europe throughout 2011-2020 and their change under the influence of COVID-19 and quarantine restrictions:

1) a steady increase in international tourist arrivals and an uptrend across all regions of Europe and their rapid decline in 2020, caused by the COVID-19 pandemic and quarantine restrictions;

2) an undulating trend in tourism exports in Europe in general, and European regions in particular, characterized by regional differentiation in years of high and low extremes and an unprecedented decline in exports in 2020, caused by a significant reduction in international tourist arrivals to Europe as a result of the COVID-19 pandemic and quarantine restrictions;

3) alternation of peaks and troughs in the volume of imports of tourism services in Europe and a reversal of the main upward downward trend in all regions of Europe in 2020 following an unprecedented health, social and economic emergency, travel restrictions and a massive drop in demand amid the outbreak of the COVID-19 pandemic;

4) trade surplus in Europe excluding 2014, sustained trade surplus in Southern Europe and European Union along with the trade deficit in Eastern Europe, Western Europe and Northern Europe. Differentiation of the response of European regions to the challenges of 2020 - regions with a passive trade balance showed a reduction in the deficit, while regions with an active trade balance, on the contrary, reduced its surplus;

5) differentiation of the share of import/export of tourism services of total trade in services by regions of Europe with a gradual upward trend and a rapid downward trend break in 2020 as a result of the inertia of the tourism industry as a tool to stimulate the economy under the influence of COVID-19 and quarantine restrictions.

Limitations and Directions for future research

The limitations of the study are primarily due to the lack of a complete set of reliable statistics for 2021, which is important for monitoring the European tourism industry in the second year of quarantine restrictions. An estimate of the foreign trade in tourism services in Europe, taking into account the data of 2021, may change certain trends, as "the relaxation of travel restrictions to vaccinated travelers, coupled with progress made in the roll-out of COVID-19 vaccines, contributed to ease travel restrictions, lift consumer confidence and gradually restore safe mobility in Europe and other parts of the world" (UNWTO, 2021). In addition to the above limitation it is important to notice that different international organizations which are an objective and reliable source of international tourism statistics needed for analysis offer their own spatial and territorial differentiation of European countries by geographic regions. Given the existing limitations, the prospect for further research is to analyze the impact of the second year of COVID-19 on international trade in tourism services in Europe, as well as to study the trends and pace of recovery of the industry in the post-coronavirus period.

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THE IMPACT OF THE COVID-19 PANDEMIC UPON
TOURISM & HOSPITALITY EMPLOYEES IN JORDAN

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Abstract: The most noteworthy consequences of the COVID-19 pandemic were on the tourism & hospitality sector, which left thousands of individuals without jobs worldwide. In Jordan, this sector was profoundly impacted contrasted with different sectors and left a high impact on the sector employees. The objective of this research is to investigate the effect of the COVID-19 pandemic on the employees of the tourism & hospitality industry. Cross-sectional survey was utilized to accomplish the objectives of this research. The questionnaire was used as a tool to collect data. The questionnaire was distributed online to the employees of the tourism sector. The sample was composed of 411 employees distributed on different tourism activities. The collected data was entered and analyzed using Stata (ver. 24). The SEM was used to study the effect of different variables. Most of the respondents were males of intermediate to high ages. All the respondents suffered from high fear of the COVID-19 pandemic. They suffered from stopping working for at least one month to 6 months. The employees' salaries dropped by varied percentages starting from 25% to complete salary loss. The employees had a positive tendency to help their organizations to pass the COVID-19 pandemic but on the contrary, their organizations were not clear in dealing with them. The fear of the COVID-19 pandemic affects job satisfaction and job security. The study recommended that the tourism sector requires emergency strategies to deal with such a crisis and to ensure sector production.

Keywords: COVID-19 Pandemic, Tourism & Hospitality Sector, Tourism Employees, Jordan

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INTRODUCTION

The COVID-19 pandemic lockdown impacted the different economic sectors at various levels (Abbas et al., 2021). The tourism industry is one of the sectors impacted broadly by the high COVID-19 pandemic lockdowns and, surprisingly, after the partial opening of various sectors. The immediate impact came about because of the restricted movement of people, while the subsequent hindrance was connected with the tourists' travel risk and the different characterization of nations as per pandemic dissemination (Rahman et al., 2021). The pandemic left a profound impact on the financial way of behaving of people (Lagos et al., 2021). The impact of the pandemic on the tourism industry was extremely wide. The impact incorporated all tourism enterprises. The extreme effect resulted in a drop in customers contacting tourism enterprises causing a complete or sharp drop in enterprises' revenues, a drop in services related to the tourism sector, and the final huge drop in the number of employees in the tourism enterprises (Huynh et al., 2021). The tourism sector was announced as a vulnerable sector widely affected by the pandemic. The last pandemic supports the previous fact that the tourism sector is very vulnerable (Sarkodie and Owusu, 2021). The economic losses were very high, reaching $124 billion in the USA for example (Haryanto, 2020).

The International Labor Organization (ILO) reported about employment in the tourism sector through the COVID-19 pandemic. The analysis included the employees' conditions in the tourism sector of 14 Asian countries. They announced that 15.3 million tourism workers were affected by the COVID-19 pandemic of which 6.4 million were women (ILO, 2021). Hervie et al. (2022) studied the effect of the COVID-19 pandemic on hotel employees in Ghana. More than 80% of the sample reported the effect on their salaries, while a wide percentage reported the threat to their jobs through the pandemic. In Jordan, notwithstanding the Defense Orders employed toward the start of the pandemic which prevented the organizations from terminating an employee, the employees were affected in different ways, which will be investigated in this study.

In Jordan like in other countries as a response to the pandemic, all tourism enterprises were completely locked in 2020. The income of tourism enterprises during the period of the complete lockdown ceased. The tourism enterprises' reaction concentrated on minimizing the running cost to the lowest level. This was achieved through different actions. Most tourism enterprises started to decrease the number of workers. Large tourism enterprises which could not minimize the number of employees started to utilize governmental programs to compensate their workers through the pandemic. This paper aimed at investigating the effect of the pandemic on tourism sector employees.

LITERATURE REVIEW
1. Fear of the COVID-19 Pandemic

The complete lockdown as a reaction to the COVID-19 pandemic is ongoing at the beginning of 2020. The complete lockdown of all economic sectors with the ambiguous future of the pandemic and the time needed to return to usual life put

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most individuals at risk, especially in the private sector. These circumstances put people to live under pressure (Kang et al., 2021). The accomplished degree of stress fluctuated by the sort of vocation and the degree of pandemic impact. The most result on employees, subsequently, was the stress on the employees of the tourism sector. Generally, stress was characterized as the challenges that came about mentally and can't be defied by people (Donald and Thomas, 1983; Haver et al., 2019; Jamal, 1984). The wellsprings of stress coming about because of the inward or the outside work climate impacted the workers straightforwardly. During the COVID-19 pandemic, the tourism & hospitality sector was one of the sectors affected harshly and broadly. The internal lockdown and the cease of cross-border movements put this industry at risk. The extent of stress experienced by employees varied according to the type of careers they practice within the industry (Cheng and O-Yang, 2018; Tongchaiprasit and Ariyabuddhiphongs, 2016) and the enterprises' financial position which influences their capacities to confront the strategies taken as a reaction to the pandemic. The highest stress was on the free practitioners of tourism activities, the micro or small tourism enterprises.

2. Organizational Trust

Organizational trust mirrors the strength of relationships connecting employees to their organization. Generally, organizational trust was defined as the expectations the employees can receive through their organization (Shockley-Zalabak et al., 2000). Internally, organizational trust is addressed by the various degrees of trust made among the different administrative levels at the organization. Organizational trust affects the behavior of employees toward the objectives of the organization and improves performance in the short and long run. One of the factors that increased the employees' trust is the low turnover. During the COVID-19 pandemic, the turnover of employees was very high, especially in the private sector, which decreased organizational trust, especially in the tourism industry. Hervie et al. (2022) have shown that one of the behaviors helps the hotel industry to face the pandemic was to minimize the number of employees. Worldwide, it was reported that 62 million jobs were lost in the tourism sector (ILO, 2021). Most of the jobs lost were recorded to be in micro or small enterprises of the sector according to the World Travel and Tourism Council (WTTC, 2021). The low stability and high job losses in the tourism sector decreased organizational trust, especially in SMEs.

3. Job Satisfaction

Job satisfaction is considered the motive of individuals to behave, produce and react to their surroundings (Agarwal and Sajid, 2017). Different measures could determine the extent of job satisfaction of the individual. The first level is the ability of the job to provide good, while the other is related to the ability of an individual to react to others including individuals or organizations (Spector, 2014). Job satisfaction affects the employee's behavior throughout his/her career life. Job satisfaction may change over time when the surrounding conditions of the job change. This is one of the consequences followed by the experience gained through the COVID-19 pandemic (Cheng and Kao, 2022).

Some tourism & hospitality activities were affected more than others. The hotel and hospitality activities were severely affected without alternative plans to recover from the disaster (Melián-Alzola et al., 2020; Romagosa, 2020). The sector vulnerability changed the employees' job satisfaction or the work sector satisfaction.

4. Self-Esteem

The COVID-19 pandemic has changed the lifestyle of people. The pandemic left a deep impact on behavior, depression, and life satisfaction (Kang et al., 2021; Yan et al., 2021). Moreover, the pandemic affected the individuals' consumption patterns, social life, and daily life plans which affected their self-attitudes toward things related to the pandemic (Kim, 2020). Self-esteem was highly affected by the pandemic and through the rumors carried through the pandemic days. In usual conditions, the situation is different. Self-esteem will be the source of enthusiasm (Diener and Diener, 1995) and self-trust. Positive self-esteem will shape the form of dealing with others, work, and the procedures used to solve any problems related to employees.

5. Job Security

Job insecurity terms became familiar at the time of the COVID-19 pandemic (Basyouni and El Keshky, 2021). Job security was related to any internal or external factors that may threaten the ability of individuals to practice their jobs regularly or cause these individuals to lose these jobs due to any cause (Greenhalgh and Rosenblatt, 1984). It is connected to any internal or external causes of insecurity causes (De Witte, 1999). It is connected to the power of the employer and the financial conditions of the enterprise in the traditional concept (Probst, 2003).

The COVID-19 pandemic moved authors to discuss job security out of the box. This time job security was threatened by an unexpected and rapid distributing pandemic. The complete lockdown and the pause of financial flow stopped the enterprises' capabilities to take over the current expenses of their businesses. The main solution fronting these enterprises was to decrease the working staff and to keep the important positions related to the enterprise business. According to ILO, millions of employees experienced job insecurity around the world (ILO, 2021). Job insecurity in turn will change the employees' views about their organization and their loyalty to the organization.

6. Organizational Commitment

Organizational commitment is the ability of the organization to provide its employees with expectations such as job security, suitable income, job performance, and additional services such as health insurance (Darwish, 2017). Organizational commitment is connected to different factors of the internal conditions of the organization. The first internal factor that affects organizational commitment is the financial position. Organizational commitment affects other parameters such as job satisfaction (Ahmad et al., 2014; Çelik, 2008). During the COVID-19 pandemic, the first organization's attitude

was to stay in the market through the crisis which changed the priorities of the organization and the policies followed to accomplish. Consequently, the commitment to the employees has been changed according to the employee's importance to the organization and the ability of small and medium enterprises to continue commitment to their employees and owners. These deep changes converted the organizational commitments to their employees.

7. Governmental Commitment

In Jordan, the procedures followed to alleviate the effect of the COVID-19 pandemic on the different economic sectors were different from other countries. The Defense Orders were issued to help vulnerable people economically (UNDP, 2020). Through the Defense Orders, enterprises of different sectors were not allowed to fire their employees. This helped most of the employees to continue in their positions. On the other hand, the Jordanian Government adopted different financial aid programs to help business owners to tolerate the sharp drop in income to pay their employees. This order was conditioned with the registration in the Social Security Department. Consequently, a large number of SMEs registered to benefit from these aids. Moreover, the government launched a platform for freelancers to register to benefit from governmental aid. Some freelancer workers who did not meet the conditions did not benefit from these aids. These governmental procedures applied varied from one sector to another. This research included this variable as DV to measure the effect of other independent variables and mediated variables on governmental commitment.

METHODOLOGY

1. Objectives: The objective of this study is to examine generally the effect of COVID-19 on employees in the tourism sector. The sub-objectives investigated included the employees' convenience of the tourism sector as a career specialization, the trust of the organization in the tourism sector, the attitudes of the government support to help people in this vital sector, and the socio-demographic characteristics of employees in the tourism sector on their attitudes on the future of working in this sector.

2. Settings: This cross-sectional study includes the employees in the tourism sector at the time of the COVID-19 pandemic.

3. Population and Sample: The population of this study included all employees in the tourism sector. Due to the difficulty of reaching the population of the study, a simple random sample was selected. The tool of this study was distributed through the chain methodology. The first chain level included the workers in the Ministry of tourism, managers of hotels, owners of tourism enterprises in different activities, and direct forwarding of the questionnaire of tourism employees through the available databases. The total number of the simple random sample included 404 employees distributed on different tourism activities.

4. Study Variables: The studied variables were collected through different previous research. The studied variables directly or indirectly affected the attitudes and behavior of employees to deal with the COVID-19 pandemic. The variables included in the study were as follow:

- Demographic and Working Characteristics: This variable included the following criteria which were expected to affect the attitudes of employees. The demographic characteristics included gender, age (18-30 years, 31-40 years, 41-50 years, 51-60 years, more than 61 years), level of education (less than Tawjeehi, diploma, bachelor, and higher studies) and the nationality (Jordanian and non-Jordanian). The working characteristics included the institutional activity (hotel five stars), hotel less than five stars), tourism restaurants, travel agency, tour guide), work location, level of working (managerial staff, non-managerial staff), work experience (less than 5 years, 5 to 10 years, more than 10 years), stop working during the COVID-19 (yes, no), period of stop working (less than one month, 1-3 months, 4-6 months, more than 6 months), still working in tourism sector (yes, no), the effect of COVID-19 on salary (yes, no), the percentage of salary drop (25, 50, 75, 100%), benefit from governmental financial aids for the affected sectors (yes, no).
- Independent Variable (IV): The independent variable was represented in the fear of the COVID-19 pandemic This variable was used based on different studies including Abbas et al. (2021), Mehta et al. (2021), and Yan et al. (2021).
- Intermediate Variables: The Intermediate Variables Included:

Job Security: Job security was discussed in the tourism sector through the move to the unemployment sector, the effect on income, and the low social security support through the COVID-19 pandemic. Sun et al. (2021) discussed job security through the preference to join sectors of more secured jobs other than the hotel industry.

Organizational Trust: Kang et al. (2021) discussed organizational trust as the major key that encourages employees to join enterprises in the tourism sector. They discussed organizational trust as a variable that affects employee continuity in the organization.

Job Satisfaction: Kang et al. (2021) discussed job satisfaction and its role in the employee's tendency to complete their career life in the tourism sector.

Self-Esteem: Kang et al. (2021) discussed self-esteem as a source of self-encouragement to follow-up work in the tourism sector.

- Dependent Variables (DV):

Organization commitment: Kang et al. (2021) discussed the role of the organization to protect its employees during the COVID-19 pandemic.

Government Commitment: This variable was added by the researcher in response to the Defense Orders issued by the government to protect employees in different sectors from being fired.

5. Statistical Analysis

Two types of statistical analysis were used to reach the objectives of this research as follows:

- Descriptive Statistics: Frequencies and percentages were used to measure the demographic characteristics of the sample. Means and standard errors were used to measure the employees' trends for the different variables.

- Inferential Statistics: Structural equation modeling (SEM) was used to test the different hypotheses of this research. The first step of SEM was testing for the reliability of the variables. The second step was testing for the normality distribution of the variables. The third step was the measurement of the loading factor for each item to figure out the items that can be used to measure each variable of the study. The last step was to measure SEM through the model stability and regression coefficients of the model to measure the different effects.
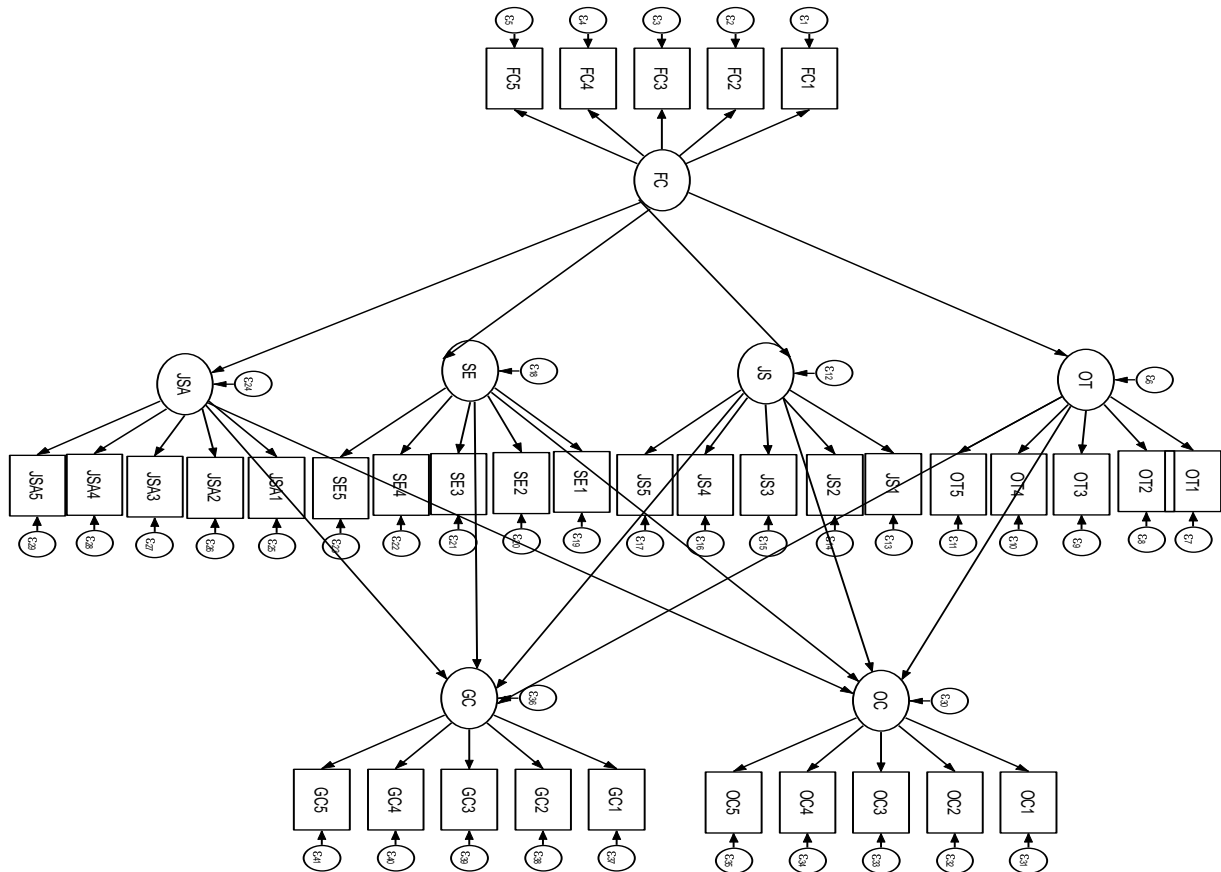
Figure 1. Research Model

RESULTS

1. Demographic Characteristics

Table 1 shows the demographic characteristics of the tourism employees who participated in this study. The results show that the majority of respondents were males (90.32%) while the rest were females. This is consistent with the fact that most of the labor force in the tourism sector are males in Jordan. Most of the respondents were aged from 31-40 years (38.71%). The second age category was recorded for 51-60 years (19.35%). Most of this age group are working through their businesses. The highest education distributed among the respondents was for bachelor's (45.16%) followed by higher studies (25.81%). Most of the sample respondents were Jordanians (77.42%) (Table 1).

2. Working Characteristics

The respondents' working characteristics were varied which facilitates a variety of information collected about the effect of COVID-19 on the tourism sector (Table 2). The dominant respondents are working as tourist guides (44.83%) followed by less than five-star hotels (27.59%). The rest of the samples were distributed over the five stars hotels, tourism restaurants, and travel agencies. The majority of the respondents were of the non-managerial staff (66.67%), while the managerial staff formed (33.33%) of the respondents (Table 2). The dominant experience was more than 10 years (54.84%) followed by 5-10 years (35.48%). The experience of respondents was 5-10 years and more than 10 years (38.71%). The results showed that the majority of the respondents did not work during the COVID-19 pandemic (74.19%). Most of the samples stopped working from 4 to 6 months (51.61%). The second group stopped working from 1 to 3 months (29.03%). A very wide percentage of the respondents did not have income through the COVID-19 pandemic (Table 2).

About 16.13% of the respondents stopped working in the tourism sector, while the rest of the respondents continued working in the same sector. During the COVID-19 pandemic, about 87.10% of the respondents suffered from a drop in their income or salaries. The respondents showed that their salaries dropped by 25%, 50%, and 75% with almost equal

percentages. On the other hand, about 25.93% of the respondents stopped receiving any salary during the COVID-19 pandemic. About 38.71% of the respondents benefited from governmental aid through the Defense Orders (Table 2).

Table 2. The working characteristic of the respondents

Working Character item	Frequency	Percent
Institutional activity		
Hotel – five stars	26	6.9
Hotel – less than five stars	104	27.59
Tourism restaurant	39	10.34
Travel agency	39	10.34
Tour guide	169	44.83
Position Level		
Managerial staff	117	33.33
Non-managerial staff	234	66.67
Work experience in the tourism sector		
Less than 5 years	39	9.68
5-10 years	143	35.48
More than 10 years	221	54.84
Work experience in the current organization		
Less than 5 years	91	22.58
5-10 years	156	38.71
More than 10 years	156	38.71
Working through Pandemic		
Yes	104	25.81
No	295	74.19
Period of stop working		
Less than one month	52	12.90
1-3 months	117	29.03
4-6 months	208	51.61
More than 6 months	26	6.45
Still working in the tourism sector		
Yes	338	83.97
No	65	16.13
Pandemic effect on salary		
Yes	351	87.10
No	52	12.90
Percent of salary drop		
25%	91	25.93
50%	91	25.93
75%	65	18.52
100%	91	25.93
Benefited from governmental aids		
Yes	156	38.71
No	247	61.29

Table 1. Demographic characteristics of tourism sector employees

Demographic item	Frequency	Percent
Gender		
Male	364	90.32
Female	39	9.68
Age		
18-30 years	65	16.13
31-40 years	156	38.71
41-50 years	65	16.19
51-60 years	78	19.35
More than 61 years	39	9.68
Level of education		
Less than or Tawjeehi	52	12.90
Diploma	65	16.13
Bachelor	182	45.16
Higher studies	104	25.81
Nationality		
Jordanian	312	77.42
Non-Jordanian	91	22.58

Table 3. Means and standard error for the trends of the fear of the COVID-19 pandemic

Item	Mean	St. error
I thought that the pandemic effect will be the highest on the tourism sector	4.16	0.06
I thought the pandemic will leave a high impact on my job	3.97	0.06
I felt that the pandemic will not take a long time, this is why I did not give high care	3.81	0.06
I thought that through the pandemic, I can manage life without high its influence	3.58	0.06
I have the confidence to handle my financial problems through the crisis	3.42	0.07

Table 4. Means and standard error for the trends in job security through the COVID-19 pandemic

Item	Mean	St. error
Job security decreased to a high level through the pandemic	4.19	0.05
I have started to think to find another job	4.06	0.05
I have thought to change my job after the pandemic because I felt that it is a low secure job	3.90	0.04
I expected that my organization will minimize its staff to tolerate the pandemic economic effects	3.68	0.07
I expected that my organization will fire me because of the pandemic	3.48	0.07

3. Trends for Different Variables
3.1. Trends for Fear of COVID-19

Table 3 explains the respondents' fear trends of the COVID-19 pandemic. Most of the respondents believe that the highest effect of the pandemic will be on the tourism sector (4.16±0.06). A high evaluation was given for the effect of the COVID-19 pandemic on respondents' jobs in the tourism sector (3.97±0.06). Most of the respondents believed that the COVID-19 pandemic will not take a long time to finish (3.81±0.06). Also, the results showed that the participants believe that the pandemic will leave a high influence on their lives (3.58±0.06). The least high evaluation was for the self-confidence to deal with the financial problems within the crisis (3.42±0.07) (Table 3).

3.2. Job Security

Table 4 shows the respondents' trends for job security through the pandemic. The results show that the respondents believe that job security dropped to high levels through the pandemic (4.19±0.05). Also, the respondents started to think seriously to search for other jobs to meet their life needs (4.06±0.05). The majority of the sample think seriously to change their jobs to more secure sectors after the pandemic (3.90±0.04). Most of the sample believed that the tourism organizations will decrease the working staff (3.68±0.07) and a group of employees will be fired as a response to the pandemic (3.48±0.07).

3.3. Organizational Trust

Table 5 shows the respondents' trends for organizational trust. The results showed that the organization's trust was moderate. The respondents did not believe that their organizations dealt with them frankly through the pandemic (3.16±0.08). Even though, the trust given to the employees by the organization was at the optimum level (3.10±0.07). A moderate evaluation was given for the fair deal of the organization with its employees and the update of the employees through the pandemic (3.06±0.07). The last evaluation was given to returning employees for advice to pass the COVID-19 pandemic (3.00±0.07).

Table 5. Means and standard error for the trends of the organization trust through the COVID-19 pandemic

Item	Mean	St. error
My organization dealt with me openly and frankly through the pandemic	3.16	0.08
My organization trusted me and supported me through the pandemic	3.10	0.07
My organization dealt with me fairly through the pandemic	3.06	0.07
My organization contacted me all the time and update me through the pandemic	3.06	0.07
My organization asked me for advice through the pandemic to help minimize its effects	3.00	0.07

Table 6. Means and standard error for the trends of job satisfaction through the COVID-19 pandemic

Item	Mean	St. error
The pandemic converted my job into a risky one	4.29	0.05
The governmental support for our jobs was less than jobs of other sectors	4.19	0.05
The pandemic made me less comfortable with my job	4.10	0.05
I will start thinking seriously to change my job in the future	4.06	0.05
My organization support was less, which makes me think to change my job	4.06	0.05

Table 7. Means and standard error for the trends in the self-esteem through COVID-19 pandemic

Item	Mean	St. error
I will introduce suggestions to improve organizational performance	3.68	0.06
I will double my productivity in my organization to help stand its economic conditions	3.52	0.07
I trusted my organization very much through the pandemic	3.29	0.07
I will never think to leave this organization	3.26	0.06
The policy used by my organization improved my trust in it and my job	3.10	0.07

Table 8. Means and standard error for the trends of organizational commitment through the COVID-19 pandemic

Item	Mean	St. error
I have ignored some of my rights to help the organization to pass the pandemic effects	3.87	0.05
I have doubled my working time to improve the organization's performance	3.74	0.07
The pandemic increases my feeling as the original part of this organization	3.65	0.07
I felt the organization was my home that should receive all my care	3.61	0.07
I felt that the organization worked as a family to pass the difficulties of the pandemic	3.55	0.07

3.4. Job Satisfaction

Table 6 shows the respondents' trends of job satisfaction through the COVID-19 pandemic. The results showed that the respondents believe that their job is at high risk within the COVID-19 pandemic (4.29±0.05). The respondents believe that the support they received in the tourism sector was less compared to other sectors (4.19±0.05). The respondents felt less comfortable with their jobs through the pandemic (4.10±0.05). The respondents believe that they should think to change their jobs in the future (4.06±0.05). The lack of organizational support encourages the respondents to start thinking to change their jobs (4.06±0.05).

3.5. Self-Esteem

Despite the depression lived by the respondents, they have moderate self-esteem through the COVID-19 pandemic (Table 7). The respondents show the tendency to introduce suggestions to their organizations to help in improving their performance through the pandemic (3.68±0.06). The respondents showed a moderate tendency to double their productivity to help their organizations (3.52±0.07). The respondents trust their organizations throughout the pandemic, they never think that they will leave them, and policies used moderately improve their trust in their organizations.

3.6. Organizational Commitment

Table 8 shows the trends of respondents for the organization's commitment according to their point of view. The results showed that the respondents show the tendency to ignore some of their rights to help the organization to pass the pandemic (3.87±0.05). Also, they show the tendency to double their working time to improve the organization's performance (3.74±0.07). The respondents felt that are an original part of their organizations (3.65±0.07). The respondents feel that the organization is their second home that deserves to receive the highest care (3.61±0.07), and in the last rank, the work in the organization was family work that helps to pass the pandemic (3.55±0.07).

3.7. Governmental Commitment

The evaluation of the government commitment according to the respondents' point of view was moderate to negative evaluation (Table 9). The respondents showed that they used their savings at the Social Security Corporation to compensate for the salary drop (3.45±0.06). The moderate evaluation was recorded for the loose of their jobs based on governmental Defense Orders (3.03±0.07). Negative attitudes were recorded toward the government's help for the sector to continue in production (2.97±0.06), the governmental compensations to replace the salary drop (2.90±0.07), and the level of support for tourism sector employees as being the higher affected by the pandemic (2.58±0.06).

4. Reliability and Normal Distribution Analysis

The results showed that all the variables of the study were reliable as the Cronbach's alpha value recorded was

higher than 0.6 which is the acceptable threshold for such social research (Hair et al., 2007). For the normal distribution test, the Shapiro-Wilk test was used. The results showed that all the items were normally distributed indicating that all the variables and items will be entered into the SEM analysis.

Table 9. Means and standard error for the trends for governmental commitment through the COVID-19 pandemic

Item	Mean	St. error
I have used my savings in Social Security Corporation to compensate for my salary minimizing	3.45	0.06
The government Defense orders helped me to avoid losing my job during the pandemic	3.03	0.07
The governmental regulations through the pandemic helped the sector to continue	2.97	0.06
The financial assistance received from the governmental programs compensated for my salary decrease in my organization	2.90	0.07
The government support was enough for the tourism sector employees as being the highly affected sector	2.58	0.06

Table 10. Reliability and normal distribution analysis

Variable	Symbol	Cronbach's alpha	Normality test Shapiro-Wilk Test
Fear of COVID-19	FC	0.7960	ND*
Job security	JS	0.694	ND
Organization trust	OT	0.985	ND
Job satisfaction	JSA	0.886	ND
Self-esteem	SE	0.926	ND
Organization commitment	OC	0.933	ND
Governmental commitment	GC	0.924	ND

ND: items are normally distributed

Table 11. The regression coefficients of the variables in the SEM model

Standardized	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
Structural						
OT <- FC	0.426654	0.05389	7.92	0.001	0.321033	0.532276
JS <- FC	-0.17219	0.217346	-0.79	0.428	-0.59818	0.253805
SE <- FC	0.153476	0.064653	2.37	0.018	0.02676	0.280193
JSA <- FC	0.061603	0.051748	1.19	0.234	-0.03982	0.163027
OC < -						
OT	0.369582	0.093313	3.96	0.001	0.186691	0.552473
JS	-0.20686	0.013057	-15.84	0.001	-0.23245	-0.18127
SE	0.477667	0.092177	5.18	0.001	0.297004	0.65833
JSA	0.063618	0.045127	1.41	0.159	-0.02483	0.152066
GC < -						
OT	0.613232	0.073564	8.34	0.001	0.469048	0.757415
JS	0.01792	0.057323	0.31	0.755	-0.09443	0.130271
SE	0.22627	0.107061	2.11	0.035	0.016435	0.436105
JSA	0.131633	0.048648	2.71	0.007	0.036285	0.226981

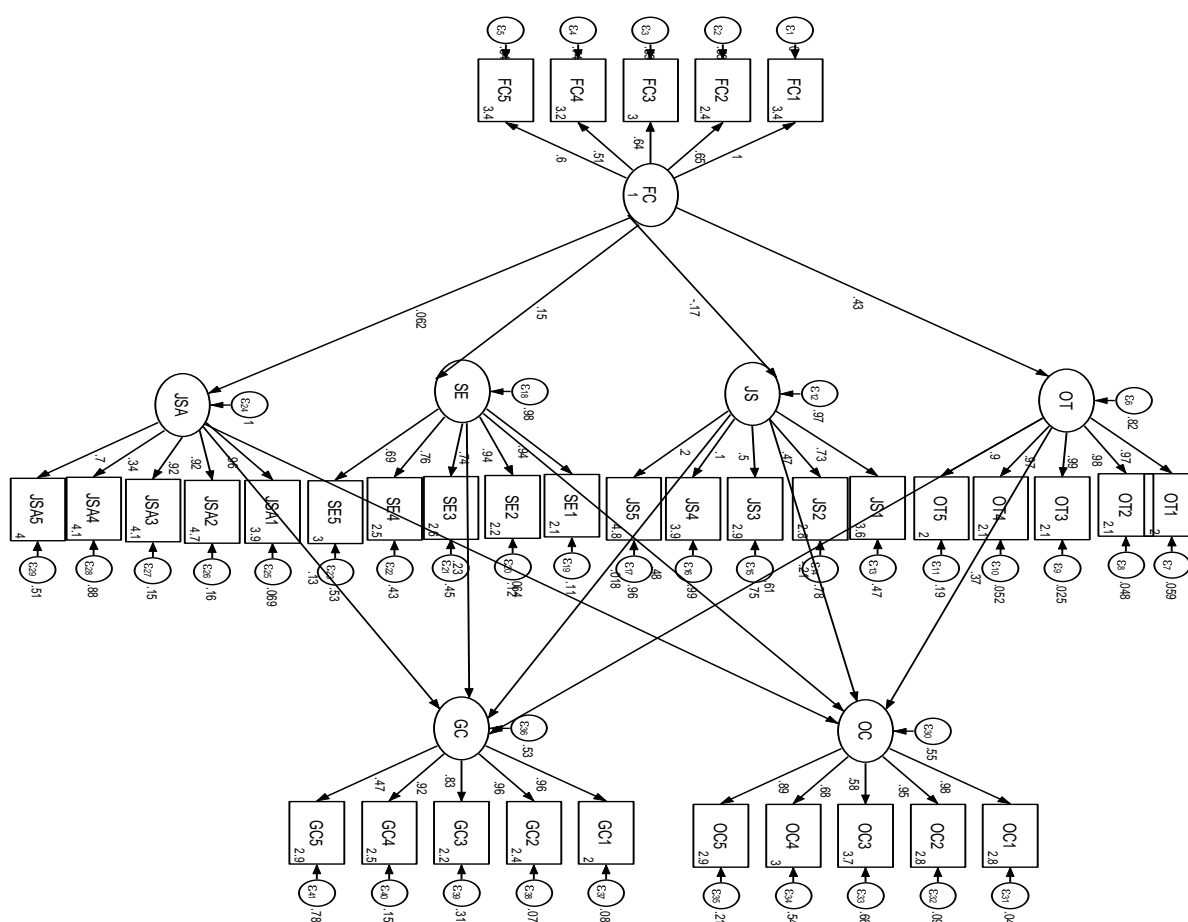Figure 2. The SEM model for the effect of independent variable FC on moderate variables (OT, SE, JSA, and JS) and the final effect on OC and GC

5. Hypothesis Testing

The results showed that the fear of the COVID-19 pandemic increased the trends of respondents for organization trust (OT) (0.43). The fear of the COVID-19 pandemic affected negatively job satisfaction (-0.17). On the other hand,

the effect of fear of COVID-19 was positive on self-esteem (0.15), while the almost very low effect was on job satisfaction (0.05). The effect of OT was positive on organizational commitment (OC) (0.37) and also affected positively governmental commitment (0.69). The results showed that the low job security (JS) affect negatively the organization's commitment (-0.21) and with very an effect on GC (0.01). Self-esteem (SE) affected positively both organizational commitment (0.47) and governmental commitment (0.22). Job satisfaction affected positively both governmental commitment (0.132) and organizational commitment (0.06) (Table 11) (Figure 2).

DISCUSSION

The objective of this study is to investigate the impact of the COVID-19 pandemic on the employees of the tourism sector by studying the fear of the pandemic among the tourism employees and its effect on their attitudes toward job satisfaction, security, self-esteem, organizational trust and so the effect on the organization commitment and governmental commitment in Jordan. It was found that the tourism sector was deeply affected by the COVID-19 pandemic. Similar results were recorded in different countries (Chaudhary et al., 2020; Rahman et al., 2021; Yan et al., 2021).

The impact of the CVOID-19 pandemic on tourism sector employees was encountered in different ways. The major effect was through leaving a considerable percentage without any income, while the effect on others was recorded through the drop in their income. Similar results were reported in the tourism sector in different countries (ILO, 2021; Lagos et al., 2021; Syriopoulos, 2020). The experience of COVID-19 pandemic left a high percentage of sector employees thinking to change their careers after the pandemic especially those who can use their specialty in other sectors such the IT employees. The governmental aids introduced were not enough to encourage the tourism employees to continue in their jobs.

The results showed the fear of the COVID-19 pandemic among the tourism sector employees was very high due to their expectations of its high effect on their lives especially since different sectors started to practice their work in daily short periods, while the employees of this sector continued without work for the period exceeding 6 months in some tourism activities. These findings were compatible with those of other countries (Kang et al., 2021; Rahman et al., 2021). The belief in job security and satisfaction dropped among the employees of the tourism sector. This feeling resulted from the fact that hundreds of this sector employees were left without continuous work either through their organization or through their micro-businesses. The results evolved from the COVID-19 pandemic related to the organizations of this sector dropping the tourism sector employees' belief of the organizations' trust. The results showed that the major practice among the organizations was to minimize the number of workers or drop their salaries to be able to continue in the sector. The tourism employees felt that the organizational trust violated their beliefs after the pandemic. Consequently, most employees believe that the organizational commitment was not very high to their employees due to the change in the organization's behaviors through the pandemic. These beliefs were similar to those of tourism sector employees in different countries (Chaudhary et al., 2020; Melián-Alzola et al., 2020; Yan et al., 2021). The governmental interference to rescue the tourism sector did not reach the optimal level according to the tourism employee's perspectives. Despite the efforts made by the government to help the vulnerable sectors, the support given to the sector employees was not enough to support their financial needs and to ensure the continuity of different enterprises in the sector. The efforts made by the government were made to target the different sectors which increased the burden and minimize the lots of aid introduced to the tourism sector.

The results showed that the fear of the COVID-19 pandemic affected job security and satisfaction among tourism employees. Also, the FC affected the organization's trust and self-esteem of the tourism employees. The results show the negative impact of FC on job security through the SEM model. In general, the impact of FC was on all variables related to job security and satisfaction. It affects the attitudes to organizational commitment and governmental commitment.

CONCLUSIONS AND RECOMMENDATIONS

The objective of this research was to examine the impact of the COVID-19 pandemic on tourism employees in Jordan. The study covered a wide variety of employees in the tourism sector. The results showed that most of the tourism sector employees were affected negatively by the pandemic. The first effect was the threat to their jobs, which decreased their satisfaction and security. The second effect was the negative impact on employees due to the organization's behavior that neglected their employees and increased the pressure on them. The governmental commitment was high to minimize the effect of the pandemic on the tourism sector employees. The results showed that the pandemic left the tourism sector as an experience-losing sector which will affect its future. The study recommended that the governments should extend much effort to the tourism sector to recover quickly and improve employee security in this sector.

Future Research

The future study should concentrate on the policies and procedures that can be applied to strengthen the tourism sectors and the alternative strategies that help the employees of this sector to improve their job security and raise their job satisfaction.

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DEMOGRAPHIC ASPECTS OF URBAN DEVELOPMENT IN TOURIST REGIONS IN POLAND

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Abstract: Demographic processes in well-developed countries constitute an urgent research problem especially in terms of developmental opportunities of local settlements. It is an important issue in tourist regions which allows to conduct appropriate population policy. If the impact of demographic factors on economic development turned out to be significant, it should become a subject of scientific and practical analyses. Pomerania Province is one of the most profitable tourist regions in Poland. The summer season and leisure tourism at the seaside are of the utmost importance. The analysis concerned the towns of Pomerania Province in terms of demographic changes and their impact on the economic development. The analysis was conducted in the years 1995-2020 and it covered the changes that had taken place before Poland joined the EU (2004) as well as the period of fully functioning market economy. Apart from the time period which gives a picture of trends and intensity of the changes, the towns were also distinguished in terms of size showing various trends in big cities and medium-size and small towns.

Key words: tourist region, towns, Pomerania Province, Poland, economic development, demographic changes

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INTRODUCTION

A tourist region has been interpreted in many different ways in the subject literature depending on the researcher's interests. According to one of the more general interpretations, a tourist region is a relatively homogeneous area which is characterized by definite natural and acquired features (Liszewski, 2003) or a part of a physical space which is or may be related to tourist traffic (Mazurski, 2009). As many researchers notice, the notion of a tourist region as well as an attempt to delimit it is evolving and new categories to understand it are introduced (Kruczek, 2009; Butler, 1980; Bachvarov, 2003; Stoffelen, 2022). Nearly all the attempts at delimitation of tourist regions in Poland are based on their natural values and development of tourist facilities (Mazurski, 2009). However, the development of research on tourist economics highlights the necessity to take into consideration both the demand and the supply. Due to the development of tourism, the significance of tourist regions for territorial governments and appropriate regional and local policy is emphasized (Gaworecki, 2000; Gołembski, 2000; Kornak and Rapacz, 2001; Dredge, 2001; Koufodontis and Gaki, 2020). At present, there is a conviction confirmed by research (Logan and Molotch, 1987; Clark, 2003; Shoval, 2018; Musavenganea et al., 2020) that tourism is the most important factor enhancing growth of tourist regions including the development of cities and towns. Tourism generates income for the residents of those cities and towns and for their governments. It also impacts the expenditure structure which shows in greater care to keep the towns clean and tidy and develop the road and tourist infrastructure (Derek at al., 2005). Urban tourism understood in this way, when it is not the city's basic function but an additional one, may determine and facilitate demographic and social changes. A thorough theoretical and empirical analysis of relationships between demographic changes and local and regional development is presented in the study by R. Wiśniewski et. al. (2020). The authors point to a certain model of relationships between social and economic development and demographic processes which includes four main components: the level of general economic development which conditions the level of consumption, living conditions and the quality of life. The latter ones relate to the movements of people guided by their choice of a particular destination that constitutes the fourth and the last component of the model (Wiśniewski et al., 2020, p. 21). Numerous empirical studies undertaking an explanation of cause and effect relationships between economic development and demographic changes emphasize the complexity of those relationships and non-obviousness of the conclusions (Taylor and Hall, 1967; Leibenstein, 1975; Becker, 1992; Śleszyński, 2010; Johnston, 2019; Dolińska et al., 2020).

There are several tourist regions in Poland in of view of environmental determinism. They include the Carpathian Mountains, the Sudeten Mountains, the Lesser Poland Upland, the Masurian Lake District and the Coast.

The Carpathian Mountains is the only area with high mountain landscape. Natural values are the main attractions of the region. There are not many historical sites. Wooden architecture and vivid folklore constitute its main attractions. They attract mostly tourists who practise hiking, skiing and mountain cycling. The mountains also have a lot of recreational values (forests, clean air, lakes: Rożnowskie, Solińskie, Żywieckie). There are a few well-known health resorts (e.g. Krynica, Rabka). The Carpathian Mountains have varied tourist infrastructure and facilities with the best ones in the Silesian Beskids, the Tatra Mountains and Podhale. The Sudeten Mountains are one of the best developed regions in terms

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of tourism. They have varied geological structure and topography. There are accommodation and hospitality facilities, a well developed road network and a network of marked tourist trails. In the Sudeten Mountains there are numerous health resorts (e.g. Kudowa-Zdrój, Duszniki-Zdrój). The most attractive regions in the Sudeten Mountains are: Jelenia Góra Valley, Kłodzko Valley, the Karkonosze, the Stołowe Mountains and the Śnieżnik Mountains.

The Lesser Poland Upland is poorly developed in terms of tourism. Its tourist values include interesting topography, national parks (Ojców National Park and Świętokrzyski National Park) as well as historical sites in Cracow and Częstochowa. The most tourist traffic focuses in three regions: the Kraków-Częstochowa Upland with interesting karst landscape, the Świętokrzyskie Mountains, Cracow and Wieliczka. The greatest attraction of the Masurian Lake District are lakes and forests. There are also anthropogenic attractions (Teutonic castles, open-air museums and museums). This region has well-developed accommodation facilities especially campsites. The most tourist traffic takes place in the summer. The main tourist areas are the Great Lakes District, the surroundings of Augustów, Ełk anf Wigry Lake.

The Coast is the region with the most tourist traffic in the summer season. It is a region of exceptional tourist and leisure values. There are sandy beaches, forests, coastal lakes (Łebsko, Jamno, Gardno). The coast has the most accommodation facilities including a large number of campsites. The anthropogenic attractions include the hisorical sites of Gdańsk, Szczecin, Kołobrzeg and Słupsk. The main aim of this article is to present the demographic factors affecting the development of cities and towns in a selected tourist region in Poland. Consequently, it is an attempt to determine the relationships between demographic and economic factors in local terms. The area to be studied was selected on the basis of delimitation within the administrative borders of the provinces. It was due to the way of aggregating statistical data by the Central Statistical Office (GUS) in Poland which are collected by admistrative units that are not always the same as the tourist regions. Ultimately, the analyzes were carried out for all cities of the Pomeranian Voivodeship.

MATERIALS AND METHODS

In order to determine the area of research, an analysis of the budgets of communes and towns with county rights was conducted according to the Budget Classification System – category 630 Tourism. The data are collected by the Local Data Bank of the Central Statistical Office in Poland (www.stat.gov.pl). The analysed data are available in the statistics for the years 2008-2020 (Table 1). The selection of the area to analyse was made on the basis of the reported average annual income from tourism so as to avoid deviations from the trend to achieve that income. They were calculated as the arithmertic mean of the years 2008-2020. The communes in Pomerania have the highest average income from tourism among the 16 provinces in Poland. When different anuual periods are taken into account, Pomerania Province is always on the forefront of the regions which have the highest income from tourism. In the last few year (2018-2020), Lesser Poland Province had a bigger share and in the previous years West Pomerania Province, Warmia-Masuria Province and Łódź Province occasionaly had a bigger share. In the end, all analyses of the social and population changes took into account all the towns in Pomerania Province as one of the most profitable tourist regions in Poland (Table 1).

Table 1. Budget income of communes and towns with county rights in the category 630 Tourism in provinces
in Poland in the years 2008-2020 (Data source: Public finances, GUS, Warszawa, www.stat.gov.pl, 30.09.2021, the author's own study)

Administrative unit	Average income from tourism in the years 2008-2020 (PLN)	Share in the income from tourism in Poland in the years 2008-2020 (%)
POLAND	203 721 440.66	100.00
LOWER SILESIA PROVINCE	19 318 617.24	9.48
KUJAWY-POMERANIA PROVINCE	4 215 504.73	2.07
LUBLIN PROVINCE	10 096 359.49	4.96
LUBUSKIE PROVINCE	8 269 221.38	4.06
ŁODŹ PROVINCE	18 933 871.66	9.29
LESSER POLAND PROVINCE	20 367 615.50	10.00
MAZOVIA PROVINCE[	4 752 356.36	2.33
OPOLE PROVINCE	3 758 400.17	1.84
SUBCARPATHIA PROVINCE	8 751 214.29	4.30
PODLASIE PROVINCE	9 711 327.65	4.77
POMERANIA PROVINCE	29 880 891.23	14.67
SILESIA PROVINCE	11 626 898.84	5.71
ŚWIĘTOKRZYSKIE PROVINCE	8 724 765.82	4.28
WARMIA-MASURIA PROVINCE	18 271 173.66	8.97
GREATER POLAND PROVINCE	9 727 951.87	4.78
WEST POMERANIA PROVINCE	17 315 270.76	8.50

The Polish statistics, i.e. the Local Data Bank (BDL) of the Central Statistical Office (GUS) in Poland were the source of data for this research. The data analysed in the study concerned the demographic characteristics and economic data, finances of the territorial governments and the labour market. The analyses of the demographic and economic characteristics were conducted for the years 1995-2020. They were divided into two sub-periods due to comparability of data with economic variables: 1995-2005 and 2006-2020. The analysis of the demographic changes covered the whole period and, additionally, the two sub-periods which allowed to identify the pace of change. It is important due to the political situation of Poland as the first period of dynamic population changes is connected with Poland's accession into the European Union. The economic data in the first period under analysis (1995-2005) were incomplete and incomparable due to numerous changes in the reporting. The data were used for the analyses, however, it is necessary to remember that they were incomplete.

The inaccuracies of the statistics also relate to the current population states. It is a result of underestmating and overestimating the population states. This mainly results from the fact often pointed to by numerous researchers that some of the foreign and internal migrations were not registered (Sakson, 2001; Śleszyński, 2004; Michalski, 2014; Wiśniewski et al., 2020). 5 variables were applied to evaluate the demographic situation and changes:

- W-1 the rate of population growth/decline dynamics (% of the population growth/decline compared to the previous year);
- W-2 the average rate of population aging (number of inhabitants aged 65+ per 100 inhabitants under 14 years of age);
- W-3 the average feminisation rate for the population of marriage age (number of women per 100 men aged 25-44);
- W-4 the average rate of the population growth/decline (anual balance between live births and deaths per 1000 inhabitants);
- W-5 the average migration rate (annual balance of registered immigrants and emigrants in foreign and internal migrations per 1000 inhabitants).

The following 5 variables were applied to analyse the economic situation and changes:
- W-6 the rate of increase/decrease dynamics of the total commune's income per capita (% of the increase/decrease of income compared to the previous year);
- W-7 the average share of the commune's own income in the total budget;
- W-8 the average rate of economic entities (number of economic entities per 1000 inhabitants);
- W-9 the average share of investment spending in the commune's total spending;
- W-10 the average registered unemployment rate (number of registered unemployed people per 100 working-age population).

For the indicators W-6, W-7, W-9 and W-10 in urban-rural communes, the data were calculated for the whole commune due to lack of data for the town itself. Additionally, data from the years 2003-2020 were applied for indicator W-10 due to lack of comparable data from the previous period. Only two of the 10 variables mentioned above were defined as destimulants: the average indicator of population aging (W-2) and the average registered unemployment rate (W-10).

Then, the average level of the demographic and economic characteristics of the town was calculated. In order to compare the analysed variables, stimulating and normalizing transformations were conducted with the use of zero unitarization method which affects the sensitivity of primary data the least (Kukuła, 1999). The transformation of the diagnostic characteristics was reduced to a form where the volatility range is stable and equals 1. In this method, the distance between the variable from one of the ranges of variation is divided by the range which is the difference between the maximum and minimum value. This is a non-negative method and the calculating procedure is as follows (Młodak, 2006):

for stimulant: $Z_{ij} = (x_{ij} - \min x_{ij}) / (\max x_{ij} - \min x_{ij})$;

for destimulant: $Z_{ij} = (\max x_{ij} - x_{ij}) / (\max x_{ij} - \min x_{ij})$; where: Z_{ij} – standardized value of characteristics x_j, $\min x_{ij}$ – minimum value of characteristics x_j, $\max x_{ij}$ – maximum value of characteristics x_j.

Furthermore, the correlation between the demographic variables and the economic development of the town was shown. To do that, the method of Pearson's correlation coefficient was applied.

RESULTS AND DISCUSSION
Characteristic of towns in Pomerania Province

Pomerania Province, one of the most attractive tourist regions in Poland, has unique natural values, coastal location and unique cultural heritage of the etnographic lands: Kaszuby, Kociewie, Krajna and Bory Tucholskie. In terms of economy, they are really varied regions. The tri-city agglomeration is an outstanding area and its core part the Tri-city accumulates the biggest part of the human and economic capital. The towns in the west of the province are not so much affected by its capital. They are different in terms of history which is more connected with the Slovincian culture and its specificity resulting from exchange of a large part of the population after World War II. In the south and west of the province, there
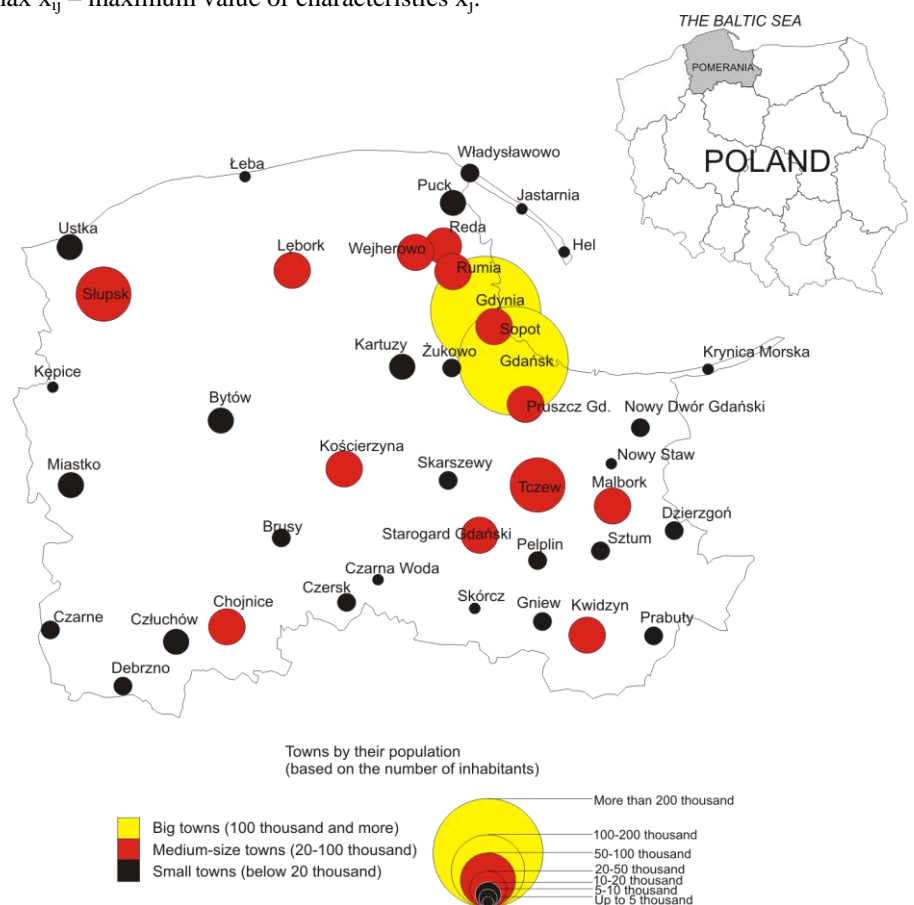

Figure 1. The towns of Pomerania Province according to their population in 2020
(Source: Population, BDL, GUS, www.stat.gov.pl, 30.09.2021, the author's own study)

are two large ethnic groups of Kashubian and Kociewie people who are the most closely connected with Pomerania region. The other towns are located on the coast and their roots and developmental trends are closely connected with marine economy and leisure tourism. Thus, the Pomeranian towns are characterized with great diversity in terms of their functions, which results in different behavioural models in the area of social and economic growth (Dutkowski, 2017).

As far as the size is concerned, there are only two towns with more than 100 thousand inhabitants: Gdynia and Gdańsk (Figure 1). 13 towns are medium-size towns with the population between 20 and 100 thousand. Most of the Pomeranian towns i.e., 27 are small towns with the population under 20 thousand. In terms of location, most of the towns are situated within the tri-city agglomeration and along the most important transport routes of Pomerania Province both roads and railways.

In Pomerania, 42 places are granted the town status (Table 2). Administratively, there are towns with county rights which function both as urban communes and county towns, urban communes and urban-rural communes. In 2020, 4 towns had the status of towns with county rights i.e., Gdańsk, Gdynia, Sopot and Słupsk. There were 18 towns with the status of urban communes and 20 towns in urban-rural communes.

Table 2. Admistrative status and Pomeranian towns' classification according to size in 2020.
(Data source: Administrative division, Population, BDL, GUS, Warszawa, www.stat.gov.pl, 30.09.2021, the author's own study)

Administrative status	Small towns (up to 20 thousand inhabitants)	Medium-size towns (20-100 thousand inhabitants)	Big towns (over 100 thousand inhabitants)
Towns with county rights	-	Słupsk, Sopot (2)	Gdańsk, Gdynia (2)
Rural communes	Człuchów, Łeba, Krynica Morska, Hel, Puck, Ustka, Skórcz (7)	Chojnice, Pruszcz Gdański, Kościerzyna, Kwidzyn, Lębork, Malbork, Starogard Gdański, Tczew, Reda, Rumia, Wejherowo (11)	-
Towns in urban-rural communes	Bytów, Miastko, Brusy, Czersk, Czarne, Debrzno, Kartuzy, Żukowo, Prabuty, Dzierzgoń, Nowy Staw, Sztum, Nowy Dwór Gdański, Jastarnia, Władysławowo, Kępice, Czarna Woda, Skarszewy, Gniew, Pelplin (20)	-	-

Demographic changes in towns of Pomerania in Poland

The demographic changes in Poland at the begining of the 1990s are connected with political and economic changes. In this period, birth rate dramatically declined (Kurek, 2008). The population growth slowed down. A similar situation took place in the towns of Pomerania Province although the depopulation changes were rather slow in this region.

The population of Pomerania Province in the years 1995-2020 did not change significantly but tended to grow compared to the population in Poland (Table 3). However, it increased in the rural areas compared to medium-size and small towns, which is the result of suburbanization processes taking place in Ponad (Wiśniewski et al., 2020).

Table 3. The population of Poland and Pomerania Province in the years 1995-2020 (Data source: Population, BDL, GUS, Warszawa, www.stat.gov.pl, 30.09.2021, the author's own study)

Administrative unit	Population (in thousands)		Change (%)
	1995	2020	1995-2020
TOTAL			
Poland	38 639.34	38 265.01	-0.89
Pomerania Province	2 165.68	2 346.67	+8.36
TOWNS			
Poland	23 876.67	22 905.09	-4.07
Pomerania Province	1 496.12	1 482.78	-0.89
RURAL AREAS			
Poland	14 732.73	15 359.92	+4.26
Pomerania Province	669.56	863.89	+29.02

Table 4. Average annual rate of population change in the towns of Pomerania Province in the years 1995- 2020 (Data source: Population, BDL, GUS, Warszawa, www.stat.gov.pl, 30.09.2021, the author's own study)

Average annual rate of population change (%)	Small towns (up to 20 thousand inhabitants)	Medium-size towns (20-100 thousand inhabitants)	Big towns (over 100 thousand inhabitants)
1995-2005			
from -1.81 to -1.01	2	0	0
from – 1.00 to 0.00	14	10	1
from 0.00 to +1.00	8	1	1
from +1.01 to +1.98	3	2	0
2006-2020			
from -2.41 to -1.01	3	0	0
from – 1.00 to 0.00	17	6	1
from 0.00 to +1.00	7	5	1
from +1.01 to 2.54	0	2	0
1995-2020			
from -1.54 to -1.01	3	0	0
from – 1.00 to 0.00	16	8	1
from 0.00 to +1.00	7	3	1
from +1.01 to 2.31	1	2	0

In individual towns of that region, the average annual rate of population growth/decline was from -1.54 to +2.31 in the years 1995-2020 (Table 4). The most favourable changes occured in the towns near Tri-city, in medium-size and small towns i.e., Rumia, Pruszcz Gdański, Wejherowo, Żukowo which grow naturally as a result of the suburbanization processes. Unfortunately, a majority of the towns of Pomerania Province lose their population resources including the coastal towns like Ustka, Łeba, Władysławowo, Jastarnia and Hel. Depopulation is increasing in each decade which is confirmed by the extreme values of the average rate of population decline. In the years 1995-2005, two small towns (Hel and Kępice) were in the first range of the highest decline with an average annual decline -1.81% and -1.04 % respectively. In the years 2006-2020, there were three towns with a much higher average population decline (Hel: -1.36%, Jastarnia: – 2.41% oraz Władysławowo: -2.18%).

Depopulation of the Pomeranian towns is accompanied by constant increase of the average population aging rate (Table 5.). Sopot reported the highest rate of population aging of all the Pomeranian towns. During the whole period under research, the population aging rate in Sopot increased 2.5 times. At present, there are more than 258 people aged 65 and

older per 100 people aged 0-14. Sopot does not offer many new houses due to its limited possibilities of urban development as it is situated between Gdańsk and Gdynia. Young people and promising families would definitely be interested in new housing opportunities though. Unfortunately, lack of opportunities in this area results in the significant decrease of the population age. The aging rate of the Sopot population is one of the lowest. In many other towns, the increase of the average rate of population growth is much less favourable. In small towns like Ustka, Człuchów and Miastko the share of older population increased fivefold and in Hel even tenfold. In general, all the towns recorded an increase of the average population aging rate. Moreover, the number of towns with the highest population aging rate increased from 1 to 14.

Table 5. Average rate of demographic aging in the towns of Pomerania Province in the years 1995- 2020
(Data source: Population, BDL, GUS, Warszawa, www.stat.gov.pl, 30.09.2021, the author's own study)

Average rate of demographic aging (%)	Small towns (up to 20 thousand inhabitants)	Medium-size towns (20-100 thousand inhabitants)	Big towns (over 100 thousand inhabitants)
1995-2005			
from 22.88 to 50.00	18	6	0
from 50.01 to 100.00	10	6	2
from 100.01 to 146.89	0	1	0
2006-2020			
from 43.24 to 50.00	0	1	0
from 50.01 to 100.00	18	9	0
from 100.01 to 227.35	9	3	2
1995-2020			
from 34.63 to 50.00	3	1	0
from 50.01 to 100.00	23	11	2
from 100.01 to 108.61	1	1	0

The average feminisation rate of marriage age[1] population is an important indicator of procreational and growth possibilities of territorial units. If there is a big disproportion between the sexes, it is likely to disrupt the lifecycle, especially in terms of starting families and procreation. In the small towns of Pomerania Province in Poland, certain disproportions are observed (Table 6). In the big towns, the number of men of childbearing age (25-44) was slightly higher than the number of women. Although this disproportion was bigger at the beginning of the research period, in 1999-2010 the proportions became more equal and then a systhematic decline of the share of women in this age category occured. Overall, the feminisation indicator in this population group increased in the period under study in small towns, which resulted in favourable changes and equalization of proportions between the sexes. In this group of towns, only Pruszcz reported a decrease in the average share of marriage age women compared to men of the same age. Starogard Gdański, on the contrary, recorded an increase of the feminisation rate from 97.70 in 1995 to 109.96 in 2020. In small towns the feminisation rate tends to increase, which is clearly visible in the period of 2006-2020. Provided that this rate does not rise significantly, the current situation should be considered as normal. However, leaving small towns by men of marriage age is a serious threat to those towns from future point of view. The biggest disproportions, and hence the fastest increase of that rate, are observed in a few small towns i.e., Hel, Miastko, Pelplin and Czarna Woda.

Table 6. Average rate of feminisation of marriage age people in the towns of Pomerania Province in the years 1995- 2020
(Data source: Population, BDL, GUS, Warszawa, www.stat.gov.pl, 30.09.2021, the author's own study)

Average rate of feminisation of marriage age people	Small towns (up to 20 thousand inhabitants)	Medium-size towns (20-100 thousand inhabitants)	Big towns (over 100 thousand inhabitants)
1995-2005			
from 91.73 to 100.00	18	12	2
from 100.01 to 105.00	5	1	0
from 105.01 to 114.75	4	0	0
2006-2020			
from 94.11 to 100.00	6	6	2
from 100.01 to 105.00	16	6	0
from 105.01 to 116.48	5	1	0
1995-2020			
from 95.01 to 100.00	10	12	2
from 100.01 to 105.00	13	1	0
from 105.01 to 115.75	4	0	0

Natural birth rate is one of the elements of the demographic transition creating population growth and structure according to age. The towns of the tri-city agglomeration recorded population decline in the whole period under research, which is characteristic for depopulating Polish towns (Table 7). Positive fluctuations and increase of the natural birth rate was observed in Gdańsk in the last 14 years. This is the result of migration of young people to the Province capital initially to continue their education and then to seek employment and settle down in a big and growing town. Overall, the best birth rates were recorded in the growing tri-city agglomeration both in small and medium-size towns such as Pruszcz Gdański, Żukowo, Władysławowo, Rumia, Reda, Wejherowo. Some of the Kashubian towns seem specific in this respect as they had

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[1] After Wiśniewski R. et al. (2020) the marriage age was corrected from the usually applied age of 19-33 due to a constant trend observed in Poland for many years now getting married at an older age and a bigger share of second marriages. This proces is convergent with West European trends where the average age of the newlyweds is still 4 years older and similar to the age 25-44 applied in the study.

significantly higher rates (Bytów, Brusy, Debrzno, Kościerzyna). The worst situation in this respect occured in coastal towns and western part of the province where, on average, population decline was observed (Łeba, Jastarnia, Puck, Ustka, Kępice).

Migration balance is another factor next to birth rate which directly affects population numbers. General trends in Poland are not favorable (Demograpic situation in Poland..., 2021). The situation is similar in Pomerania Province (Table 8). Towns with positive migration balance are situated within the tri-city agglomeration: Pruszcz Gdański, Reda, Rumia, Żukowo. The other towns, both medium-size and small ones, experienced large population decline. It was caused by resettlements to suburban areas and leaving for big cities especially in the case of young people.

Table 7. Average rate of population growth/decline in the towns of Pomerania Province in the years 1995- 2020
(Data source: Population, BDL, GUS, Warszawa, www.stat.gov.pl, 30.09.2021, the author's own study)

Average rate of population growth/decline (‰)	Small towns (up to 20 thousand inhabitants)	Medium-size towns (20-100 thousand inhabitants)	Big towns (over 100 thousand inhabitants)
1995-2005			
from -5.61 to 0.00	1	1	2
from 0.01 to 5.00	22	11	0
from 5.01 to 7.88	4	1	0
2006-2020			
from -5.52 to 0.00	16	3	1
from 0.01 to 5.00	9	8	1
from 5.01 to 9.11	2	2	0
1995-2020			
from -5.56 to 0.00	7	3	2
from 0.01 to 5.00	19	9	0
from 5.01 to 7.84	2	1	0

Table 8. Average level of migration balance in the towns of Pomerania Province in the years 1995- 2020 (Data source: Population, BDL, GUS, Warszawa, www.stat.gov.pl, 30.09.2021; the author's own study) * There are no data concerning foreign migration for Polish communes available for 2015. Internal migration balance was used to calculate the migration balance for this year

Average level of migration balance (‰)	Small towns (up to 20 thousand inhabitants)	Medium-size towns (20-100 thousand inhabitants)	Big towns (over 100 thousand inhabitants)
1995-2005			
od -13.45 do -5.00	6	0	0
od -5.01 do 0.00	13	7	1
od 0.01 do 10.59	8	6	1
2006-2020			
od -18.05 do -5.00	9	0	0
od -5.01 do 0.00	17	9	1
od 0.01 do 14.63	1	4	1
1995-2020			
od -16.11 do -5.00	5	0	0
od -5.01 do 0.00	19	10	1
od 0.01 do 12.92	3	3	1

Table 9. Average dynamics of total commune's income growth in the towns of Pomerania Province in
the years 1995- 2020 (Data source: Public finances, BDL, GUS, Warszawa, www.stat.gov.pl, 27.05.2022; the author's own study)

Average dynamics of total commune's income per capita (%)	Small towns (up to 20 thousand inhabitants)	Medium-size towns (20-100 thousand inhabitants)	Big towns (over 100 thousand inhabitants)
1995-2005			
from 10.46 to 15.00	10	6	2
from 15.01 to 20.00	10	7	0
from 20.01 to 28.96	7	0	0
2006-2020			
from 6.81 to 15.00	25	13	2
from 15.01 to 20.00	1	0	0
from 20.01 to 20.25	1	0	0
1995-2020			
from 8.57 to 15.00	23	13	2
from 15.01 to 20.00	3	0	0
from 20.01 to 23.73	1	0	0

Economic changes in Pomeranian towns in Poland

Local economic changes leading to the development of communes and towns are an individual issue. According to Wiśniewski et al. (2020), the following factors are significant: interaction between residents, spatial accessibility, natural conditions, and factors connected to the local specificity, e.g. the presence of the local leader. The study analyses the commune's income (W-6, W-7), intensity of economic activity (W-8), investment spending (W-9) and the unemployment rate as a factor destabilizing local development (W-10). The average commune's income growth rate per capita decreased in the years 1995-2020 (Table 9). Although a majority of towns in Pomerania recorded income growth by 15-20% in the years 1995-2005, the income growth dynamics decreased to less than 15% in the next period under study. Krynica Morska

recorded the highest commune's income growth per capita. It is one of the smallest towns in Poland. It is located in the Vistula Spit and surrounded by the Baltic Sea (Gdańsk Bay) from the north and the Vistula Lagoon from the south. There are great conditions for leisure tourism thanks to large areas of pine and beech forest. In terms of economy, the town is focused on the development of tourism. The town's aim is to be granted the health resort status due to the curative properties of the climate and mineral water resources. Communes' own income tells us about potential finacial independence of the territorial government units and measure their potential growth possibilities (Table 10). The lowest share of own income in the commune's total income was reported in Brusy while the highest one in Krynica Morska. Krynica Morska was described above and its enterprising character focused on tourism development was confirmed. Brusy belongs to the group of small towns. It is located in the Tuchola Forest in the Kashubia ethnic region. In terms of tourism, the town promotes Kashubian culture and the natural values of the region. The surroundings are characterized by numerous natural conservation zones. The town is focused on multifunctional growth and acquiring capital for tourism development. The town's deveopment is also connected with agriculture. However, it struggles with the problems of unemployment and tourism development requires significant investment. Overall, small and medium-size towns are the most financially independent.

Table 10. Average share of the commune's own income in total income in the towns of Pomerania Province in the years 1995- 2020 (Data source: Public finances, BDL, GUS, Warszawa, www.stat.gov.pl, 27.05.2022; the author's own study)

Average share of the commune's own income in total revenue (%)	Small towns (up to 20 thousand inhabitants)	Medium-size towns (20-100 thousand inhabitants)	Big towns (over 100 thousand inhabitants)
1995-2005			
from 25.39 to 40.00	13	0	0
from 40.01 to 60.00	11	13	2
from 60.01 to 72.48	3	0	0
2006-2020			
from 25.37 to 40.00	10	0	0
from 40.01 to 60.00	11	10	0
from 60.01 to 77.79	6	3	2
1995-2020			
from 25.69 to 40.00	12	0	0
from 40.01 to 60.00	9	10	1
from 60.01 to 75.54	6	3	1

Economic activity is reflected in the opportunities to create economic entities that bring real financial benefits for the town's economy. The bigger number of economic entities, the better working conditions for the local population. The average level of entrepreneurship in Pomeranian towns tends to increase (Table 11). This is particularly visible in small and medium-size towns where the value of this indicator rose significatly in the last 15 years. The highest economic activity was reported in the small coastal towns: Łeba, Jastarnia, Władysławowo, Krynica Morska. In those towns, the number of economic entities is connected with the development of tourism. The worst conditions were observed in the towns of west and south Pomerania. Property expenditures, especially investment spending, are a measure of economic activity. This indicator tells us whether the local authorities invest a part of their own income or rather spend it on current expenses (Table 12). Resilience of local authorities is rather varied in the towns of Pomerania Proivince. Definitely, the fastest pace of investment implementation is reported in the following towns: Łeba, Jastarnia, Krynica Morska and Pruszcz Gdański. This confirms the engagement of their authorities in the develpment of those towns. On the other hand, there are several towns with the lowest investment level. They are towns located in the south of the province: Prabuty, Czarna Woda, Skarszewy and Gniew. Słupsk and Kwidzyn are characterized with stagnation in the whole period under study.

Table 11. Averag rate of economic entities per 1000 inhabitants in the towns of Pomerania Province in the years 1995- 2020 (Data source: National economic entities registered in REGON, BDL, GUS, Warszawa, www.stat.gov.pl, 27.05.2022; the author's own study)

Averag rate of economic entities per 1000 inhabitants	Small towns (up to 20 thousand inhabitants)	Medium-size towns (20-100 thousand inhabitants)	Big towns (over 100 thousand inhabitants)
1995-2005			
from 46.88 to 100.00	20	9	0
from 100.01 to 200.00	3	4	2
from 200.01 to 336.79	4	0	0
2006-2020			
from 80.70 to 100.00	10	2	0
from 100.01 to 200.00	13	10	2
from 200.01 to 359.31	4	1	0
1995-2020			
from 66.39 to 100.00	15	5	0
from 100.01 to 200.00	8	8	2
from 200.01 to 345.07	4	0	0

Unemployment as a constant phenomenon on the labour market is justified at a certain level and even desired in the relationships between labour supply and demand. However, exceeding that level results in social and economic turbulance and crises. Depopulation, demographic structure and migration processes may significantly affect the unemployment rate (Gołata, 2002; Szukalski, 2015; Guzikowski, 2016). The average unemployment rate tends to decrease. At the beginning of the XXth century, its average rate in most small towns was 20-25% and in medium-size towns 10-15%. However, it

improved in the last few years and in 2020 the unemployment rate did not exceed 9.5%. Definitely, the best opportunities to find jobs are in the big towns and in towns situated within the tri-city agglomeration (Table 13). The small towns, especially those located in the south and west Pomerania struggle periodically to equalize labor demand and supply.

Table 12. Average share of property investment spending in total spending in the towns of Pomerania Province in the years 1995- 2020 (Data source: Public finances, BDL, GUS, Warszawa, www.stat.gov.pl, 27.05.2022; the author's own study)

Average share of property investment spending in total spending (%)	Small towns (up to 20 thousand inhabitants)	Medium-size towns (20-100 thousand inhabitants)	Big towns (over 100 thousand inhabitants)
1995-2005			
from 8.65 to 15.00	8	3	0
from 15.01 to 20.00	7	5	2
from 20.01 to 33.07	12	5	0
2006-2020			
from 9.39 to 15.00	9	3	0
from 15.01 to 20.00	11	7	1
from 20.01 to 34.25	7	3	1
1995-2020			
from 9.47 to 15.00	7	2	0
from 15.01 to 20.00	11	8	1
from 20.01 to 31.42	9	3	1

Table 13. Average unemployment rate in the towns of Pomerania Province in the years 1995- 2020 (Data source: Labour market, BDL, GUS, Warszawa, www.stat.gov.pl, 27.05.2022; the author's own study)

Average share of investment spending in total spending (%)	Small towns (up to 20 thousand inhabitants)	Medium-size towns (20-100 thousand inhabitants)	Big towns (over 100 thousand inhabitants)
1995-2005			
from 5.70 to 10.00	2	4	2
from 10.01 to 20.00	13	9	0
from 20.01 to 25.50	12	0	0
2006-2020			
from 2.60 to 5.00	2	4	2
from 5.01 to 10.00	15	9	0
from 10.01 to 14.70	10	0	0
1995-2020			
from 3.10 to 5.00	1	3	2
from 5.01 to 10.00	12	10	0
from 10.01 to 16.50	14	0	0

Correlation of demographic aspects with the development of towns in Pomerania Province in Poland

Determining the cause and effect relationships of the demographic changes and the local development is not easy. Studying different elements of those phenomena leads to various conclusions (Wiśniewski et al., 2020). Referring to the Pomeranian towns in general, the average demographic growth is the most favourable in the first urbanized zone of the tri-city agglomeration (Figure 2). The zone includes small and medium-size towns whose development occurs along Gdańsk Bay due to their location. The suburbanization processes encourage young people to settle down in the Tri-city surroundings with good transportation to the places of work and education. The lowest rate of demographic growth including depopulation occurs mostly in the towns located on the coast and the west of the province. Sopot compares negatively in terms of the demographic aging rate and depopulation. The town is struggling with serious demographic problems and lack of spatial growth possibilities. The situation of the towns under study is different in terms of the economic growth (Figure 3). The

Figure 2. Average rate of population growth of the towns in Pomerania Province in 1995-2020 (Source: the author's own study)

coastal towns such as Łeba, Jastarnia and Krynica Morska have the highest economic growth rate as well as demographically stable Sopot or demographically growing Pruszcz Gdański. The towns in the south and west part of the province are not so resilient in terms of economy.
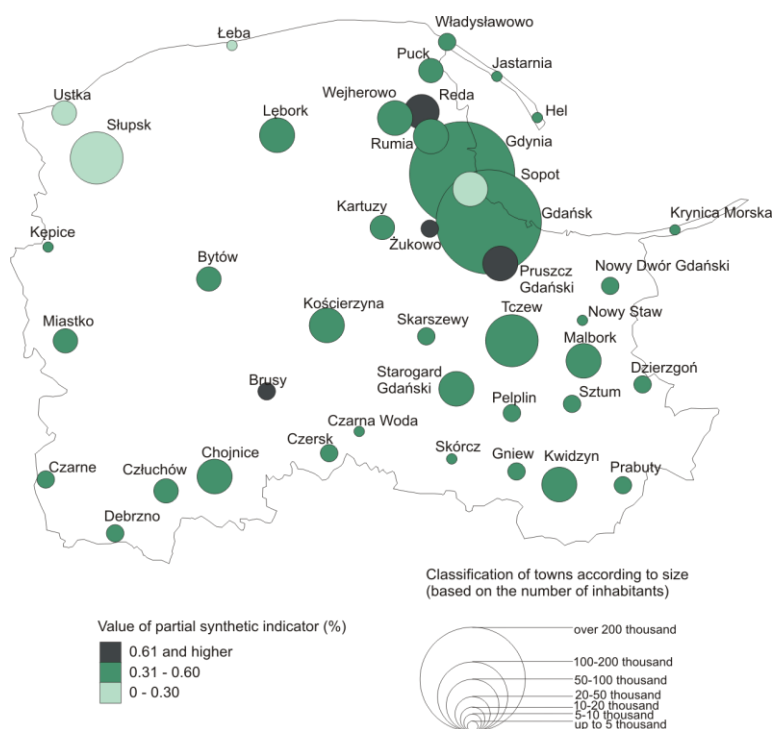
In order to determine the correlations of demographic characteristics with economic growth of Pomeranian towns, Pearson's correlation coefficient was calculated. It is assumed that the correlation value from 0 to 0.3 means weak correlation, from 0.3 to 0.5 moderately strong correlation and the value from 0.5 to 1 points to a very strong correlation of the characteristics under analysis. Overall, Pearson's correlation coefficient calculated for the average level of all the demograhic characteristics together and the economic characteristics together amounted to -0.2, which suggests a weak negative correlation between the characteristics under research (Table 14). Among the demographic characteristics under analysis, the relatively strongest negative correlation was observed for indicator W-2 (population aging indicator) and W-3 (feminisation of marriage age population indicator). That means that a decrease in one of the indicators might decide about the economic growth and vice versa. The analysis of partial correlation in the category of the towns' size shows that medium-size towns have a moderate positive correlation with migration balance (W-5). A higher migration balance could significantly improve the economic situation of those towns.

Figure 3. Average rate of economic development in the towns in Pomerania Province in 1995-2020 (Source: the author's own study)

Also, the correlation between the feminisation rate (W-3) in medium-size towns tends to grow in a negative direction. The population structure according to sex, especially its procreative part i.e., the working age population may significantly impact the character of economic changes. Pearson's correlation coefficient in big towns tends to assume extreme values of a strong correlation, but it was measured for two towns only, which significantly decreases its interpretational value.

Table 14. Correlation of demographic characteristics with the economic development
of Pomerania Province towns in the years 1995-2020 (Data source: the author's own study)

Pearson's correlation coefficient	Small towns (up to 20 thousand inhabitants)	Medium-size towns (20-100 thousand inhabitants)	Big towns (over 100 thousand inhabitants)	Total towns
	Together W-6 – W-10			
W-1	-0.32866	0.29298	1.00	-0.07697
W-2	-0.32694	-0.13744	-1.00	-0.24514
W-3	-0.16747	-0.50477	-1.00	-0.27153
W-4	-0.10631	-0.20633	1.00	-0.13747
W-5	0.00366	0.40824	1.00	0.17427
W-1 – W-5	**-0.34616**	**0.01483**	**1.00**	**-0.20023**

CONCLUSION

Conducting research on the cause and effect relationships between the demographic changes and the local development is not an easy task. Difficulties occur due to the spatial scale of the units under study and the local specificity of the settlement units. The specificity may result from historical, environmental and even etnographic conditions.

The analysis of the demographic characteristics in Pomerania, one of the most profitable tourist regions in Poland, shows their internal heterogeneity and the impact of local factors including the size of the towns, their spatial location and cultural conditions. Positive demographic trends such as population growth, relatively positive birth rate and migration balance are observed in small and medium-size towns located within the tri-city agglomeration. Kashubian towns of the middle and south Pomerania report quite good birth rate. Unfortunately, the other elements of demographic changes, especially migration processes, are not so optimistic. The coastal towns and Sopot report the biggest population decline.

Economic development measured by the local governments' income, their entrepreneurship and labour market supply also indicated relatively good conditions for the development of towns located within the impact zone of the tri-city agglomeration. Additionally, above-average level of development is observed in those tourist towns on the coast which did not report population growth. The towns in the south of Pomerania Province have the lowest average rate of economic development, which does not translate into economic activity despite good demographic situation. The towns located in the west of the province deprived of the impact of the agglomeration and not showing economic resilience remain in the worst situation. In view of the above considerations, the correlations between demographic changes and economic development are conditioned by geographic location, existence of growth engines such as a large nearby city (agglomeration impact), unique natural environment characteristics (tourist value of the coastal towns) and cultural conditions (procreative ethnic characteristics of the Kashubian people) rather than an existing or non-existent demographic trend. The above is confirmed by the Pearson's correlation coefficients which point to rather low dependence of demography and economic development.

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IDENTIFYING TRAVEL MOTIVATIONS OF SAUDI DOMESTIC TOURISTS: CASE OF HAIL PROVINCE IN SAUDI ARABIA

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Abstract: This study focuses on Saudi domestic tourists visiting Hail province. The objectives of this study are to explore the perception of tourists regarding Hail province and to identify the main motivational factors that attracts them to travel to Hail. This study was conducted in Hail region located in north of Kingdom of Saudi Arabia. Visitors over 18 years of age in attraction sites in the destination were potential respondents for the present study. Convenient sampling technique was applied to gather data from respondents. Over 650 questionnaires were distributed among visitors in Hail region, out of which 380 were used for analysis as the remaining questionnaires were not fit for use due to their incomplete responses. Factor analysis and cluster analysis were undertaken to identify travel motives or intentions of tourists. The identified motivational factors illustrated that "taking part in new adventures", "relaxation", "increasing tourism knowledge", and "escaping routine" were the most important reasons of Saudi tourist to visit Hail region. The cluster analysis result shows that "relaxation" is the top motivational factor for tourists who visit Hail followed by "increasing tourism knowledge". This study gives important recommendations for planners in the Saudi Tourism Commission and National Heritage and Entertainment Authority to take development of Hail destination as priority for domestic and international tourism travelers. The decision and policy makers should create tourism packages, products and programs based on push and pull factors which impact the motivation factors of the travelers to make Hail as the major tourist destination.

Key words: domestic tourism, travel motivation, tourist satisfaction, tourist experience, Saudi Arabia

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INTRODUCTION

Saudi Arabia has a rich historical background with great culture and has a good variety of natural resources which is supported by great scenic beauty as acknowledged by frequent travelers. Ranging from mountains to deserts, scenic places include the coastal areas of the Red Sea and the Arabian Gulf, the evenly spread deserts and beautiful mountains in the northern and southern regions. In addition to the natural scenic beauty, Saudi Arabia has multiple sites of cultural and historical significance. As a land of scenic beauty with various sites of cultural and historical importance, Saudi Arabia has a lot to offer to the tourists opening a lot of scope for the tourism industry. Apart from its historical and heritage resources, Saudi Arabia is the birthplace of religion Islam and is also a major contributor to Religious Tourism. As per Global Islamic Index 2019, Saudi Arabia holds the credentials of being the first Arab destination preferred by Muslim tourists and occupies fourth position preferred worldwide amongst the Muslim Tourists (Alghamdi, 2007).

Saudi Tourism has been classified into three segments: Outbound tourism, International Inbound Tourism and Domestic Tourism. In the words of Massidda and Etzo (2012: 603) "it is common that in many countries domestic tourism is dominant with respect to international flows in term of both size and economic contributions". Taking the economic perspective, stakeholders of travel and hospitality industry share common interest in getting a greater number of tourists who allocate their discretionary income on tourism spending (Dolnicar et al., 2008). Domestic tourism has also played a crucial role towards maintaining tourism infrastructure (Boulhila et al., 2022; Athanasopoulos and Hyndman, 2008). Properly developed tourism industry is an important enabler for growth and for bright future of Saudi Arabia. It is a vital component of Vision 2030's plan for enabling the diversification of economy and reducing its dependence on oil for growth and revenue generation. The Ministry of Tourism, the Saudi Tourism Authority and the Tourism Development Fund were conceived keeping in consideration the global best practices, with the single objective to usher growth in the tourism sector. The key indicators clearly reflect the importance of tourism towards the growth and empowerment of Saudi Economy:

Table 1. Saudi Tourism Key Indicators (2022) (Source: https://sta.gov.sa/en/?gclid=Cj0KCQjwxtSSBh DYARIsAEn0thSoMl32Mr7vQz9SOh_RXL5hjLUyp-cNkWEFprMAIaRShpjPD8XtqHgaAoGyEALw_wcB&gclsrc=aw.ds)

Contribution to GDP	New Jobs created	Total visitation	Domestic Visitation	International Visitation
5.3%	8,36,000	62M	32.5M	29.5M

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Table 2. Saudi Tourism Key Indicators (2030) (Source: https://sta.gov.sa/en/?gclid=Cj0KCQjwxtSSBh DYARIsAEn0thSoMl32Mr7vQz9SOh_RXL5hjLUyp-cNkWEFprMAIaRShpjPD8XtqHgaAoGyEALw_wcB&gclsrc=aw.ds)

Contribution to GDP	New Jobs created	Total visitation	Domestic Visitation	International Visitation
10%+	1,000,000	100 M	45M	55M

As per the forecasted figures, the travel and tourism industry's contribution to Saudi Arabia's GDP in 2028 is anticipated around 573 billion Saudi Riyal. Saudi Arabia is on the way to become an important and recognized part of modern-day International Tourist destination. Mintel (2005) elaborates about the rich cultural, outstanding natural and heritage sites of Saudi Arabia which remains untouched and unexplored. As per the research of BMI: Saudi Arabia Tourism Report (2016), the government is staunchly standing for diversifying its economic activity wheel with tourism as an important clog in the wheel, this stands gets reflected in Vision 2030 too. Religious tourism is on a growing trend in the country due to expansion in its capacity at key religious shrines and easing out of visa

Figure 1. Contribution of Tourism Industry to Saudi Arabia's GDP (Source: https://www.statista.com/statistics/750388/saudi-arabia-total-contribution-of-travel-and-tourism-to-to-gdp/#professional)

restrictions (Atikah et al., 2022). Luxury tourism and domestic tourism are both likely to increase in both medium- and long-term duration, bolstered by Vision 2030 investments. The government is banking on establishing a strong luxury tourism sector for supporting the dwindling or rather depleting hydrocarbon revenues. Saudi Arabia is likely to compete with neighboring Qatar and UAE for luxury tourism over the long term (Abou-Shouk et al., 2022). In addition to all this, the Kingdom has further announced an investment of USD2.0 billion for improving cultural tourism in the country. As part of these efforts, new museums, UNESCO sites and archaeological sites along with multiple new annual festivals are likely to be developed in coming years ahead. In 2025, Saudi Arabian travel & tourism industry is forecasted to have a value of $75 billion, a massive jump of 197.6% since 2020 (MarketLine Report, 2021). Nested in the northern region adorned by Mount Salma and Aja lies the administrative capital of the region, the city of Hail. Hail holds the valley of Adaira and the miracle Samah Well which has wealth of water. The city borders on north by Alsamrah's Black mountain and Mount Aja on West (Al-brahim et al., 2014). Not many studies have been conducted in the field of travel motivation specifically for tourists of Hail region in Saudi Arabia. In order to bridge this gap, this paper attempts to identify motivational factors or driving forces of Saudi tourists to visit Hail as they demonstrate differentiating domains of behavior resulting in different marketing implications for the country. Knowledge about the factors that motivates tourists is very important as it helps in predicting the future travel patterns and customization of strategies for further increasing the inflow. Hail receives huge tourists' inflow especially during summer season but still the demand segments are not specified. Findings of the present study will have deep strategic meaning for managers, tourism planners and policy makers so that they can design tourist products according to the different types of domestic tourists' needs and characteristics of different segments.

Objectives of the current study:
- To study the perception of tourists about Hail as a tourist destination.
- To find out the factors which motivate Saudi tourists to visit Hail as a tourist destination.

REVIEW OF LITERATURE
1. Travel Motivation
Simkova and Holzner (2014) reports that the travel behavior of individual is closely related to their individual respective psychological patterns, which can be further used for examining or identifying the factors motivating people to travel. Hill (1965) pointed out mental (psychosomatic) exhaustion as one of the primary motives for travelers. Crompton (1979) in his study put forward motivation as one variable which gives humans intrinsic pull to explore and experience new places and activities (Um and Crompton, 1992). Reviewing tourist motivation in literature indicated that motivation may embed psychological/biological activities, like directing and integrating a person's activity and behavior (Dann, 1981; Pearce, 1995; Schiffman and Kanuk, 1987; Rehman, 2017; 2020). Travel motivation has emerged as one of the most important aspect to study in tourism field because it is considered as the key for understanding tourists' behavior which is central to tourism structure (Crompton, 1979; Dann, 1981; Pearce, 1995).

To escape from daily monotony of life, to rejuvenate, to have new experience etc. are varied motivations for tourist (MacCannell, 1976; Iso-Ahola, 1982). As claimed in multiple studies push and pull factors describe the way by which individuals are being pushed to decide about travelling and the way they are being pulled to destination attributes (Uysal and Hagan, 1993; Kozak, 2002; Yoon and Uysal, 2005; Correia et al., 2007; Prayag and Ryan, 2010; Rehman and Amir, 2011; Zhang and Peng, 2014; Wen et al., 2019). For example, push factors push the tourist to inner impellent demand for
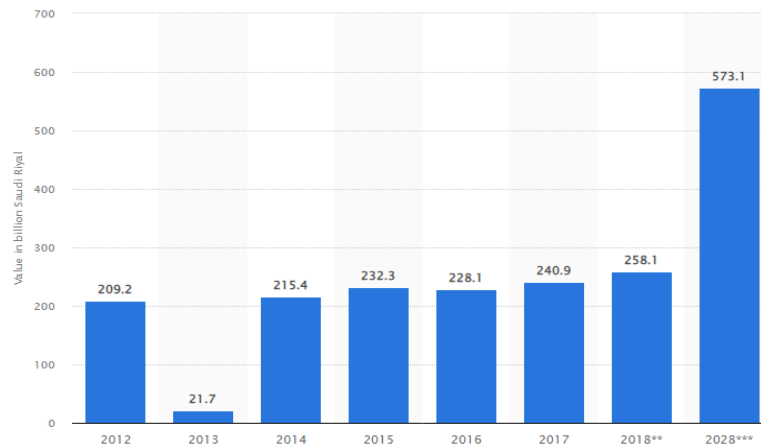
escaping from the monotony of routine life, while pull factors can be considered as external factors that fascinates the tourist for a particular destination (Hsu et al., 2008, Chang et al., 2014). From marketing perspective, tourist motivations are playing a decisive role in shaping tourism marketing strategies (Elahi et al., 2013; Wu and Pearce, 2014). Johnson et al. (2005) focused on variety of disciplinary areas which are breeding ground for development of diverse approaches in tourism. Understanding tourists' motivation is considered to be one of the most critical issue for destination management and planning (Prideaux and Crosswell, 2006). Nicolau and Mas (2006) stated the influence of motivating factors in overcoming the destination attributes like cost and distance. Chan and Baum (2007) claimed that tourist motivation is an important factor in understanding tourist behavior when it comes to destination choice, needs and goal preference of the tourists. Another study conducted by Park et al. (2010) claimed that tourists' motivation differs from one tourist to another because of their diverse desires and needs associated with tourism products in destinations. Holden (1999) examined in his study the motivations of skiers for testing the importance of travel needs. Travel needs were classified as motives leading them to participate in skiing. Holden found stimulation and relationship the most important needs using items related to travel needs.

Several studies have been undertaken to assess the impact on tourist motivation from different contexts, e.g. the impact of sport events (Kim and Chalip, 2004), cultural events (Boulhila et al., 2022; Wen et al., 2019), and entertainment (Zhang and Peng, 2014; Schneider and Snmez, 1999; Rehman and Elahi, 2017). As per Zhang and Peng (2014: 45) "the motivational factors or reasons for respondents to travel to a foreign destination were 'resting and relaxing', 'experiencing something different' and 'increasing the knowledge domain about diverse culture'".

Hsieh and Chang (2006) in their study try to develop an understanding for tourists' motivations and their preferred leisure activitiesduring their shopping in tourists' night market in Taiwan. As per the results of this study, novelty seeking is the major motive, which attracted tourists to visit attractive sites, followed by leisure activities. Kim et al. (2006) examined the festival attendees' in the context of their socio-demographic travel characteristics, their psychological construct motivations as well as environmental values. The results revealed that there are significant positive correlations between the festival attraction factors and the local environment motivational factors to attend such a festival.

Based on the intrinsic and extrinsic motivational factors, perception of individual tourist is made which can differ from the actual attributions, further depending on the individual's receiving and processing the information can result into gap (Gartner, 1993; Dann, 1996; Baloglu and Uysal, 1996; Rehman, 2019; Alfakih et al., 2021). There are common deduction that internal or personal motives i.e. push motives and external or destination attributes i.e. pull motives create destination perception. These motives interact with each other in a dynamic and evolving environment (Correia, 2003), and the tourist motivation is considered to be a multidimensional concept explaining tourist decision (McCabe, 2000).

2. Application of Motivation Theory to Tourism

With the advent of tourism sector both in size and variety, the allied or support sectors and businesses are under constant pressure to introduce fresh and appealing ideas, sophistication in services as per travelers needs and requirements. The aforesaid task becomes a lot easier and clear if the basis of designing these traveler-oriented facilities and activities are tourists' motivation. The tourists' motivation-based strategies will make the destination offering hit the right notes.

Maslow's Hierarchy of Needs

Maslow's (1943) five-level need hierarchy theory is still one of the most widely recognized theories for understanding human behavior. Due to its huge scope and applicability, this theory has often been applied in tourism as it helps in clarifying travelers' motivations and intent thereby resulting in explaining the tourists' travel behaviors. Physiological needs are the basic needs expected by travelers that they want to be met with their destinations. These comprise of basic requirements of a traveler from stay and food hygiene to safety and water. The second need is associated with travelers' safety-related issues. Fear is no one's idea for relaxation, so a travel in fear or without sense of safety is repulsive for travelers. Therefore any destination to become popular amongst travelers it must be safe. Third need refers to forming relationships with people for creating a sense of social belongingness and confirms to their ability of developing healthy and good relationships including cordial relations with fellow travelers and service providers. The fourth motivation need is associated with self-esteem. At this level, people travel to impress and to gain social acceptance for gaining higher social status and social acceptance (Maslow, 1943; Rehman et al., 2021). The final need in the hierarchy is self-actualization. Travelers see tourism as an activity through which they can improve their life skills by doing challenging tasks by stepping out of their comfort zone like indulging in adventurous sports when one is too timid to experiment any such adrenaline rush activity.

Dann's Theory of Push and Pull Motivations

Dann (1977) widely recognized work in the field of tourism research has its roots in concept of motivation. His push and pull theory deep dives into the intrinsic travel requirements of an individual and external charms of the travel destination. He further elaborated various variables, i.e. internal requirements or desires and charms of a destination, which are at play in the decision-making process for a tourist. He categorically divided these internal needs/ requirements like rest, adventure and get away from all as pull factors and external charms like beautiful natural habitat, entertainment and fun activities, rich culture as push factors.

Travel Career Ladder (TLC)

Pearce (1988) created an analogy based on Maslow's (1943) hierarchy theory specific to tourism; the model proposed by him categorized travel motivations in two broad area needs which fulfill one's own requirements and needs which are

directed towards fulfillment of other requirements also. Simulation, Relationship, Relaxation, Development and self-esteem are travel motivation defined by Pearce (1988) under this model. So, if travel motivations are towards skill-development, expertise, hobbies or acquiring a social status associated with a certain destination then these are directed towards this approach; further if travel motives arise from one's needs to bond with relatives, friends, creating relationships then this also belongs to aforesaid approach. Also, this theory described needs that are self-directed and arise out of individuals' concern for their safety and security. At the very basic level are individual needs to rejuvenate.

Travel Career Patterns (TCP)

Another significant work based on Maslow's need hierarchy model is the Travel Career Pattern model proposed by Pearce and Lee (2005). The TCP model is mostly built around the same lines as mentioned for TCL approach. As per TCL theory, as the level of experience of traveler moves up, their level of travel motivation also goes up, while TCP theory says that travel motivations are intricate and vibrant process encompassing multiple levels.
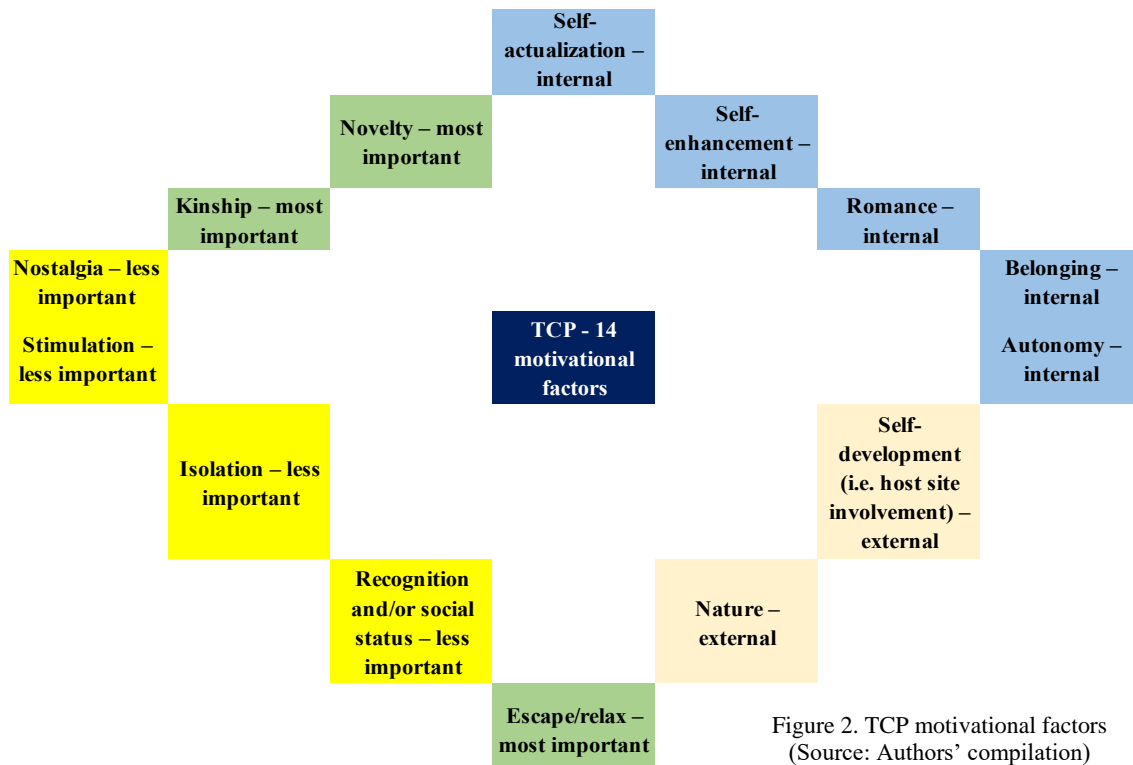
Figure 2. TCP motivational factors
(Source: Authors' compilation)

RESEARCH METHODOLOGY

The research methodology follows the steps as shown in the flowchart below:

Table 3. Summary of Tourist Motivation Theories
(Source: Author's compilation)

Author (Year)	Theory Name	Contribution
Maslow (1943)	Hierarchy of needs theory	Needs are critical in explaining human behavior
Cohen (1972)	Types of tourists	Travel behavior-based classification: 1) Organized mass tourists, 2) Individual mass tourists, 3) Explorers, and 4) Drifters
Dann (1977)	Push and pull theory of tourist motivation	Two-concept theory: anomie and eco-enhancement
Crompton (1979)	Socio psychological motivations to travel	Identifies seven socio-psychological motives and two cultural motives that motivate any individual to travel
Iso – Ahola (1982)	Social psychology model of tourism	Based on push and pull effect, asserts that personal escape and search for knowledge motivates tourism and recreation
Pearce (1988)	TCL	Grouping five motivation in two sub-categories of intrinsic needs (pull factors) and external destination offerings (push factors)
Pearce and Lee (2005)	TCP	Divided 14 motivational factors into external, internal less important and most important levels/segment
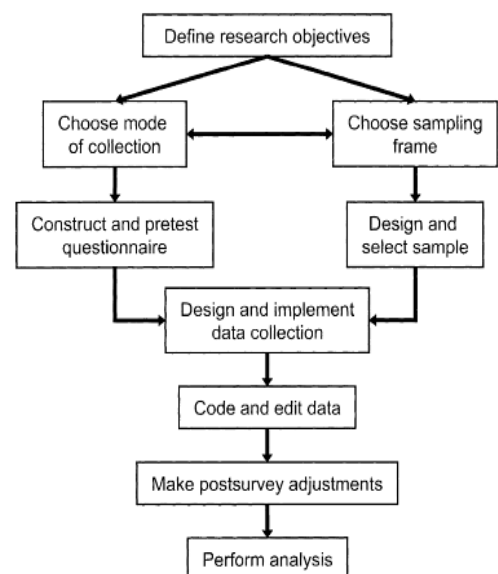
Figure 3. Research Methodology Flowchart
(Source: Authors' compilation)

Questionnaire Design

The study focused on Saudi domestic tourists visiting Hail province. The reason for selecting this area is mainly due to its importance as a major Saudi destination which is highly preferred for travelling during summer season, due to its geographic characteristics. A self-administered survey focused on demographic factors including gender, age, education, and income. The survey tries to extract tourist's behavior and preferences while planning the trip for example purpose of visit, length of stay, communication used to reach Hail and travel companion.

Questionnaire used for survey consists of questions related to tourist's motivation and destination characteristics. The questionnaire was designed based on literature reviews that are related to tourism motivations (Dann, 1977; Dann, 1981; Uysal and Jurowski, 1994; Kim et al., 2003; Jang and Wu, 2006). The research instrument was in Arabic language because the majority of tourists were from Saudi, and it was easy for understanding and interpretation. The motivational items were assessed, using a 5-point Likert scale, from 5 = very important to 1 = not important at all.

Expert opinion was factored in while creating the survey, initial survey was pilot tested on 40 tourists in Hail region. The result of validity, pre- test Cronbach Alpha was 0.92 which is adequate from analysis perspective. The main purpose of pre-test was to ensure whether the items are clear and understood.

Table 4. Demographic Variables and Tourist's Characteristics (Source: Authors)

Variable	Percentage	
Gender	Male	67%
	Female	33%
Age	Below 20	7.3%
	21-30	23.2%
	31-40	42%
	41-50	13.7%
	51-60	10.8%
	Over 60	3%
Income	Less than SR 5000	8.6%
	SR 5001 – 10000	15.4%
	SR10001 – 15000	24.3%
	SR15,001-20,000	37%
	SR 20,001-25,000	8.7%
	More than 25,000	6%
Marital Status	Single	23.5%
	Married	64.5%
	Widowed	7%
	Others	5%
Education Level	High school	4%
	Diploma	22.5 %
	Bachelor	62.6%
	Higher Education	10.90%

Table 5. Tourist's Behavior in Destination (Source: Authors' compilation)

Variables	Percentage
Total expenditure on Hail Tour	
1 thousand or less	9.00%
SR 1001 – 3000	39.40%
SR3001 – 5000	41.30%
More than SR 5000	10.30%
Travel Companion	
With family	43.60%
With friends	11.40%
With relatives	29.50%
With tour group	5.40%
With work and colleagues	8.10%
Others	2.00%
Staying place	
4-5 star hotel	14.30%
3 star hotel	32%
Cheap hotel	23.20%
Apartment	27.30%
Friend's accommodation	3.20%
Transportation type	
Airplane	21%
Car	79%
Duration of Stay	
1-2 nights	21.70%
3-4 nights	47.80%
5-6 nights	24.50%
More than one week	6%
Overall Evaluation of Hail Trip	
Very good	36%
Good	43.70%
Neutral	12.90%
Bad	4.60%
Very bad	2.90%
Satisfied with Hail trip	
Yes	73.6%
No	26.4%
Will recommend other to Visit Hail	
Yes	69.4%
No	30.6%
Will revisit Hail in future	
Yes	65.8%
No	34.2%

Table 6. Descriptive Analysis of Tourist's Motivation (Source Authors' compilation)

Motivation	Mean
To visit Al Samrah amusement park	4.18
To feel relaxed and for entertainment	4.05
To decrease work pressure	4.01
To participate in new adventures	3.92
To increase my knowledge about new things	3.87
To see a place that I have not visited before	3.82
To see the old cultural places	3.81
To see and do different types of activities	3.77
This trip gave me a pleasant experience	3.68
To visit Jubbah rock art	3.62
To visit Hail museum	3.58
To be close to nature and enjoy natural resources	3.42
To satisfy the longing to be somewhere else	3.28
To see beautiful mountains	3.18
The Hail region was easy to reach from my place	3.12
To visit Al Nafud desert	2.86
To seek a unique experience	2.74
To visit Hail because my friends have visited here and had good experience	2.66
To be someplace away from home	2.54
To have a great experience with my travel companion(s)	2.32
To experience a new tourist destination with my friends	2.18

Sample Design and Data Collection

The current study was conducted in month of April, 2022 in the Hail region. Visitors over 18 years of age in attraction sites in the destination were potential respondents for the present study. Convenient sampling technique was applied to gather data from respondents. Over 650 questionnaires were disseminated amid tourists' traveling to Hail region, out of which 380 were used for analysis as the remaining questionnaires were not fit for use due to their incomplete responses.

The time of distributing the questionnaire was from 10 AM to 5 PM every day in Hail and sometimes the researcher and the assisting staff had to work at night for distributing the questionnaires in some hotels and motels of the destination area.

DATA ANALYSIS

This study used SPSS for analyzing data to accomplish research objectives such as frequencies, descriptive analysis, and factor analysis using principal component approaches with Varimax Rotation, all of which were based on motivations factors for tourists. Table 4 shows the demographic data gathered from the survey. The majority of respondents (67%) are male, with the remainder 37% being female. Majority (42%) of the respondents are between the ages of 31 and 40. Majority of the respondents (37 percent) had a monthly salary between 15,001 to 20,000 SR; and more than half (64.5 percent) of respondents are married. Over half of the respondents (62.6%) have a bachelor's degree.

The majority of the participants (80.7 percent) spent between Saudi Riyal 1001 and 5,000 on their vacation in Hail, as shown by Table 5. Around half of the respondents (43.6%) went to Hail with their families, followed by 29.50% of visitors who went with relatives. Furthermore, according to the findings, 32 percent of respondents resided in 3-star hotels, followed by 27.5 percent who lodged in apartments. The majority of respondents (79%) traveled by car to their destination, while the remaining (21%) traveled by flight. The majority of attendees (47.80%) stayed in Hail for three to four nights. Tourists gave the destination an outstanding rating for their visit (36 percent very good and 43.7 percent good). The level of satisfaction with the journey to Hail was great (73.6 percent). Furthermore, the respondents were asked whether they would recommend Hail to their friends and family as a good location, and the majority of them (69.4%) answered they would recommend. Finally, nearly two-thirds of respondents (65.8%) stated they would return to Hail in the future.

The mean values of factors affecting tourist motivation in Hail region are given in Table 6. In evaluating the data, the mean responses which were in the range of 3.5–5.0 were considered as high, those falling in the range of 3.49–2.5 were considered medium, and those in the range of 2.49–1.0 were designated low. The motivating factors falling in the high score range are: to visit Al Samrah amusement park, to feel relaxed and for entertainment, to decrease work pressure, to participate in new adventures, to increase my knowledge about new things, to see a place that I have not visited before, to see the old cultural places, to see and do different types of activities, this trip gave me a pleasant experience, to visit Jubbah rock art and Hail museum. The motivating factors which lie in the medium score range are: to be close to nature and enjoy natural resources, to satisfy the longing to be somewhere else, to see beautiful mountains, Hail region was easy to reach from my place, to visit Al Nafud desert, to seek a unique experience, to visit Hail because my friends have visited here and had good experience, to be someplace away from home. Finally, there were two factors which fell in the low score mean: to have a great experience with my travel companion(s) and to experience a new tourist destination with my friends.

Table 7. Motives of Saudi Tourists to Visit Hail (Source: Authors' compilation)

Motivational factors	Loading	Communality	Cronbach's Alpha	Eigenvalue	Variance
Factor 1: Taking part in new adventures			0.784	7.291	31.969
To increase my knowledge about new things	0.893	0.794			
The Hail region was easy to reach from my place	0.856	0.734			
To participate in new adventures	0.801	0.648			
To experience a new tourist destination with my friends	0.826	0.683			
To see a place that I have not visited before	0.798	0.637			
This trip gave me a pleasant experience	0.847	0.723			
To decrease work pressure	0.792	0.629			
To see and do different types of activities	0.816	0.671			
Factor 2: For relaxation			0.804	3.654	11.253
To visit Hail because my friends have visited here and had good experience	0.918	0.843			
To feel relaxed and for entertainment	0.923	0.852			
To satisfy the longing to be somewhere else	0.894	0.796			
To be close to nature and enjoy natural resources	0.881	0.779			
To seek a unique experience	0.907	0.826			
To be someplace away from home	0.928	0.864			
To visit Al Samrah amusement park	0.874	0.732			
Factor 3: To increase my tourism knowledge			0.828	1.724	7.234
To have a great experience with my travel companion(s)	0.928	0.864			
To see the old cultural places	0.832	0.695			
To visit Jubbah rock art					
To visit Hail museum					
Factor 4: To escape from routine			0.856	1.227	5.224
To visit Al Nafud desert	0.876	0.736			
To see beautiful mountains	0.879	0.776			
Total Variance Explained					61.28
Total Scale Reliability Alpha					0.955
KMO					0.932

The major goal of this study was to determine the main motivating factors that entice respondents to visit the Hail region. Principle component factor analysis was employed to group the motivational factor items that are characteristically

identical in order to find the motivational dimension, as shown in Table 7. Two items were removed because their factor loadings were less than 0.4 or they loaded on multiple factors at the same time (Guadagnoli and Velicer, 1988). The underlying variables related with travel motivations were identified using Varimax Rotated methods on twenty-one motivational items. The Eigen value of each item is greater than one. The Cronbach's alpha coefficient, which represents the level of internal item consistency, was used to assess the reliability. Cronbach's alpha value ranged from 0.784 to 0.856, according to the findings. As a result, the scales employed in this study were deemed credible (Hair et al., 2006; DeVellis, 2006). According to the principal component analysis, there are four tourist motivational factors. All of the items are separated into these four categories that attract Saudi tourists to Hail. These four motivational factors are categorized into the following categories:

1. Taking part in new adventures
2. For relaxation
3. To increase tourism knowledge
4. To escape from routine

Table 8. Number of tourists in each cluster (Source: Authors' compilation)

Group	Number of managers
1	37
2	163
3	96
4	84
Total	**380**

Cluster Analysis

Cluster analysis (also called clustering) is typically used to categorize data into structures that are more easily understood and manipulated. The objective of performing a cluster analysis is to sort diverse data points into groups in a manner that the degree of association between two objects is high if they belong to the same group, and low if they belong to different groups.

Cluster analysis is used to maximize group similarity and to observe group differences (Manning and Munro, 2007). To divide the categories of tourist motivations (N=380), this study used K-means cluster analysis (case 380) and Squared Euclidean Distance. Cluster analysis is a method for identifying relatively homogeneous groups of cases based on certain features (Veal, 2006). In their research, a number of studies have used cluster analysis (Stewart, 1988; Oshagbemi, 1997; Shim et al., 2002). The motivational aspects for visiting Hail were divided into four groups using cluster analysis: Taking part in new adventures (tourists in Group 1), for relaxation (tourists in Group 2), To increase tourism knowledge (tourists in Group 3), and to escape from routine (tourists in Group 4).

Cluster analysis was utilized in this study to maximize the differences between the four groups of motivational factors for visiting Hail, as shown in Table 8. There were 380 participants in all, as shown in the table below: group 1 = 37 tourists, group 2 = 163 tourists, group 3 = 96 tourists, and group 4 = 84 tourists.

Table 9 shows that there were 37 participants in Cluster Analysis Group 1. The majority of tourists in Cluster Analysis Group 1 received the highest means in Question No. 1, 7, 8, 13, 14, 19, 20, 21 of the Questionnaire. Cluster Analysis Group 1 received the highest total mean in "taking part in new adventures" (3.26). This indicates that the tourists in Cluster Analysis Group 1 had "taking part in new adventures" as the motivating factor for visiting Hail province.

Table 10 shows that there were 163 participants in Cluster Analysis Group 2. The majority of tourists in Cluster Analysis Group 2 received the highest means in Question No. 2, 3, 9, 10, 11, 12, 15 of the Questionnaire. Cluster Analysis Group 2 received the highest total mean in "Relaxation" (3.51). These results indicate that the tourists in Cluster Analysis Group 2 had "Relaxation" as a motivational factor.

Table 9. Compare Means (Cluster Analysis Group 1, 2, 3, 4) with Taking part in new adventures Questions (Source: Authors' compilation)

Taking part in new adventures	Cluster Analysis Group 1 (n=37)	Cluster Analysis Group 2 (n=163)	Cluster Analysis Group 3 (n=96)	Cluster Analysis Group 4 (n=84)
	Mean	Mean	Mean	Mean
Question 1	**3.12**	2.81	2.87	2.41
Question 7	**3.34**	2.67	2.42	2.65
Question 8	2.62	2.68	2.28	**2.81**
Question 13	**3.21**	3.11	2.71	2.92
Question 14	**3.32**	2.89	2.64	2.51
Question 19	**3.65**	2.81	2.31	2.42
Question 20	**3.21**	2.56	2.42	2.28
Question 21	**3.61**	2.81	2.62	2.71
Mean	**3.26**	2.79	2.53	2.59

Table 10. Compare Means (Cluster Analysis Group 1, 2, 3, 4) with Relaxation Questions (Source: Authors' compilation)

Relaxation	Cluster Analysis Group 1 (n=37)	Cluster Analysis Group 2 (n=163)	Cluster Analysis Group 3 (n=96)	Cluster Analysis Group 4 (n=84)
	Mean	Mean	Mean	Mean
Question 2	3.17	**3.28**	2.41	2.43
Question 3	**3.37**	2.88	1.39	2.67
Question 9	3.11	**3.61**	2.36	2.82
Question 10	3.17	**3.52**	2.41	2.94
Question 11	3.23	**3.72**	2.28	2.54
Question 12	2.95	**3.78**	2.85	2.45
Question 15	3.69	**3.81**	2.72	2.31
Mean	3.24	**3.51**	2.34	2.59

Table 11 shows that there were 96 tourists in Cluster Analysis Group 3. The tourists in Cluster Analysis Group 3 received the highest means in Question No. 4. 5, 16, 17 of the Questionnaire. Cluster Analysis Group 3 received the highest total mean in "Increasing tourism knowledge" (3.54). These results indicate that the tourists in Cluster Analysis Group 3 have "Increasing tourism knowledge" as the motivational factor. Table 12 shows that there were 84 tourists in Cluster Analysis Group 4. The tourists in Cluster Analysis Group 4 received the highest means in Questions No. 6, 18 of the Questionnaire. Cluster Analysis Group 4 received the highest total mean in "Escape from routine" (3.31). These results indicate that the tourists in Cluster Analysis Group 4 had "Escape from routine" as the motivational factor.

Table 11. Compare Means (Cluster Analysis Group 1, 2, 3, 4) with to increase tourism knowledge Questions (Source: Authors' compilation)

To increase tourism knowledge	Cluster Analysis Group 1 (n=37)	Cluster Analysis Group 2 (n=163)	Cluster Analysis Group 3 (n=96)	Cluster Analysis Group 4 (n=84)
	Mean	Mean	Mean	Mean
Question 4	2.18	2.77	**3.48**	2.84
Question 5	2.23	**3.18**	3.08	2.45
Question 16	2.38	2.56	**3.51**	2.31
Question 17	2.69	2.43	**3.87**	2.72
Mean	2.37	2.60	**3.54**	2.58

Table 12. Compare Means (Cluster Analysis Group 1, 2, 3, 4) with escape from routine Questions (Source: Authors' compilation)

Escape from routine	Cluster Analysis Group 1 (n=37)	Cluster Analysis Group 2 (n=163)	Cluster Analysis Group 3 (n=96)	Cluster Analysis Group 4 (n=84)
	Mean	Mean	Mean	Mean
Question 6	2.89	3.21	2.65	**3.28**
Question 18	2.53	2.82	2.72	**3.33**
Mean	2.71	3.02	2.68	**3.31**

DISCUSSION OF FINDINGS

The result of Factor analysis of current study exhibits 'Taking part in new adventures', 'Relaxation', 'To increase my tourism knowledge', and 'To escape from routine' as the main travel motives of tourists visiting Hail region. These results are in line with Dann's (1981) push and pull framework which is considered appropriate for understanding travel motivations. This study identified 'To increase my tourism knowledge', and 'To escape from routine' as travel motives which finds support in the natural and cultural motivator based on similar findings by Wen et al. (2020). Additionally, knowledge expansion has been identified as one of the main driving forces of travel (Dann, 1977). The results are also aligned with previous studies such as Wen et al. (2018) which included that special activities are one of the travel motivations.

The cluster analysis result shows that "Relaxation" is the top motivational factor for tourists who visit Hail followed by "To increase my tourism knowledge". The third motivational factor for tourists to visit Hail is "escape from routine" and the least motivational factor is "taking part in new adventures". Many researchers (Zhang and Peng, 2014; Jaapar et al., 2017; Caber and Albayrak, 2016; Rittichainuwat et al., 2008; Rehman, 2021; Chiang and Jogaratnam, 2006; Rehman and Fazli, 2022; Uysal and Jurowski, 1994) studied tourist's motivation by seeking response to the same set of questions: Why do people travel to exotic places? How are they motivated to travel to the destination? What are the main motivational factors that drive them to travel?. Many of these studies have been focused on different motives for traveling such as sight-seeing, cultural sites, relaxation and visiting theme parks. Zhang and Peng (2014) stated that Chinese are attracted towards fun, relaxation and knowledge aspects of travel, they also value personal relationship as mentioned in this study. Chinese view travel from home as escape from daily life; all of the aforesaid attributes are offered by Australia which makes it a favorable destination amongst Chinese. Likewise, Kim et al. (2003) established push and pull factors which play significant role in motivating people to travel to Korean parks. Chiang and Jogaratnam (2006) stated that women tourists are driven by self-esteem, socializing, escape and relaxation to travel. On same lines Gonzalez and Paliwoda (2006) research zeroed in on rest and relaxation closely followed by entertainment as major objectives of travel. Also, the result of Van Der Merwe et al. (2011) identified four motivational factors, destination attractiveness, the use of time, personal attachment and escape and relaxation. Recent researches in the field of tourist's motivation by Carvache et al. (2018) asserted that enjoying the outdoor activities like beaches and relaxation constituted motivational aspects for some type of tourists which is line with results of this study.

It is also important to note that tourist products at the destination must be able to satisfy tourists needs and wants (Pesonen, 2012). Important information collected from the markets should be used for customizing products or services that can satisfy the tourists (Pulido-Fernandez and Rivero, 2010). In term of market segmentation, Onofri and Nunes (2013) identified two types of segments of tourists that were a) Greens who prefer to choose natural destination because they have strong preference for this kind of attraction; and b) the beach lovers, who prefer sun and relaxation on the sand. In the aspect of tourist's satisfaction, revisit and recommendation for future tourists, should improve the destination facilities which could be used as criterion for segmentation such as entertainment and natural resources (Prayag, 2012). Regarding to the segmentation criteria, Middleton and Clark (2001) found few common segmentations implements in the markets which were demographic, geographic behavior and psychographic. Segmentation of heterogeneous tourists based on their motivation helps tourism providers to create suitable products for tourists in the destination (Lee et al., 2006; Rehman, 2016). The perceived image of a travel destination is built on the destination attributes brought forth by push and pull factors (Correira et al., 2007). An argument often comes which puts impact of push and pull factor as insignificant thus,

putting more emphasis on the function of attributes and intrinsic desires in decision-making process for travel destination.

The current study establishes self-actualization and social interaction needs (also called as push factors) as motives driving the individuals travel needs; the aforesaid argument runs parallel with Crandall's (1980) research findings which relates individual travel needs arising out from an individual's motive of destination exploration and evaluation in order to achieve a degree of prestige and improve relationship. On the other hand, what the destination offers which impacts tourist's pockets for e.g. stay, return visits is described by pull attributes. Countries celebrate their heritage, culture, and food as the part of strategy to harness these attributes. Regional diversity in terms of culture, food, natural heavens, modern entertainment offerings are pillars around which tourism industry is developed.

The tourism industry in close cooperation with local authorities and government at large should forge effective plans to harness the existing potential destination by improving ground infrastructure and facilities. With growing demand for nature, tourism or adventure tourism destinations should be developed with this theme in mind to cater to a very niche segment. This will also strengthen economies based on tourism with flow of visitors based on their destination attributes. A destination can be developed to offer wonderful facilities and needs of tourists. However, this is the second step, the primary step is to create enough pushes and pulls for tourists to travel to the destination and this is where mass media assumes a critical role in creating a distinct perception of the travel destination. An effective marketing strategy woven around matched push and pull motives; designing promotional campaigns and theme stories hit right chord with travelers along with segmenting the market and developing the destinations in line with it. The clarity in target market and target customer after due research will lead to the development of focused promotional programs. The Saudi Arabian authorities can understand needs and motives of their targeted market segment and design their market strategies.

CONCLUSION

It is very important to carry out tourists' motivation studies that are related to psychology of tourists and their behavior in destination. This will provide information and databases that are related to market segmentation, socioeconomic, travel motivation and satisfaction which will be of immense benefit for tourism destination. The Kingdom of Saudi Arabia has open borders with multiple regions which places it uniquely and puts it in an advantageous position to offer its exotic rich destinations to tourists from these regions. The Vision 2030 document clearly states Saudi's intent to fast track development and reform agendas; entertainment authority and Saudi commission have marked tourism as important sector for economic growth of the country and also for diversifying its revenue streams. The four-point marketing strategy based on motives and needs derived from tourist's behavioral patterns as discussed in this current study which focuses on building the perception of various travel destinations attributes amongst the domestic as well as nearby regions with open borders can be referred to successfully achieve objectives of Vision 2030. Therefore, the decision and policy makers should create tourism packages, products and programs based on push and pull factors which impacts the motivation factors of the travelers to make it effective (Franco et al., 2019; Amir and Rehman, 2013; Jang and Wu, 2006).

Modern research and studies can be one of the torchbearers for Saudi Tourism Commission while developing tourism programs to attract tourists and galvanize tourism industry. These studies can help the Commission to understand the present and future requirements of travelers to Kingdom of Saudi Arabia by finding and understanding their motivational factors. Dewar et al. (2001) states that it is vital to find the traveler's needs. This is also an important subject for all stakeholders involved with tourism marketing (Crompton, 1979). As per Brayley (1991) a destination's ability to attract tourists should be benchmark for measuring tourist motivations towards that destination.

The current study's contribution towards understanding and defining tourist motivation is an important one. The finding of the study can be utilized in other regions and economies in MENA region. Further, current study comes with a limitation of not studying the intra-impact of motivational factors. Finally, this study gives suitable recommendations for planners in the Saudi Tourism Commission and National Heritage and Entertainment Authority to take development of Hail destination as priority for domestic and international tourism travelers. In addition, studying the relationship between tourist's satisfaction and revisit intention should be further explored by future researchers.

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CHARACTERISTICS AND TOURISM POTENTIAL
OF THE BURABAY NATIONAL PARK (KAZAKHSTAN)

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Abstract: In this study, the geographical location and geographical features of the Republic of Kazakhstan were summarized and discussed, and the main advantages and disadvantages of Kazakhstan in terms of tourism were explicated. In the article, the geographical and ecological characteristics of the Burabay National Park, the number of tourists, the purpose and tasks of the establishment of the park and the historical development of the park were also deliberated. In this study, the tourism resources and accommodation potential of the national park, on the one hand, the most visited tourist attractions in and around the park area on the other hand were investigated. In the conclusion part of the article, the main problems observed in the Burabay National Park and its surroundings and what needed to be done to solve them were discussed. The most important aim of the research was to introduce the tourism potential and ecological richness of the Burabay National Parks to the readers.

Key words: tourism, National park, tourism potential, tourism resources, Burabay National park,

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THEORETICAL BACKGROUND

In order for the plant and animal species, ecosystems and biodiversity to be protected, new nature reserves, as in every country, are put into service every year within the borders of the Republic of Kazakhstan. Natural reserve areas, national parks, nature parks, natural monuments, nature reserves, botanical gardens, regional nature parks, zoological park areas and botanical park areas constitute the main nature reserves within the borders of the Republic of Kazakhstan. While the total area of all nature reserves within the borders of Kazakhstan in 2004 was 20.9 million hectares, making up 7.7% of the country's area, the total area of nature reserves in 2015 increased to 24.0 million hectares and their percentage in the country's area has reached 8.8%. Even though the percentage of nature reserves in the country's surface area varies from country to country, it is commonly known that the world average is 10-12%. Therefore, the area covered by the nature reserves in Kazakhstan is insufficient and it is commonly recognized that these values are below the world average (Kalyujnaya and Vaşukeviç, 2018). Most of the nature reserves within the borders of the Republic of Kazakhstan constitute the National Park areas. While the total area of the National Park areas in the country exceeded 14 million hectares in 2004, these values exceeded 25 million hectares in 2021 (Kayjakparova, 2020).

The main purpose and expectation in the establishment of national parks is, on the one hand, to protect the natural elements, which are unique in terms of environmental protection and aesthetics and on the other hand, provide people with the

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opportunity to access and see these elements (Berdenov et al., 2021). Today, 14 national parks are in service in Kazakhstan, but this is an insufficient number for this huge country (Map 1 and Table 1). The country's first national park is Bayanaul Park, which was established in 1985. The newest and most recently established national parks are Tarbagatay, which came into use in 2018, and Ulitau, which came into use in 2021. It is expected that the "Merke" and "Türkistan" national parks will be put into service in the coming years. It is apparent that the national park areas in Kazakhstan are mostly concentrated in the mountainous and forested areas in the east and southeast of the country. It is noteworthy that no national parks are located in the northwestern and southwestern parts of the country (Table 1, Figure 1). As illustrated in Table 1, today there are totally 14 National Parks within the borders of the Republic of Kazakhstan and their total area is 2 726 330 hectares. Among the National Park lands, Katon-Karagayskiy (643 477 hectares) is the largest in terms of surface area, and the smallest is the Ulitau National Park (58 912 hectares). Burabay National Park, which is the most popular among domestic and foreign tourists and hosts the most visitors, was visited by a total of 683 000 people in 2019. Jongar-Alatau and Buyratau are the least visited national parks. In 2019, the total number of tourists visiting all the parks within the borders of the Republic of Kazakhstan was 1 380 000, which is a very insufficient number, far behind the countries that maintain the world tourism leadership (Seitimova et al., 2021). These statistical data show that the national park areas in the country are not sufficiently promoted and that they have failed to take their rightful place in national tourism planning.

Table 1. Major Characteristics of Kazakhstan National Parks (Sources: Seitimova et al., 2021)

No:	National Park	District	Area (Hectare)	Number of visitors (Year 2019)	Foundation Year
1	Kokşetau	Akmolinsk	182 076	64 000	1996
2	Burabay	Akmolinsk	129 299	683 710	2000
3	İle-Alatauskiy	Almatinsk	198 669	288 000	1996
4	Çarin	Almatinsk	127 050	20 000	2004
5	Altın-Emel	Almatinsk	307 653	19 000	1996
6	Kelsay-Kelderi	Almatinsk	161 045	88 000	2007
7	Jongar-Alatau	Almatinsk	356 022	1 500	2010
8	Katon-Karagayskiy	East Kazakhstan	643 477	4 500	2001
9	Tarbagatay	East Kazakhstan	143 550	- -	2018
10	Karkaralinskiy	Karagandinsk	112 120	42 000	1998
11	Buyratau	Karagandinsk	88 968	2 000	2011
12	Bayanaul	Pavlodarsk	68 452	130 000	1985
13	Sayram-Ugamskiy	Turkestan	149 037	33 000	2006
14	Ulitau	Karagandinsk	58 912	- -	2021

Figure 1. Kazakhstan National Parks (Source: Authors, 2022)

PURPOSE

The principle purposes of the present study are manifold and can be stated as in the following: This study mainly aims in general to promote the tourism potential and tourism resources of the Northern Kazakhstan Region and the Akmolinsk region. More specifically, the functions and significance of the Nation Parks for Kazakhstan will be emphasized. Furthermore, the geographical and ecological characteristics of the Burabay National Park will specifically be investigated in detail. By this way, the unique and place and significance of the Burabay National Park in terms of Kazakhstan tourism geography will be emphasized. It is also one of the purpose of the present study to investigate the founding purpose, historical development. Tourism centers and economic functions of the Burabay National Park. The present study also aims to introduce and promote the tourism resources, natural attractions and human appeal as well as the accommodation potential of the Burabay National Park. The study will consequently deliberate the principle tourism-related problems visible in the Burabay National Park and its immediate surrounding and offer solutions to resolve these problems. With the ensuing results to come out of the study, recommendations will be offered to the National Parks in Kazakhstan in the future based on the economic and tourism-related lessons learnt from the results of the present study.

MATERIALS AND METHODS

Some of the observations and research data in this study were obtained from the field trips of Emin Atasoy and doctoral students in Northern Kazakhstan and Burabay region between 2017 and 2019. In these trips, which included forests and lake basins, plains and steppes, river valleys and nature protection areas, museums and settlements, historical and touristic places, the tourism riches in the Burabay region were identified in the research area with the observations of the authors.

In this study, the method of case study was implemented. The case study method is referred to differentially in different countries. The most common terms used in the social sciences literature are as follows: "case study", "case method", "case study method" and " incident study". In the relevant English literature, the equivalent of this research method is "Case Study" (Aytaçlı, 2012; Subaşı and Okumuş, 2017). The case study is one of the systematic design types that includes steps such as collecting date, organizing the collected data, interpreting and researching it, and reaching the findings, just like a detailed planning in architecture (Safarov, 2020). Case study is a way of surveying at what is actually happening in the geographic setting, systematically collecting and analyzing the data and presenting the results. The resulting output is a powerful comprehension of why it has happened that way and what needs to be focused on in more detail for future research. In the data collection process of the study on Burabay National Park, 4 different sources were utilized:

1) Documents, atlases, maps and official statistical data

2) Scientific works written in Turkish, Kazakh, English and Russian,

 3) Electronic resources,

4) Direct field observations in the area. Archival documents, periodicals, books and articles, doctoral theses and official institution reports, statistical documents and various scientific researches were utilized as written sources in the study.

Major Characteristics of Burabay National Park

Burabay National Park is located northwest of the capital Nur-Sultan, southeast of the city of Kokshetau and southwest of the city of Omsk, one of the most important metropolitan cities in Russia (Figure 1). Burahbay National Park, located in the northern parts of Akmolinsk province and within the borders of Burabay rayon (district), is called "Little Switzerland of Kazakhstan" due to its natural beauties. The diversity in forest and lake types, clean air and wide green areas, rugged hills and interesting geomorphological formations are the characteristics enabling the comparison of this region to Switzerland. There are a total of 14 lakes and many small lakes with a surface area of more than 1 km^2 in the national park area.

The main lakes within the borders of the national park, which are important for tourism, are: Borovoe, Katarkol, Ştuçie, Bolşoe Çebachie, Maloe Çebachie, Svetloe, Karasie, Gornoe and Lebedinoe. All of these lakes are located in the Burabay Lakes Region. Among them, Bolshoe Chebachie (23.2 km^2), Maloe Chebachie (16.8 km^2), Shtuchie (19.6 km^2), and Borovoe (10.5 km^2) are the largest lakes in terms of surface area. The main lakes in the Burabay Lakes Region with an area of less than 1 km^2 are: Akkol, Jaynak, Lebyajie, Zerkalnoe, Tekekol, Maybalik, Barmaşino, Lebedinoe, Karasu, Akkukol and Sulukol (Chirikov et al., 2008). Most of the lakes in the region have fresh waters and closed basins, and salty lakes are much less in number. The large number of lakes, large green areas, clean air and large forested lands have caused the national park to be compared to the Alps and Switzerland. Although there are no large rivers and large streams within the borders of Burabay National Park, Gromovaya, Saribulak, Kolchakti, Kilchakti and Imanayskiy can be cited as examples of small streams in the region (Chirikov et al., 2008). Today, one of the most important goals and objectives of the national park officials is to protect the pine forests and lake basins in the park area and transfer them to future generations.

Steppes, hilly areas, forested-steppes, flat plains, lakes and forested areas constitute the largest natural lands in the national park area and all these lands are part of the Kokshetau Hilly Massif. Kokşetau Hill (887 m), also known as Sinyuha Mountain, forms the highest point of the Kokşetau Hilly Massif with a length of 400 km and a width of approximately 200 km. Jeke-Batır (826 m) and Burabay (690 m) form other important mountain masses within the borders of the National Park. Burabay National Park is located in the northwest of the Kokshetau Hilly Massif (Chirikov et al., 2008). Burabay National Park, located in the west of the Seletiteniz Lake Basin and east of the Ishim Valley, is the tourism showcase of the Republic of Kazakhstan and one of the most well-known and most visited tourism centers of the country. Burabay, which is a wonder of nature, is called "Borovoye" in Russian. In fact, it is known that the name Burabay comes from the Kazakh word "Bura", which means "camel". According to historical legends, a camel living in the vicinity of Kokshetau, while grazing on the slopes of the mountain, sensing the approach of the enemy armies, climbed to the top of the mountain and warned

Figure 2. Geographical Location Burabay National Park (Source: Authors, 2022)

people of impending danger with a powerful roar. As proof of this interesting legend, a landform resembling a two-humped camel is demonstrated on one of the majestic rocks of the Kokshetau Mountains today (Figure 2).

The Burabay National Park has a severe continental climate. The temperature differences between months and seasons are very high, while the amount of humidity and precipitation is very low. The annual average temperature of the park area is 1 ^{o}C, the average temperature in January is -16,7 ^{o}C, and the average temperature in July is +18,6 ^{o}C. In winter days, temperatures can drop to extreme values -52 ^{o}C, and in summer days, temperatures can rise to +42 ^{o}C as extreme values. Since the lands of the national park are located in a semi-arid region, the annual precipitation is insufficient and is around 300-400 millimeters. In general, all national park lands are covered with snow during the period of October – April (Ivasensko, 2009). Burabay National Park has a long and interesting history. In 1898, the "State Forest Enterprise" was established to protect the lakes and forests in the region around Lake Borovoye. In 1910, a sanatorium was established in the same region for the treatment of pulmonary tuberculosis and some other diseases. From the 1920s to 1990, that is, during the entire USSR era, the Borovoe region was recognized as an important health, recreation and tourism region and hosted thousands of tourists every year. In fact, during the USSR era, the first nature reserve in the Burabay region was established in 1935. This protection zone named "Borovoe State Reserve" was in service for only 16 years and was closed in 1951 and replaced by the "Borovskoe Forest Enterprise".

In 1997, both the name and functions of "Borovskoe Forest Enterprise" were changed so that it existed as a state institution under the name of "Burabay Ecological Forestry and Health Complex" in the period 1997-2000 until 2000. On August 12, 2000, as a state institution, the "Burabay National Park" officially started its activities. In 2000, the park area was established on an area of 83511 hectares, of which 47600 hectares are covered with forests. In 2010, the National Park area was expanded to 129935 hectares. In 2018, the "Burabay" monument, written in large illuminated letters and visible from afar, was placed on the top of Borovoe hill and turned into a touristic symbol of the national park. Today the national park area is under the control and authority of the presidential administration of the Republic of Kazakhstan. The national park, which was officially established on August 12, 2000, covers an area of 129 299 hectares today and there is a forest area of 79291 hectares within the borders of the park (https://www.udp-rk.kz/ru/organizations/45471/). In other words, 61.0% of the national park lands are covered with forests and a large part of these forests consists of coniferous trees.

The geographical proximity to the Ural Mountains, the West Siberian Plain and the capital city of Nur-Sultan provides both transportation and tourism advantages for the Burabay National Park. The cities of Shtuchinsk and Kokshetau are the closest urban settlements to the national park area (Figure 1 and Figure 2). The foreign tourists visiting the national park area should know that the Shtuchinsk railway station, Kokshetau national airport and the international airport in the city of Nur-Sultan are the transportation hubs located at the nearest distance. In summary, there are both road, rail and airline options for domestic and foreign tourists to reach the national park area. As a geographical location, the fact that Burabay National Park is located in a geographical location that accommodates both the West Siberian Plain and the Central Asian Region, steppe and taiga lands, and the transition characteristics between the European and Asian continents has caused the diversity of ecosystems and living species in the park area. There are more than 800 plant species and more than 300 animal species within the borders of Burabay National Park (http://parkburabay.kz/). As a result of intense anthropogenic activities, the number of living species is gradually decreasing, and today about 90 of animal species and about 10% of plant species are threatened with extinction (Khrustaleva, 2012). 65% of the forests within the borders of Burabay National Park consist of pine trees, 31% of birch trees, 3% of aspen trees and 1% of shrubs (Sultangazina and Kuprijanov, 2012). As is clearly seen, coniferous forests are dominant within the boundaries of the national park land and pine and birch are the most common tree species among them.

The fauna of Burabay is much richer than the surrounding steppe regions. The living species seen in the national park land are virtually a mixture of the characteristic fauna elements of steppe and forest lands, lakes and mountains. In the Burabay (Russian: Borovoe) region, both the animal species of the northern and southern regions and the European, Central Asian and Siberian species can be observed simultaneously. Deer, wild boar, badger, rabbit, Siberian roe deer, wolf, fox, lynx, squirrel, weasel and pine marten are the most common animals in the national park lands today (İvaşensko, 2009).

Major Tourist Attractions of the Burabay National Park

In terms of the number of nature reserves, Kazakhstan ranks sixth among the former republics of the USSR (Out of 15 republics in total), and third in terms of the total area occupied by these nature reserves. However, when the percentage of nature reserves in the country's area is compared, it is seen that Kazakhstan is only 13th among the former republics of the USSR. It is understood that for a large country such as Kazakhstan, nature reserves cover very little area and are extensively insufficient in number. Considering all these shortcomings, the Kazakhstan Government aims to open 18 new nature reserves by the middle of the 21st century (Kalyujnaya and Vaşukeviç, 2018). Burabay National Park is located within the borders of Akmolinsk province (province), which is one of the most developed provinces of Kazakhstan in terms of tourism. There are about 700 tourism enterprises operating within the borders of Akmolinsk principality (province). Of these, 370 are touristic accommodation facilities, 45 sanatorium facilities and treatment centers, 178 roadside service facilities and 68 travel agencies. Furthermore, within the borders of Akmolinsk province, there are 3 national parks ("Burabay", "Buyratau" and "Kokshetav"), 1 state nature reserve (Korgaljin Nature Reserve) and about 900 historical-cultural monuments. Furthermore, 394 900 tourists purchased service from the touristic accommodation facilities located within the borders of Akmolinsk principality (province) in 2019. However, the fact that most of the incoming tourists are the citizens of Kazakhstan and a very small part of them are foreign tourists illustrates that the region has not achieved the due success in terms of international tourism. As a result, a total of 813000 domestic and foreign tourists visited Akmolinsk principality in 2019 and this number is expected to rise to 1.6 million by 2025 (Evloeva and Titova, 2020). With the completion of the "Ak Bura Resort" holiday village with a capacity of 1900 beds, which is under construction between the

Bolshoe Çebachie and Tekekol lakes, and the Abilayhan Park and the "Zernovaya Industriya - Astana" hotel complex going into service, both the number of tourists coming to Burabay National Park and the touristic importance of the region is expected to increase even more (Figure 3). Burabay National Park is actually a part of the Shtuchinsk – Borovoy Touristic Complex, and this holiday complex draws attention with its more than 190 touristic facilities and more than 15 000 beds (Evloeva and Titova, 2020). The fact that the Shtuchinsk – Borovoy Touristic Complex is located close to the city of Kokshetav, the administrative center of the region, to the capital Nur Sultan, to the Buiratau and Kokshetav National Parks, provides a great tourism and transportation advantage to this popular region (Figure 2). Vast forest lands, numerous lakes and intact ecosystems constitute the biggest tourism advantages of the Shtuchinsk – Borovoy Touristic Complex. The administrative center of the Burabay National Park is only 22 kilometers away from the city of Shtuchinsk and 90 kilometers away from the city of Kokshetau, and 250 kilometers away from the capital city of Nur-Sultan (Chirikov et al., 2008).
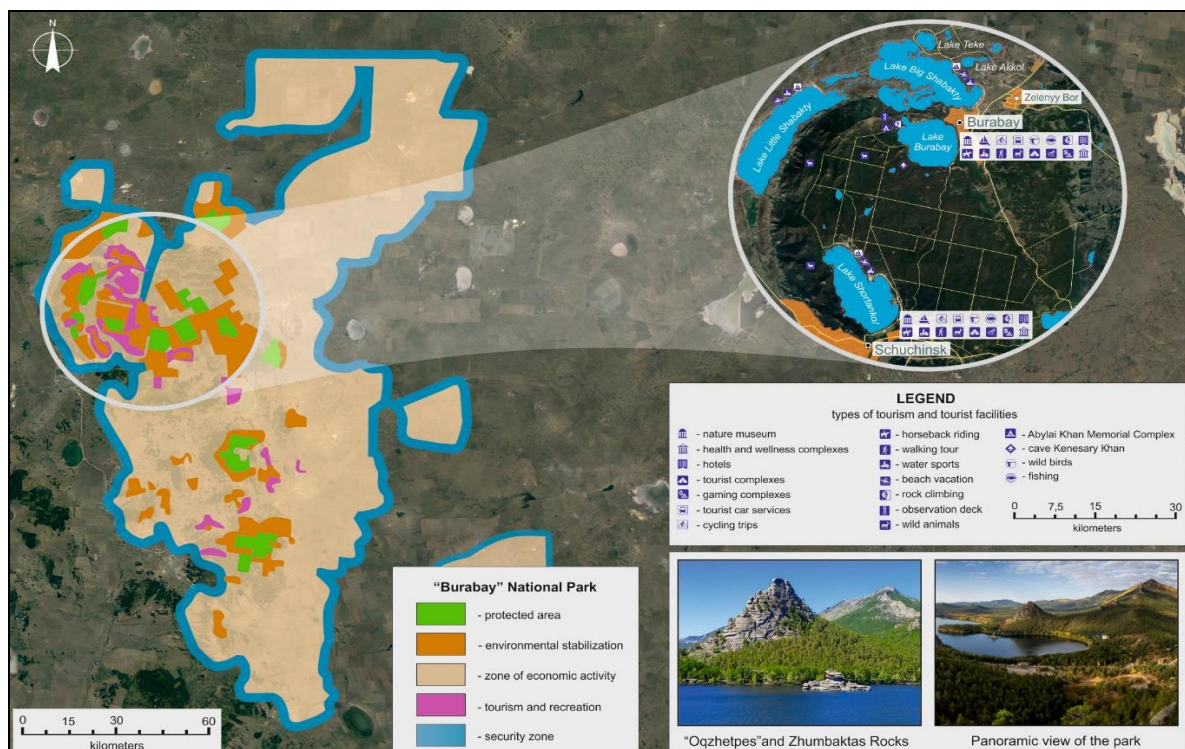
Figure 3. Burabay National Park (Source: Authors, 2022)

Within the Shtuchinsk – Borovoy Touristic Complex, there are many different types of accommodation facilities such as hotels, hostels, motels, chalets, boutique hotels, city hotels, sanatoriums, hostels and winter tourism resorts (Figure 3). The main accommodation centers within the Shtuchinsk – Borovoy Touristic Complex are: Rixos Borovoe Hotel, Sultan Plaza Borovoe, Park Hotel Kokshetau, Alatau Hotel, Park House Kokshetau, Tumar Halal Hotel, Pansionat Zhumbaktas, Bay-Bura Hotel, Samal Hotel, Almaz Sanatorium, Bura Family Pension, Altın Orman Holiday House, Nomad Hotel, Hotel Sarı-Arga, Uyut Holiday House, Zhaylau Hotel, Ar-Ay Gostinniy Dom, Hotel' "Alem Plyus", Jumbaktas Borovoe Hotel, Gostevoy Dom "Aruana", Gostevoy Complex Burabay Service, Wyndham Garden Burabay, Comfort Hotel Burabay, Altyn Kun Hotel, Edem Spa Hotel, Kekşebel Hotel, Arasan Holiday Village, Green Which Tourist Borovoye, Nursat Hotel, Zhansaya Hotel, Toboroboro Hotel, Gostevoy Dom Ostrov Robinzona, Gloriya Hotel, Al Baraka Hotel, Terrassa Park Hotel, Arkhidom Hotel, Alma-Ata Hotel, Pansion "Progress", İnsar Hotel, Zona Otdiha "Tsvetnichok", Ak Bult Hotel, Bayterek Hotel, Mini Hotel Yasmin, Johnny's Place Motel, Alişer Hotel, Eurasia De Luxe, Hotel Sunrise, Baitas Hotel, Gos tevoy Dom "U Baby Lyuby", Okjetpes Sanatorium, Grand Trek Hotel, Green Park Burabay, Sanatorium Shtuchinskiy, Discovery Borovoe, Sanatorium Katarkol, Hostel Okjeptes, Boutique Hotel "Rufus Lodge", Ekotel' "Obereg", Siniy Hotel Cozy, Hotel Nurlytau , Sanatoriy Zelenyy Bor and Altai Hotel (booking, trivago, tripadvisor, luxuryhotelsguides, agoda).

As is clear, these accommodation facilities include 4-5-star luxury facilities such as Rixos Borovoe Hotel, Wyndham Garden Burabay and Park Hotel Kokshetau, family hostels such as Progress, Ar-Ay and Bura, holiday villages such as Arasan and Ostrov Robinson, motels such as Johnny's Place and Marsel. Economic holiday homes such as Altın Orman, Uysun and Ansar, sanatorium complexes such as Katarkol, Almaz and Sultan Plaza are also in service. Most of the accommodation facilities are concentrated on the eastern shores of the Burabay lake and around the Ştuçie lake. Furthermore, Nurtau Ski, Shtuchinsk National Ski Center, Burabay Ski Center and Tseseka Ski Center are the most important winter tourism centers within the borders of the Shtuchinsk - Borovoy Touristic Complex. Consequently, the Shtuchinsk – Borovoy Touristic Complex has become famous throughout Central Asia as the holiday, health and entertainment pearl of Kazakhstan.

The number of touristic facilities and tourism enterprises within the borders of Burabay National Park is 178 and 22 accommodation facilities have the operating certificate of the Ministry of Tourism of Kazakhstan. The accommodation facilities in the park area are in service with a total of 6403 rooms and 13310 beds. There are 15 tourism companies operating within the boundaries of the park, and there are 44 historical monuments or sculptures. In order to develop

ecological tourism, a total of 29 excursion routes, including 19 walking, 2 horse, 1 bicycle, 1 water and 6 bus routes, have been developed in the national park area, and all of them are in the service of tourism today. The total length of the walking and cycling paths in the park area exceeds 55 kilometers. More than 9 boat rental points operate within the park boundaries, generally during the summer months. Curious tourists who wish to browse closely the bays, natural beauties, lake shores and interesting rock formations in the region usually participate in lake excursions with the boats they rent. The "Cash Ville" casino operating within the borders of the "Rixos Borovoe" hotel is one of the most popular entertainment centers of the region and the largest operating national park (https://www.gov.kz/memleket/entities/aqmola-burabay/activities/4987)? lang=ru). Burabay National Park draws attention with its colorful festivals, educational and scientific organizations and sports activities as well as recreational activities and health tourism. In 2019, about 20 major touristic organizations focused on cultural and sports activities were organized within the borders of the national park. "Veloburabay" cycling competitions, "Burabay" international sailing competitions organized in the lake basins, "Red Bull 400" international running competitions and "Race Nation Burabay" hurdle running competitions are among the most popular and most interesting international tourism events. The stage performances of the "Astana Opera" artists and the "Birjan-Sara" opera, organized in 2018 within the borders of the national park with the support of the Ministry of Culture and Sports of Kazakhstan, helped the region to be visited by thousands of local and foreign tourists and contributed comprehensively to the promotion of the national park (Evloeva and Titova, 2020). The most visited tourist attractions in and around Burabay National Park are:

● Geomorphological tourist attractions: Kokshetau, Jeke-Batir and Burabay Mountains; Kenesari Cave; geomorphological formations named Sfinsk, Deve, Berkut and Kabarga; Okjeptes Hill, Jumbaktas Rock and Ekstrim-Park Cliffs.

● Hydrographic tourist attractions: Imanaevski Waterfall; Lakes of Borovoe, Katarkol, Shtuchie, Bolshoe Chebachie, Maloe Chebachie, Lebyajie, Akkol and Svetloe.

● Anthropical (the existence of human life) tourist attractions and recreation areas: Shtuchinsk Botanical Garden, Burabay Nature Museum, Dendropark Shtuchinsk, Cash Ville Casino, Abilay Khan Throne, Burabay Zoo, Abilay Khan Museum, Shtuchinsk Cultural Center, Thematic Park Kazakhstan Lapland, Ledoviy Gorodok Thematic Park, Bolek Tau Walking Area, Abilay Khan Recreation Area, Bereke-Burabay Trade and Entertainment Center, Akbura Park Walking Area, Konniy Dvor Park, Lesnaya Skazka, and Shtuchinsk City Park.

● Major faith centers: Shtuchinsk Mosque, Nikolay Chudotvorets Orthodox Church, Burabay Mosque, Burabay Orthodox Church and Shtuchinsk Orthodox Church.

● Major sports centers: Nurtau Ski Center, Burabay Ski Center, Tseseka Ski Center, Burabay Golf Club, Jaksı Sports Center, Cumhuriyet Winter Sports Center, Yaguar Sports Hall, Orlenok Sports Complex and Olimp Sports Hall.

● Major sanatorium centers: Bolek Tau, Saken Seyfilin, Burabay, Shtuchinsk, Katarkol, Zvezdniy, Baldauren, Zeleniy Bor, Almaz, Priozerniy, Detskiy Sanatoriy Burabay and Sultan Plaza.

● Major beach areas: Lesnaya Skazka Beach, Borovoye Beach, Shtuchiy Bereg Beach, Katarkol Beach and Maybalik Beach.

● Major restaurants and cafes: Dostar, Samal, Aygerim, Şafran, Uzbeçka, Asia, Ayajan, Inszhu, Aynakol, Boom, Agajan, Astana Nury, Aragvi, İmperiya Sushi, Kafe Steyk Haus, Nursat, Altın Kazına, Family Sushi, Kaspiy, Kafe "Merey", Astoriya, Mozaika, Cafe "Nauryz", Cafe "Aray", Masala Indian Restaurant and Cafe "Express".

DISCUSSION AND CONCLUSIONS

Burabay region is one of the most visited and popular tourist destinations in Kazakhstan. However, in the geography of Kazakhstan, Burabay not only denotes a lake, settlement, ski resort and mountain, but also denotes a hotel, restaurant, district, sanatorium and National Park. There are different usage areas within the borders of Burabay National Park in terms of nature protection priority and freedom of human-economic activities. Nature reserves where human-economic activities are prohibited, private recreation areas and areas open to human-economic activities are the primary ones. Lake tourism, ecotourism, winter tourism, cultural tourism, sports tourism and health tourism are the most developed types of tourism in the park area. It is expected that event tourism, convention tourism and adventure tourism will develop within the borders of the national park in the 2020-2060 period. Sports activities, environmental education and scientific activities, as well as fishing, mountaineering, trekking and cycling tours are organized in certain seasons and in certain areas in the park area. Fresh air, green forests, interesting landforms, sandy beaches on the lake shores, breathtaking natural beauties and quiet natural environment away from the city are the biggest tourism advantages of Burabay National Park (https://borovoe.kz/about/). Undoubtedly, Burabay National Park is one of the most famous, beautiful and busiest tourism centers of Kazakhstan. Furthermore, Burabay (Russian: Borovoe) is the most famous health tourism center of the country and more than 15 sanatoriums and health centers operate within the borders of the park. Respiratory tract, gastrointestinal system, cardiovascular system and musculoskeletal system diseases are the most commonly treated in Burabay sanatoriums (https://tengritravel.kz/my -country/prirodnaya-jemchujina-kazahstana-burabay-346441/). Therefore, every year thousands of patients are both take a rest and are treated in one of the facilities within the borders of the national park. Sanatorium complexes such as Okjetpes Sanatorium, Sanatorium Shtuchinskiy, Sanatorium Katarkol, Almaz Sanatorium, Detskiy Sanatorium Burabay, Sanatorium Zeloniy Bor and Sultan Plaza Burabay are the major health tourism centers located within the borders of the national park.

In comparison to other national park areas in Kazakhstan, Burabay National Park has seven important advantages:

1. Geographically, it is close to the capital city of Nur-Sultan and the administrative center of the region, Kokshetau.

2. In comparison to other nature reserves in Kazakhstan, it is the national park with the most transportation type options. By offering road, rail and air transportation options, it has easy and economical transportation connections for visitors from abroad and from different parts of the country.

3. It is the country's most visited and most popular national park, with an annual number of tourists exceeding 600 000.

4. It has breathtaking natural beauties, vast forest areas, popular ski resorts, interesting geomorphological formations, modern accommodation facilities and many clean lake basins at the same time.

5. It has many sanatoriums, SPA facilities and health centers and is the most famous health tourism center of the country.

6. The Burabay region, which hosts communities with different religious and ethnic characteristics such as Russian, Kazakh, German, Belarusian, Polish, Tatar, Ingush, Korean and Chechen, has a great potential in terms of both faith and ethnic tourism as well as diaspora and cultural tourism.

7. In comparison to other nature reserves in Kazakhstan, it is the national park with the most tourism diversity. It has simultaneous development opportunities of various tourism types such as lake tourism, ecotourism, ethnotourism, winter tourism, cultural tourism, youth tourism, event tourism, sports tourism, health tourism, congress tourism, gambling tourism and adventure tourism in the national park lands.

The Burabay National Park is neither the newest established nor the largest national park of the Republic of Kazakhstan. Nevertheless, it is the most visited national park by the Russian tourists and the most popular and the most tourist accepting park in the country. While 122 843 visitors visited the national park area in 2010, this number increased to 683 710 in 2019 (Figure 4).

In other words, the number of visitors to the national park has increased by 5.5 times in a period of about 10 years. In conclusion, no other national park in Kazakhstan except Burabay has more than 500 000 annual visitors (Figure 4). As it is clear in Figure 4,

Figure 4. Number of Tourists Visiting the Burabay National Park in 2010–2019 Period (Nugmanova et al., 2020)

more than 5 million tourists visited the national park in the period of 2010–2019, that is, in 10 years. The number of visitors to the national park in the 2013–2019 period varied between 525 000 and 685 000. By 2030, the annual total number of tourists is expected to exceed 1 million. The average daily number of tourists visiting the Burabay National Park is around 1600 - 2000, and this number rises to 5000 at the weekends and holidays. Uncontrolled influx of visitors and excessive touristic density are among the most important ecological problems of the park area and threaten both natural forest areas and lakes in the region. 6.18 people per hectare at the weekends, holidays and holidays is a testament to this unplanned touristic density in the park area (Nugmanova and Arhipov, 2019; Nugmanova et al., 2020).

The main problems observed in the Burabay National Park and its immediate surroundings and the main problems waiting to be resolved can be summarized as follows (Duysen, 2002; Ahmetov et al., 2009; Bagiryan, 2016; Dmitriyev et al., 2021; Egorina and Geldieva, 2010; Khrustaleva et al., 2012; Tokpanov et al., 2021):

● Ecosystems within the borders of the national park are very delicate and fragile and can be easily damaged by intense human activities. When such structures as highways, holiday centers, public buildings, hotels, restaurants, walking routes are being constructed, they should be planned in such a way that they would cause no damage to the natural ecosystems. Unplanned construction, unsightly concreting and uncontrolled construction may destroy the attractiveness and ecological authenticity of the national park and may adversely affect tourism activities in the region in the long run.

● The lakes located within the borders of the national park are exposed to pollution and intense human activities, especially in the summer months when tourism is intense. Illegal fishing and transportation in the lake basins, as well as the lack of modern water treatment facilities to clean the polluted wastewater around the lakes are other problems that negatively affect the tourism activities. Without an ecological approach, environmentally friendly tourism and nature-centered touristic planning, the national park cannot achieve its desired goals and tourism achievements.

● There are still some problems regarding garbage collection in the settlements and holiday centers within the borders of the national park, and problems regarding the storage and transportation of domestic wastes. There are neither garbage bins nor waste collection centers on the lake shores, picnic areas, forest areas and along touristic routes. Therefore, environmental pollution and garbage problem is one of the important problems of the park waiting to be resolved.

● Uncontrolled access to the virgin areas, grasslands, lake shores and forest lands within the borders of the national park with bicycles, automobiles and various motor vehicles adversely affects both plants and animals and natural ecosystems. For instance, thousands of people enter the natural forest areas every year in order to collect mushrooms and berries, have a picnic or start a fire, destroying vegetation and frightening wild animals. Legal and legal regulations that will protect the untouched natural areas in the park area from human influence, intense construction and transportation activities should be implemented as soon as possible.

● The uncontrolled growth of tourism within the borders of the national park and the rapid concretization of the lake shores with new constructions and buildings pose a major problem. Uncontrolled tourism in the park lands, rapid construction, environmental pollution and the desire of companies to make profits endanger both natural ecosystems and local communities in the long run. Furthermore, control mechanisms should be developed in an attempt to prevent illegal tree cutting and forest fires in the summer months in the national park area. In conclusion, the rich diversity of living species in forests, unique ecosystems and valuable forest areas in national park lands should be protected in a way that will be handed down to the future generations.

● State and private investments within the borders of the national park should be enhanced, and both infrastructure and service activities such as transportation, water, sewerage, internet network and communication should be modernized. Modern marketing methods, long-term promotional policies, financial support of state bodies are the first steps to be taken for the development of the national park.
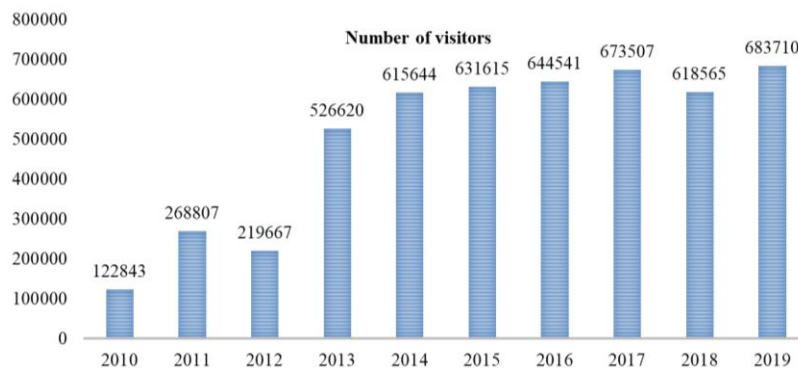
● The Burabay territories have very rich touristic resources and a great variety of tourism. Today, lake tourism, health tourism, sports tourism and ecological tourism constitute the most developed tourism branches within the borders of the national park. Nevertheless, by making new plans and new investments in the park area by 2050, other tourism types suitable for the region such as business tourism, youth tourism, gastronomic tourism, event tourism, agricultural tourism, ethnotourism, gambling tourism, cultural tourism, congress tourism, equestrian tourism and adventure tourism can be promoted. Briefly, the recreation and tourism activities in the national park area should diversify over time and spread over four seasons.

● The number of tourists visiting the Burabay National Park often exceeds the bearing capacity of the park, especially at the weekends and holidays, and all this leads to some serious environmental problems. Uncontrolled influx of visitors and excessive touristic density are one of the most important ecological problems waiting to be resolved in the park area.

● The long winter period, harsh climatic conditions and long distances between geographical regions on the territory of Kazakhstan are a national tourism problem. In addition, it is known that the lack of tourism experts, qualified foreign language-speaking personnel and tourist guides is common both in the Burabay National Park and in the other nature reserve areas.

● The insufficiency and neglect of picnic areas, bus stops, public facilities, as well as bicycle and walking routes within the borders of the national park constitute a separate problem and another tourism negativity.

● For the development, protection and beautification of the Burabay region, local and national politicians should cooperate with each other.

Kazakhstan has a great potential for the development of tourism activities in national park areas, but due to many reasons, it has not been able to attain the desired success in this regard and has not been able to organize the international tourist flow towards nature reserves. There are different problems in nature reserves located in different regions within the borders of the country. Therefore, in the following part of the article, national tourism problems or the problems of all nature reserves have not been discussed, but only the main problems that await to be resolved within the borders of Burabay National Park have been addressed.The things that need to be done to resolve the problems within the borders of the Burabay National Park can be summarized as follows (Rahimbaev, 2017; Sultangazina and Kuprijanov, 2012; Makhanova et al., 2022; Dmitriyev et al., 2021; Kurmanbaeva et al., 2019):

● Active participation of the state, non-governmental organizations and local administrations in the implementation of regional projects related to tourism activities is essential. Both state and private sector representatives and local and central government officials should cooperate and develop joint tourism projects for the healthy conduct of tourism activities in national park areas by combining their powers and experiences.

● A utilitarian park management and a contemporary organizational model should be established in the national park area. Both transportation, communication, security and accommodation problems of tourists, as well as the economic and ecological problems in the park area, should be resolved. Considering the economic and socio-economic characteristics of the Burabay region, the effects and economic opportunities of the national park on regional development and the enrichment of the local people should be re-evaluated and new targets should be identified in this area. The positive and negative effects of both the region on the national park and the national park on the region should be debated again on scientific and administrative grounds.

● Cooperation should be sought with the world's most successful national park managers, who have great experience in the field of tourism, so that successful tourism practices abroad should transferred to Kazakhstan with international cooperation. Until 2050, both the tourism and recreation diversity of the park should be enhanced and tourism activities should be organized to cover four seasons by spreading over 365 days.

● Since the number of tourism experts, tourist guides and interpreters in the national park area is very insufficient, trained personnel, tourist guides, mountaineers and translators should be employed with the support of the state.

● It is essential to develop a long-term government policy on the use and protection of national park areas and implement it meticulously. Illegal constructions and illegal housing in the national park area must be restrained, and imperative sanctions and measures must be implemented in an attempt to prevent illegal hunting, forest fires and logging.

● There are hiking and trekking routes, picnic areas, boat rental centers, etc. available in the national park areas, the existing venues should be renewed and new ones should be put into service. The flooring, information signs, infrastructure and lighting of touristic tracks, cycling and walking routes need to be renewed. Moreover, visual information boards and tourist maps should be placed everywhere so that visitors walking in the park do not get lost on the touristic paths.

● Since the Republic of Kazakhstan is a country with very poor resources in terms of forest lands and fresh water resources, national park areas should be transformed into ecological centers that will protect and appropriate these valuable resources. In order to protect the natural environment and prevent ecosystem destruction, new sources of finance should be identified. Furthermore, new ecological projects, new infrastructure applications and new nature protection targets should be put into practice in order to protect the forest lands, river valleys and lake basins.

● New nature reserve and environmental education centers should be put into service within the Burabay National Park. The national park area should be transformed into an international tourism center that both preserves and promotes the richness of national flora and fauna, cultural, geomorphological and hydrographic tourism attractions and interesting natural beauties.

● Scientific congresses, international conferences, sports and arts activities and especially environmental education activities should be organized more intensively within the national park areas.

● There is a large increase in the number of visitors to the park during the summer months and especially on holidays and weekends. Therefore, policies and sanctions should be developed by the park management in order to reduce the touristic density in these specific periods. Picnic, fire, resting and swimming areas for the visitors should be designated again and showcased with the touristic maps on the roadside.

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INVESTIGATION OF PERCEIVED SERVICE QUALITY, DESTINATION IMAGE AND REVISIT INTENTION IN MUSEUMS BY DEMOGRAPHIC VARIABLES

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Abstract: This study aims to reveal the differentiation status of the dependent variables determined in the form of perceived service quality, destination image, and revisit in museums according to demographic characteristics. A face-to-face survey technique was applied between 26.09.2020 and 29.11.2020 to 512 local tourists from the museum visitors in Eskisehir, which were selected with the easy and purposeful sampling method. T-test and ANOVA analysis were carried out within 476 available questionnaires. The results found that women approached more positively the service offered in museums, the image of the city and re-trips. In addition, it was also understood that the married people liked the service in the museums more and wanted a more frequent visit for their single friends. At the same time, it has been determined that the perceived service quality in museums, ideas about the destination, and renewed visits are not affected by the income level. In addition, it has been observed that the quality of service in museums, ideas about the destination, and repetitive visits differ significantly according to the level of education.

Key words: destination image, service quality in museums, socio-demographics, revisit intention, Eskişehir

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INTRODUCTION

The quality of service, where the relationship between expectations and the service offered is compared and evaluated in the consumer mind (Grönroos, 1984), is an important driver for museums that welcome millions of tourists annually. Allan describes museums as a physical space or a building where collections are examined, researched, and placed (1963, p. 5), while Chung argues that museums are places where abstract heritage is preserved (2004, p. 21). In this regard, these organizations that maintain the presence of tourism in destinations are, in a sense, the memory of societies. Such strong structures, located in places where tourist facilities are developed, are also determinants of the subjective interpretations accumulated about cities. These interpretations, which are formed positively or negatively from all experiences, may also vary according to perceptions. Differences in these ideas are also becoming evident in repeated visits to the main goal of a tourist trip. In this way, it is believed that the number of visitors may influence repeated visits. The information provided shows that social elements among personal factors, in other words, elements such as gender, age, marital status, education level, and income level, have an identity that can be used for any experience gained during the trip. In this respect, more effective marketing can be done with smarter planning by determining the differences in opinions.

When the studies conducted within the framework of the subject were examined, it was understood that a limited number of studies were conducted that conveyed the role of demographics in quality of service, the image of cities, and repeated visits. Even no study has been found that examines these three variables together on the basis of demographic characteristics. From this point of view, these three variables, which are determined as the service received from the city attractions, the ideas about the city and the desire to visit again, and can affect each other, individuals are the gender, age, education level, income level, etc. it was thought that it could arise in the context of many factors. Thus, it has aimed to determine whether the demographic structure significantly changes the perceived service quality, destination image and revisit intention in museums. In addition, sub-objectives were determined as whether the service offered in the museums was liked or not, whether there was a positive view of the region and whether the city had a potential for repetitive visits.

In line with the objectives, it is aimed to bring to the literature the determination that demographic variables can be used to improve and strengthen urban tourism. In this context, all hypotheses were answered on the basis of Eskişehir province. In addition, the fact that the targeted sample group consisted of local tourists also constituted the limitation of the research. First, the perceived service quality, destination image and revisit intention in museums were discussed. Then, it was explained from whom and how the data were collected with the quantitative research method and survey technique, considering the determined purpose. Afterward, the information on which of the statistics were used for which reason and the findings and interpretations determined by the analysis were discussed. Lastly, the achieved results, why these findings might have been reached, ideas on how the industry can benefit from this study, and suggestions for researchers who should conduct studies on the same subject in the future have been conveyed.

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LITERATURE REVIEW
Studies on Perceived Service Quality in Museums

One of the issues explored in the quality of service where new approaches have been introduced is the perceived quality of service in museums. In this context, Frochot and Hughes (2000) prepared the HISTOQUAL model based on the SERVQUAL scale, while Allen (2001) prepared the MUSEQUAL model. Another important scale related to the subject is the MUSEQUAL survey, addressing the "physical characteristics," "willingness," "consumables," "communication," and empathy groups in 28 items by combining SERVQUAL, HISTOQUAL and the MUSEQUAL scales developed by Allen (2001) (Hsieh, 2010; Hsieh et al., 2015). With all these measurement tools mentioned above, the positive and negative elements are made clear to improve or revive the current management. It has been observed that a limited number of studies are available when approaching perceived service quality in museums in terms of demographic characteristics. In the studies conducted by Cheng and Wan (2012) to address the quality of service in Macau museums, it is seen that the perceptions of service of individuals of different ages, educational levels, and occupational groups also diverge.

In the research conducted by Harman and Akgündüz (2014) with foreign visitors to the Ephesus Archaeological Site, it has been determined that museum expectations significantly differ according to marital status and age. Apart from these, it was also discovered that the expectations of the museum experience differed significantly solely by gender and marital status (Sheng and Chen, 2012). Dirsehan's (2011) thesis showed that categorical variables such as gender, marital status, age, educational status, income level, professional groups, and frequency of visiting museums cause similar results in perceptions of the museum experience. Similar findings were also found in Yılmaz and Yetiş's (2016) article about Göreme Open Air Museum. According to this study, it was concluded that participants of different genders, ages, and income levels had the same museum experience. Still, people of different educational degrees had separate rates of enjoying museums. But the study, which measured satisfaction levels at the Stevenson Museum in Samoa, found that gender, age, education level, and ethnic group elements affect the satisfaction rate (Huo and Miller, 2007).

Destination Image and Intention to Revisit

A common consensus has not been reached on the definition of destination image based on comparing expectations with reality and summation of thoughts and feelings people hold about a place (Hemmonsbey and Tichaawa, 2018). However, it has also been noticed that the components are listed as follows: reaching a general opinion, which includes stimulating (internal) factors including primary (personal experience) and secondary image (information sources consulted without going to the destination); tourist motivation, showing desires, needs, drives and interests; socio-demographic variables including characteristic features such as gender, age, marital status, occupation, education level, family life, social class, values, personality, and lifestyle; and various information sources including past experiences such as the internet, advertisements, news, magazines, and magazines. Since the main theme of perception includes commentary, it has been concluded that demographic characteristics dominate all tourist actions, from destination selection to image formation (Woodside and Lysonski, 1989; Um and Crompton, 1990; Beerli and Martin, 2004). As for the explanation, MacKay and Fessenmaier (1997), in their Canadian study, showed that the image of the destination was not differentiated by age and marital status but also found a significant gender difference, income level, and familiarity (number of previous visits). Mahasuweerachai and Qu's (2011) article on tourist characteristics and destination image stated that age, income level, and the number of participants govern the image in the regions, while gender and marital status do not have any effect. Another publication based in Australia with a similar purpose found that the perception of countries varies only by gender and age (Walmsley and Jenkins, 1993). In addition, Baloglu (1997)'s article aimed to reveal the thoughts of tourists from West Germany about the United Nations, marital status, age, and occupational groups play a decisive role in the perceived image, while gender, income range, and education level are ineffective. There are also studies in which only education shapes the city's image (Stern and Krakover, 1993), and the perception of various tourist destinations differs only depending on gender and family status (Chen and Kerstetter, 1999). If in the national studies, by Çanakçı et al. (2019), gender, age and education level in addition to these characteristics, Özdipçiner et al. (2017), also have been concluded that marital and working status and income level create significant differences in the image of the destination. In addition to these, also it has been revealed in the international literature that the perception of destination develops only depending on the age factor (Ajayi and Tichaawa, 2020).

The intention to visit again, which is deemed as the level of satisfaction with the image of the destination formed after the consumption of tourist products, is a kind of behavior planning for the future of tourist areas. When the intention to revisit is separated in terms of individual characteristics, as in a study by Boit (2013), where he examined whether the destination attractiveness and satisfaction of tourists in Lake Kenya Nakuru National Park affect their intention to revisit, it was concluded that gender, age, and education significantly affect the repeat visits. While examining the effect of satisfaction on repeated visits in the example of "Sakarılıca," one of the thermal tourism destinations, it was understood that they evaluated repeated travels as the same for categorical groups such as gender and income. They separately evaluated marital status, age, education level, and occupational groups (Seçilmiş, 2012). In the article on the effect of the changing destination image on the intention to revisit, it is accepted that gender, age, number of visits, and the reason for visiting affect repeat travel decisions (Yüce et al., 2019). In Öztürk's (2019) master's thesis, in which he details the effect of camping experiences in Gökçetepe Nature Park on visitor satisfaction and intention to revisit, no difference was found in repeated visits in terms of gender, marital status, age, education, income level, and occupation. In the practice of Petrick (1999), in which golf travelers are taken into account, age and education level are associated with revisit intentions, while gender, income, and ethnicity are found to be independent. In the scientific publication of Küçüker et al. (2019), in which he examined the demographic variables within the scope of Russian tourists, it was found that education significantly contributed to revisiting.

RESEARCH METHODOLOGY

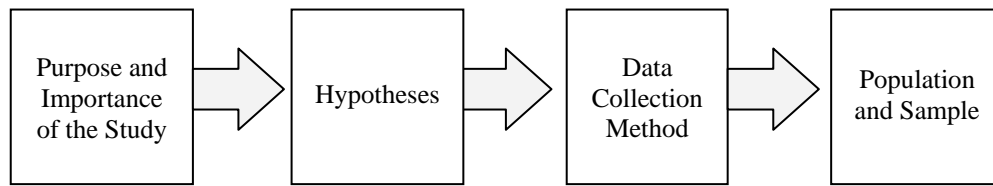The method part of the research will proceed as in Figure 1.

Figure 1. Flow chart of the research

Purpose and Importance of the Study

The purpose is to determine whether the perceptions of local tourists coming to Eskisehir about the perceived quality of service, the image of the destination, and the intention to visit again differ according to demographic characteristics. But there are sub-goals to the study and the main purpose. These are; determining the service quality perceptions of visitors towards museum tourism of Eskişehir destination, revealing the perception of destination image of Eskişehir province from the point of view of local tourists, determining whether local tourists are willing to revisit the region and museums, determining the visitor profile of individuals visiting Eskisehir province and museums.

The fact that no publication was made in the museums addressing the variables "*perceived quality of service,*" "*destination image,*" and "*intention to visit again*" within the framework of the Eskisehir destination and that no research was conducted that processed these three variables together also revealed the importance of the study.

Hypotheses

The hypothesis related to the perceived service quality in museums has been established based on the following facts: Expectations vary according to gender (Lagrosen and Lagrosen, 2007); married people and families with children play a more passive role in tourism than singles (Doğan, 2004); the quality of the requested service is directly affected by the level of education (Güneş et al., 2019); education level progresses at the same level as income level (Kozak et al., 2019, p. 101); and people's lifestyles, habits, and awareness levels increase in direct proportion to the expected service quality (Dalgıç, 2013). The hypothesis related to the destination image has been established based on the following facts: Socio-demographic characteristics such as gender, educational status, and income level are defined as internal determinants of consumer behavior (Beerli and Martin, 2004; MacKay and Fessenmaier, 1997; Walmsley and Jenkins, 1993; Baloglu, 1997); marital status is a strong factor in reaching a positive or negative opinion about the destination (Baloglu and McCleary, 1999, p. 870); and previous visits play a decisive role in tourist behavior and affect the image formation towards the city positively or negatively (Murphy, 1999, p. 25). The hypothesis related to revisiting intention has been established based on the following facts: As repeated visits occur at different levels in men and women (Esu, 2015), and the individual identities of the tourists play an important role in the decision to visit again (Um et al., 2006). As the number of visits to the same area increases, the intention to revisit decreases (Park et al., 2019). Based on the literature review, the hypotheses of this study are as follows:

H_1: Perceived quality of service in museums varies significantly by gender.

H_2: Destination image shows a significant difference based on the gender variable.

H_3: The intention to revisit differs significantly according to the gender of the visitors.

H_4: The perceived service quality in museums shows a significant difference according to the participants' marital status.

H_5: Destination image has a significant difference in terms of marital status.

H_6: The intention to revisit significantly differs according to the marital status of the visitors.

H_7: The perceived service quality in museums shows a significant difference according to the income level.

H_8: Destination image has a significant difference in terms of income level.

H_9: Revisit intention has a significant difference in terms of income level.

H_{10}: The perceived service quality in museums shows a significant difference according to the education level of the participants.

H_{11}: Destination image has a significant difference in terms of education level.

H_{12}: The intention to revisit significantly differs according to the education level of the visitors.

H_{13}: There is a significant difference in the destination image regarding the number of previous visits to the city.

H_{14}: Revisit intention differs significantly according to the frequency of visitors visiting the city.

H_{15}: The perceived service quality in museums shows a significant difference according to the frequency of museum visits in the last five years.

Data Collection Method

The survey method, one of the quantitative research methods, was used in the study. The data collection process, which began on 26.09.2020, was terminated on 29.11.2020 due to repetition. The survey form applied is divided into two parts according to the content. In the first part, demographic variables appropriate to the research purpose were included. In the second part, the items related to perceived service quality, destination image and revisit intention in museums were applied on a 5-point Likert scale. In this section, the following sources were used to determine the perceived service quality in museums: Temel's (2019) thesis explaining the state of museology and museum tourism in Turkey; adaptation of the HISTOQUAL scale developed by Frochot and Hughes (2000) by Güneş et al. (2019); Aksu et al.'s (2017)'s research on the service perception of domestic tourists visiting Çanakkale Archeology Museum and

adaptation of the scale used by Hsieh et al. (2015) in their article conducted at the National Museum of Natural Sciences by Sert and Karacaoğlu (2018). On the other hand, the research, which includes the translation of the Royo-Vela (2009) scale into Turkish by Köroğlu and Güzel (2013) and Celep's (2019) thesis on the effect of service quality on the destination image within the scope of local health tourism were used to identify general ideas about the destination. Finally, the expressions in the study by Organ and Soydaş (2012) were used to determine the intention to visit again.

Population and Sample

Local tourists visiting Eskişehir constitute the population of the research. The latest statistics from Eskişehir Municipality show that 919,347 local tourists visited the region in 2019; thus, this numerical data was accepted as the population (http://www.eskisehir.bel.tr/dosyalar/istatisliklerle_eskisehir/2019.pdf). In the data collection phase, first of all, the tourists visiting the museums in Eskişehir "*Odunpazarı Region*" were selected by a convenience sampling method from non-probability sampling methods without taking any criteria into account. Afterward, judgmental sampling, one of the non-probability sampling methods, was used. Those who filled out the questionnaire were asked to be people who had visited the city before and visited at least three museums with traditional and modern concepts for the first time. At this point, the "*three museums*" requirement was determined according to the fact that tourists visiting one or two museums on a regular basis are considered sufficient to reach a general opinion about the museums in the whole city (Mavragani and Lymperopoulos, 2014; Frochot and Hughes, 2000). Furthermore, because museology is established in the literature on two foundations, traditional and modern museums, in accordance with the past and present understanding, traditional and modern museum visits were maintained as a requirement for the participants. As a result 512 domestic tourists filled out the survey form in person, even though they might have filled it out wrong.

ANALYSIS OF DATA AND FINDINGS
Findings Regarding the Demographic Characteristics of the Participants

The frequency and percentage distributions of demographic information such as gender, marital status, income level, education level, number of previous visits to the city and frequency of visiting museums in the last five years of local tourists are shown in Table 1. According to Table 1, 60.5% of the participants are women and 39.5% are men. In this context, it is seen that the female group variable has a higher participation than the male group variable. Considering their marital status, it was determined that 295 of the individuals were single and 181 of them were married. Therefore, it has been concluded that single museum visitors participate more intensely in museum tourism than married museum visitors. When the income level was examined based on the minimum wage in 2020, it was found that the income range of 3.000-3.999 was marked the most with 111 people (23.3%). It has been understood that the least marked option by the visitors is the range of 2.326-2.999. Considering the education level, it was determined that 58.2% of the local tourists completed

Table 1. Frequency analysis results of visitors' demographic characteristics

Demographic Variables	Category	n	%
Gender	Female	288	60.5
	Male	188	39.5
Marital Status	Married	181	38.0
	Single	295	62.0
Income Level	2.325 and below	104	21.8
	2.326-2.999	52	10.9
	3.000-3.999	111	23.3
	4.000-4.999	107	22.5
	5.000 and above	102	21.4
Education Level	Primary education	4	0.8
	High school	113	23.7
	University	277	58.2
	Master	71	14.9
	Doctorate	11	2.3
Number of Previous Visits	Once	145	30.5
	Twice	163	34.2
	Three times and more	168	35.3
Frequency of Visiting Museums in the Last Five Years	At intervals of more than five years	26	5.5
	1 in 3-5 years	52	10.9
	1 in 2 years	40	8.4
	1 per year	100	21.0
	2-3 per year	110	23.1
	More than 3 times a year	148	31.1

their university education. Considering the number of previous visits to the city, it was noted that 69.5% of respondents revisited the destination multiple times. When the frequency of visiting museums in the last five years is examined, it is concluded that 31% (148) with the highest share mark the option "*more than 3 times a year*". In this context, it is possible to say that museum culture is experienced more intensely in 31% of the sample group.

In this study, where the average age was 29.9, it was determined from multiple responses that the most visited museum in Eskişehir was the Odunpazarı Meerschaum Museum and the internet resources were generally consulted while being informed about the museums in this city and the visitors were mostly interested in art museums.

Reliability and normal distribution test results of scales

As a result of the factor analysis, it was found that the perceived service quality in museums consists of physical characteristics, responsiveness and communication factors ıt has been seen that the destination image consists of atmosphere, attractiveness, emotional perception, cognitive value and satisfaction. Finally, it was determined that the intention to revisit was unidimensional. It was also understood that the entire survey obtained strong reliability with the ratio of α=0.979 in a total of 49 statements. The skewness with kurtosis values was found to be between -1.5 and +1.5. According to the information obtained, it was found that the number of samples was sufficient, and the evenly spaced scale data showed a normal distribution. Therefore it was decided to apply parametric tests. In addition, analyzes were carried out with the sum of all factors without distinguishing between factors.

Examination of Variables within the Scope of Difference Analysis
T-test results for independent samples

Under this heading, it is mentioned whether being a male and female or being married or single creates separate perspectives against the service received from museums, the image of the destination and the intention to revisit the city. Below are analyses of these assumptions:

Table 2. The differentiation of perceived service quality, destination image, and revisit intention in museums according to gender variable

Variable	Gender	N	Mean	S.D.	t	df	P
Perceived service quality in museums	Female	288	3.6639	1.03325	2.517	474	.012
	Male	188	3.4146	1.09057			
Destination image	Female	288	3.6970	.81097	2106	474	.036
	Male	188	3.5346	.83960			
Intention to revisit	Female	288	3.8704	1.39748	2.089	474	.037
	Male	188	3.5922	1.45452			

Table 3. T-test findings of perceived service quality, destination image and revisiting intention in museums in the context of marital status

Variable	Marital Status	N	Mean	S.D.	t	df	p
Perceived service quality in museums	Married	181	3.4227	1.01782	2.308	474	.021
	Single	295	3.6531	1.08084			
Destination image	Married	181	3.6283	.83040	.093	474	.926
	Single	295	3.6356	.82364			
Intention to revisit	Married	181	3.9282	1.51751	2.017	474	.044
	Single	295	3.6576	1.35802			

According to the data obtained, it was found that the perceived service quality in museums differs significantly by gender at the 0.05 significance level, the gender factor affects the impressions of the destination and that the group of males and females approached the act of revisiting the same place differently. It was also observed that women developed a more positive attitude towards the perceived quality of service in museums, the image of the destination and the intention to visit it again than men. In this context, H1, H2 and H3 have been accepted. In Table 3, marital status was considered as the control variable. It has been revealed that single museum visitors and married museum travelers evaluate the service in museums differently with a 95% significance level, that marital status did not affect the perception of the destination image and that married and single do not think alike about repeated visits. Also when the means and standard deviations are examined, it is understood that the single people like the perceived service quality and destination image in museums more than the married people, but their rate of requesting recurring trips is lower. Therefore, while the H4 and H6 hypotheses were confirmed, the H5 hypothesis was rejected.

One-way analysis of variance (ANOVA) findings

Within the research framework, control variables such as income status, education level, number of previous visits to the city and the habit of visiting museums were analyzed with three dependent variables: Perceived service quality in museums, destination image and intention to revisit. The findings in the light of the explanations are as follows:

Table 4. The difference in perceived service quality, destination image and revisiting intention in museums within the scope of income level

Dimension	Income Level	N	Mean	F	P	Significant Difference
Perceived service quality in museums	2.325 and below	104	3.60	.457	0.767	-
	2.326-2.999	52	3.57			
	3.000-3.999	111	3.56			
	4.000-4.999	107	3.63			
	5.000 and above	102	3.44			
Dimension	**Income Level**	**N**	**Mean**	**F**	**P**	**Significant Difference**
Destination image	2.325 and below	104	3.63	.884	0.473	-
	2.326-2.999	52	3.72			
	3.000-3.999	111	3.64			
	4.000-4.999	107	3.69			
	5.000 and above	102	3.50			
Dimension	**Income Level**	**N**	**Mean**	**F**	**P**	**Significant Difference**
Intention to revisit	2.325 and below	104	3.73	.668	.614	-
	2.326-2.999	52	3.84			
	3.000-3.999	111	3.87			
	4.000-4.999	107	3.79			
	5.000 and above	102	3.57			

When the above table was examined, it was found that the income level did not make a significant difference in the quality of service received from museums, in the general image of the regions and in revisiting preferences as the "p" value was above

0.050. The fact that the averages are close to each other also supports that they have similar evaluations. Accordingly, hypotheses H7, H8 and H9 were not accepted. When the subject is approached in terms of education, the results are as follows:

Table 5. ANOVA values the impact of education level on perceived service quality, destination image and revisit intention in museums

Dimension	Education Level	N	Mean	F	P	Significant Difference
Perceived service quality in museums	Primary education	4	4.12	31.948	0.000	1*2, 2*3, 2*4, 2*5
	High school	113	2.68			
	University	277	3.82			
	Master	71	3.88			
	Doctorate	11	3.80			
Dimension	Education Level	N	Mean	F	P	Significant Difference
Destination image	Primary education	4	4.46	30.393	0.000	1*2, 1*3, 1*4, 1*5, 2*3, 2*4, 2*5
	High school	113	2.97			
	University	277	3.81			
	Master	71	3.87			
	Doctorate	11	3.86			
Dimension	Education Level	N	Mean	F	P	Significant Difference
Intention to revisit	Primary education	4	4.25	.266	0.000	1*2, 2*3, 2*4, 2*5
	High school	113	2.57			
	University	277	4.11			
	Master	71	4.17			
	Doctorate	11	4.21			

According to the ANOVA test, it was accepted that the level of education has a statistically significant effect on the perceived service quality in museums. In this context, the perceptions of those who have completed primary education regarding the quality of service in museums are more positive than those who have completed high school, university, master's, and doctorate degree education. In contrast, it has been determined that high school graduates like museums less than visitors with primary education, university, master's, and doctorate degrees. Another result is that the general perception of Eskişehir varies significantly according to the level of education. Accordingly, it was found that the destination image perceptions of primary education and high school, primary education and university, primary education and master's degree, primary education and doctorate, high school and university, high school and master's, and high school and doctorate pairs are not the same. Thus, it has been determined that primary school graduates are more satisfied with the city than those who have completed high school, university, graduate and doctoral education. It was also revealed that high school graduates like the city less than those with primary education, university, master's and doctoral degrees. When finding out whether education level affects thoughts about revisits, a significance level of p = 0.000 was found. Within the results, it was found that people with a primary education level were more likely to go back to a place than anyone else. In contrast, high school graduates were the most distant group from this tendency. In this context, a difference was found between primary education and high school, high school and university, high school and master's, high school and doctorate groups. Thus, hypotheses H10, H11, and H12 were confirmed. Other hypotheses tested within the scope of the study are as follows:

Table 6. Examining the difference in destination image and intention
to revisit the city according to the number of times they have visited the city before

Dimension	Number of previous visits to the city	N	Ort	F	P	Significant Difference
Destination image	Once	145	3.72	46.797	0.001	1*3, 2*3
	Twice	163	3.74			
	3 times and more	168	3.44			
Dimension	Number of previous visits to the city	N	Ort	F	P	Significant Difference
Intention to revisit	Once	145	3.96	45.625	0.004	1*3, 2*3
	Twice	163	3.87			
	3 times and more	168	3.47			

In Table 6, it is shown that the number of visits to the regions creates a significant difference regarding the positive image of the destination. In this regard, it is understood that those who have visited the city once and twice before and those who have visited it three times and above are not in the same opinion. Based on the averages, it has been stated that those who visit the city three times or more have a more negative attitude towards the region than those who visit once or twice and those who visited twice were more satisfied with the city than those who visited once or three times or more. Then, as a result of the Games-Howell test, one of the multiple comparison tests, it has been noticed that those who have visited once are more likely to visit Eskişehir again than those who have visited three times or more.

Those who have visited twice are more inclined to see Eskişehir again than those who marked the option "*three times or more*." In this framework, hypotheses H13 and H14 were accepted. Below is a comparative analysis of the participants' habits of visiting museums and how they found the service in museums:

As a result, a one-way analysis of variance determined that the frequency of visiting museums significantly changed the level of enjoying the perceived service quality in museums since the p-value reached 0.004 significance. In this context, it has been found that survey participants who go to museums at intervals of more than five years do not share the same views with those who visit museums more than 3 times a year. Therefore, it has been observed that those who

meet their expectations from the service in the museums the most are those who visit museums at intervals longer than five years. On the other hand, it was noted that those who were least satisfied were those who attended more than 3 museum visits a year. In addition, the H15 hypothesis was confirmed with the result obtained.

Table 7. Results on the difference between the frequency of visiting museums and the perceived service quality in museums in the last five years

Dimension	Frequency of visiting museums in the last five years	N	Mean	F	P	Significant Difference
Perceived service quality in museums	At intervals of more than five years	26	3.97	3.461	0.004	1*6
	1 in 3-5 years	52	3.71			
	1 in 2 years	40	3.73			
	1 per year	100	3.64			
	2-3 per year	110	3.63			
	More than 3 times a year	148	2.28			

RESULTS AND DISCUSSION

According to the research results, it has been determined that females are more willing to participate in the survey than males and show more interest in museum visits. In addition, it has been observed that Eskişehir hosts more local female tourists in general terms and in terms of repeated visits. At the same time, it has been determined that single participants attend museum and tourism activities more often than married people. It has been revealed that Eskişehir and the museums of this city attract adults more than the young and old population in the context of local tourists. Also, the fact that people's primary goal is to gain the power to meet their basic needs and then participate in tourism to socialize supports the finding that low-income people come to the region less and confirms that the city hosts more individuals with incomes above the minimum wage. Concerning education level, it has been observed that the desire to see Eskişehir and its museums is more intense among university graduates. It was discovered that 69.5% of those who visited the museums had visited Eskişehir twice or more before but did not visit them. While this data indicates that a region is a suitable place for repeated visits, it also means that museums should be given more place in tourism. In addition, based on the specified time intervals, it has been revealed that mostly museum-loving travelers come to the region; in other words, 358 visitors visit at least one museum during the year. In this sense, it can be said that individuals with museum culture know Eskişehir and the museums there.

As a result of the determination extracted from the items prepared following the multiple option system, it has been determined that the "*Odunpazarı Municipality Meerschaum Museum*" is the most visited museum in the province and the promotion activities are focused on this museum. The fact that it is the first destination for tourists in terms of location and that it has been designed in a style that will attract the attention of visitors in terms of size and image are also reasons for reaching this finding. In addition, it has been understood that the source that museum travelers use to be aware of the museums in Eskisehir is usually the internet, and local tourists who visit the museum use the internet the most. At the same time, ads for museums in Eskisehir are basically based on the internet. Finally, it has been revealed that the museums that attract the most tourists are art museums. According to the hypotheses, the results showed that female visitors found the quality of service in museums to be higher than male visitors. It can be noted that the level of satisfaction is low since the male has a greater expectation of these museums than the female. In terms of destination image, it has been found that local female visitors have a more positive attitude towards the city than the values given by local male visitors. In this context, it was determined that male visitors enjoyed the destination less. Given that museums are connected to the destination, it can be stated that such a finding has been reached due to the fact that the rate of a male finding the service in museums to be of good quality is lower. When the act of revisiting was detailed, it was also found that females were more likely to revisit when compared to males. One of the main reasons may be that the level of competence of the service offered by the museums is low, which reduces the level of appreciation for the region, and therefore the satisfaction of revisiting remains low. These results overlap with the studies of Walmsley and Jenkins (1993), Qu'nun (2017) and Sánchez-Hernández et al. (2010), but Baloglu (1997) and Yılmaz (2011) have been found to differ from his research.

It has been discovered that single people find the service offered in museums to be of higher quality. In this context, it has been interpreted that married people are less satisfied with the service in museums. It can be said that this difference is observed due to married tourists spending a limited time in museums during their family visits; single people have a more detailed approach and therefore spend more time in museums. However, this important uniqueness was not in question in the destination image. Because it was understood that the averages of married people and the averages of singles were not significantly distributed, it was concluded that the tourist facilities in Eskisehir do not have a quality that will vary depending on whether they are married or single. In addition, it was observed that married participants were closer to the idea of coming back to Eskisehir province than single respondents. The fact that married travelers qualify this region as one of the appropriate places to visit with their family, prefer the region as a day-trip place, do not achieve enough satisfaction and leave the destination without having different experiences confirms this finding. On the other hand, the fact that the single group spends more time in the city due to the fact that they prefer accommodation-based travel activities also confirms this finding. It has been understood that this information is supported by the article of MacKay and Fesenmaier (1997) and it is not in line with the study of Ersoy and Tuğal (2018).

It has been found that tourists from different income levels evaluate the service offered in museums the same. The reason for this may be that Eskisehir museums are organized in such a way as to appeal to individuals of all income classes: low, middle, and high. In terms of destination image, it has been observed that income does not create any change in general ideas about Eskişehir. Because there are separate activities for people with different income levels in

this city and the pricing is kept at a standard level in order to maintain tourism mobility. In this context, it has been realized that the income level has no effect on the intention to revisit the city.

In terms of education level, it was found that the visitors of primary education and high school, high school and university, high school and master's degree, and high school and doctorate degree pairs perceived the service quality offered in Eskişehir museums in a different way. The fact that the points of attention regarding museums, the level of knowledge and demands vary according to education has also prepared the ground for this difference. When the subject is examined in terms of destination image perception, it has been revealed that those with a primary education level are the most satisfied with the destination, and those who enjoyed the destination the least were high school graduates. The fact that the goals, satisfaction levels, and perspectives of local tourists arriving in Eskisehir are not the same also makes the significance achieved important. Apart from these outputs, it was also noticed that primary education and high school, high school and university, high school and master's, and high school and doctorate groups did not approach repeated visits from the same perspective. People have noticed that these results are similar to what Stern and Krakover (1993), Baloglu and McCleary (1999) and Kahraman (2019) found but different from what Torlak (2020) found.

It has been found that those who came to Eskisehir twice and once before considered this city more beautiful than those who visited it three times and above, because the city has already met the demands of those who came here three times and above, and thus an image of a destination that is increasingly turning to the negative is developing due to the presence of similar products and services among visitors. In the evaluations made for the targeted tourism destinations, making decisions according to the transformations in curiosity, motivation, and motives according to the number of arrivals also supports the statistics. It was also determined that the intention to revisit afterward differed significantly in the context of "*once to three times and more*" and "*twice to three times and more*" options.

As the idea of getting used to the destination begins to dominate as the number of trips increases, it can be mentioned that the value of the benefit decreases from the point of view of the tourist. In this context, it has been observed that similar findings have been reached in the studies conducted by Hu and Ritchie (1993) and Rittichainuwat et al. (2002). When approached on the basis of perceived quality of service in museums and frequency of museum visits, it has been determined that individuals who visit museums at intervals of more than five years and those who visit more than three museums a year do not evaluate the museums in Eskişehir the same. It can be said that such significance occurs because museums in this city need to be improved in terms of quality of service. Finally, it was understood from the averages that the service quality of the museums in Eskişehir was appreciated but needed to be regulated. It was also found that the satisfaction with the destination was less than with the museums. But it has also been found that the rate of wanting to go back to the museums and the area is higher than the rate of satisfaction.

CONCLUSION AND RECOMMENDATIONS

In this article, the role and place of individual characteristics in the tourism sector and research areas have been investigated. As a result of the research, it was found that characteristics such as gender (t[474]=2.517; 0.012<0.05), marital status (t[474]=2.308; 0.021<0.05), education level (F=31.948; 0.000<0.05) and frequency of visiting museums (F=3.461; p<0.01) were significantly effective in deciding the service quality. In addition, it was observed that the level of education (F=30.393; 0.000<0.05) and the number of visits to the same city (F=46.797; 0.001<0.01) made changes in the ideas about the city, but variables such as gender (t[474]=2.106; 0.036<0.05), marital status (t[474]=0.093; 0.926>0.05) and income level (F=.884; 0.473>0.01) did not create such a change.

When the subject is approached on the basis of repeated trips, it has been determined are important variablesthat gender (t[474]=2.089; 0.037<0.05), marital status (t[474]=2.017; .044<0.05), education level (F=32.266; 0,000<0.05) and the number of renewed visits to the same region (F=45.625; p<0.01) in the positive or negative trend, and income level (F=.668; 0.614>0.01) does'nt make any difference. In this context, the research shows that the demographic characteristics of the people can direct the service perception, the views against the city, and the continuity of tourism in the region. With such a research, attention is drawn to the fact that individuality should not be ignored in the tourism sector, which affects all kinds of areas from rural destinations to city centers, from national scope to international dimension and is affected by many areas. It is believed that all the findings will contribute to museum and city managers, visitors and academics. In this framework sectoral preferences can be made by evaluating museums, cities and repeated visits by taking into account the factors of age, income status and education level. Even based on demographic variables negativity in museums and cities can be reduced with activities suitable for all segments. In studies it will also be helpful to look at whether or not personal traits cause changes in other parts of tourism.

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THE IMPACT OF VIOLENT CRIME ON TOURIST ARRIVALS IN MALAYSIA

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Abstract: The tourism industry plays an important role in boosting economic growth, providing job opportunities, and reducing the poverty rates in many countries. For this reason, the factors influencing tourism should be investigated, to ensure continued growth within the industry. Few studies had examined the effect of violent crime on tourist arrivals and price competitiveness in Malaysia. An increasing criminal activity and a rise in prices may discourage tourism arrivals. This paper applies an autoregressive distributed lag (ARDL) model to estimate Malaysia's determinants of tourism arrivals, on the period from 1986 to 2016. Tourism demand is modeled as a function of economic growth, tourism accommodation, prices (proxied by exchange rates and inflation), unemployment, and the crime index to proxy criminal activity in Malaysia. The results showed that inflation can reduce the number of tourists in the long run and in the short run. Similarly, the results also show that a higher exchange rate and violent crime index can reduce the number of tourists visiting Malaysia in the short run. Economic growth can attract more tourists to Malaysia in the long run. These findings are important for the formulation and implementation of policies. The Malaysian government should combat violent crime in the first place to prevent any reduction in tourist arrivals. Increasing government expenditure on national security could lead to a reduction in the violent crime index, thus increasing the number of tourist arrivals in Malaysia.

Key words: violent crime, economic growth, international tourism, tourism development, employment policy, sustainable tourism

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INTRODUCTION

Tourism has become the largest industry in several countries. This industry has provided more than 330 million job opportunities around the world (World Travel & Tourism Council 2019). Tourism also plays a major role in some developing countries as it spurs the economy to grow and reduces poverty (Khan et al., 2020). However, political instability has acted as a stumbling block for the industry to grow prosperously (Ivanov et al., 2017; Muzindutsi et al., 2021; Gozgor et al., 2022). The industry in developing countries must also be competitive in the global market. Due to increasing globalization, the tourism industry has become more dynamic and competitive. This has resulted in fierce competition between many countries. Tourism is one of the top service markets in Malaysia. The tourism industry has favourable impacts on the balance of payments, employment, and economic growth in Malaysia, accounting for 10.3% of total GDP in 2019.

The tourism industry comprises several service sectors, such as hotels, restaurants, public transportation, shopping, tours, among others (Esquivias et al., 2021). These sectors provide services to tourists, and so an increase in the number of tourist arrivals can provide a financial boost to these sectors. An expansion of these sectors entails the employment of more workers, facilitating a reduction in the unemployment rate. Despite innumerable challenges and difficulties faced by the industry, it is still able to provide many job opportunities, thus contributing towards an increase in well-being (Zheng et al., 2022). As more people have jobs, the poverty rate is reduced. Shahbaz et al. (2019) stated that tourism can generate more job opportunities and improve income distribution. Additionally, an increase in revenues from tourist arrivals through foreign exchange can be observed, as foreign tourists demand the local currency to spend in the domestic market (Sharma and Pal, 2020). As a result, local people benefit from increasing economic activity. Table 1 illustrates the number of tourist arrivals in Malaysia from 2008 to 2016. The highest number of tourists coming to Malaysia was recorded in 2014 with more than 27.4 million visitors. The lowest number of tourists visiting Malaysia stood at 22 million in 2008. Despite the

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highest number of tourists in 2014, Malaysia recorded the highest tourist receipts in 2016 at RM 82,098.2. Malaysia recorded the smallest tourist receipts in 2008, at RM49,561.2 million. It shows that both the number of tourist arrivals and the tourist receipts declined in 2015, with decreases of 6.25% in tourist arrivals and 4% in tourist receipts. This is because Malaysia mounted a "Visit Malaysia" campaign to promote Malaysia in 2014 (Rahman et al., 2022). However, the campaign abated, resulting in a lack of promotions in the following year (2015), causing the number of tourist arrivals to drop. Nevertheless, the number of tourist arrivals increased the next year by 4.03%, and tourist receipts increased by 18.78%.

Due to the importance of the tourism industry in boosting economic growth, and reducing poverty and unemployment rates, numerous studies have been carried out into several factors that can increase the number of tourist arrivals, such as accommodations, including exchange rates, economic growth, among others (Altintag, 2014; Dincer et al., 2015; Muryani et al., 2020; Khanalizadeh et al., 2018; Song and Wu, 2021). The findings of these studies, however, are mixed, and the issue merits further attention. A small number of previous studies include crime as a potential determinant of tourist arrivals (Rosselló et al., 2020; Lee et al., 2018; Muryani et al., 2020; Muzindutsi et al., 2021). The higher rate of crime or violence in countries such as Venezuela, Papua New Guinea, Indonesia, and South Africa, may deter tourists from visiting. This can be attributed to a risk-averse behaviour among tourists, who do not which to put themselves in danger whilst travelling. These countries reported the highest numbers of crime cases, including murder, robbery and assault, in the world (World Population Review, 2021). However, the effect of types of crime, especially violent crime, on tourist arrivals has been sparsely investigated by previous studies (Hua et al., 2020; Lisowska, 2017), and none of them have thus far focused on Malaysia.

Motivated by a lack of current empirical studies on crime in Malaysia, it is imperative to conduct this research to shed light on the impacts of violent crime on Malaysia's tourist arrivals. There is no doubt that myriad other factors, such as road safety and conditions, cyber security issues, terrorism threats and others (OSAC, 2020) might affect the decision of tourists to visit Malaysia. For the purposes of this study, however, the intention is to determine whether there is a long-run relationship between violent crime and tourist arrivals in Malaysia. Table 2 illustrates the number of violent and property crime cases in Malaysia reported from 2008 to 2016. The highest number of violent crime cases in Malaysia was recorded in 2009, with a total number of 42,3 thousand cases. The lowest number of violent crime cases in Malaysia stood at 21,810 in 2015. The number of property crime cases reported increased, Malaysia recorded the highest property crime in 2008 at more than 173 thousand cases. Malaysia recorded the smallest number of property crime cases in 2016 at nearly 90 thousand reported cases. The table also shows that the number of violent crime cases declined the most in 2010 with a decrease of 19.43% in violent crime cases, and the number of property crime cases declined the most in 2014. It dropped by 12.38%. Property crime decreased in 2016, but violent crime increased in 2016 by 2.37%.

Table 1. Tourist Arrivals and Tourist Receipts in Malaysia from 2008 to 2016. (Source: CEIC Data, 2020)

Year	Tourist Arrival	Tourist Receipts (RM million)
2008	22,052,488	49,561.2
2009	23,646,191	53,492.5
2010	24,577,196	56,492.5
2011	24,714,324	58,315.9
2012	25,032,708	60,556.7
2013	25,715,460	65,443.3
2014	27,437,315	71,998.8
2015	25,721,251	69,119.6
2016	26,757,392	82,098.2

Table 2. Violent Crime and Property Crime in Malaysia from 2008 to 2016 (Source: Royal Malaysian Police, Department of Statistic Malaysia, 2020)

Year	Violent Crime	Property Crime
2008	37,817	173,828
2009	42,365	170,313
2010	34,133	152,029
2011	30,662	135,633
2012	29,950	123,719
2013	29,375	117,687
2014	25,425	103,119
2015	21,810	93,735
2016	22,326	90,028

LITERATURE REVIEW

The determinants of tourist arrivals have been debated by previous studies (Khanalizadeh et al., 2018; Marti and Puertas, 2017; Muryani et al., 2020; Naudé and Saayman, 2005). Their mixed findings are dependent on their countries of study. Nevertheless, their findings unanimously suggest that economic growth plays an important role in determining tourist arrivals, regardless of different countries and methodologies. Khanalizadeh et al. (2018) investigated the factors that affect the number of international tourists to visit Iran. The ARDL approach was employed to analyse data between 1983 and 2015. Several potential determinants have been identified by the study, such as exchange rates (Sharma and Pal, 2020), commodity trade, the number of hotels which is a proxy for accommodation (Muryani et al., 2020), and real GDP. The results revealed that all of these determinants can have positive effects on the number of tourist arrivals in the short, and even long term.

Based on the gravity framework, Marti and Puertas (2017) examined several determinants of tourist arrivals in European Mediterranean countries. The determinants consist of the distance between origin and destination countries, economic growth in the origin country and in the destination country, the population of the origin country and the destination country, the travel and tourism competitiveness index, and dummy variables including border, official language, second language, colony, etc. The results indicated that the countries should improve safety, health, business, marketing strategies and infrastructure to encourage the influx of more tourists. Naudé and Saayman (2005) used both cross-section and panel data to examine the determinants of the number of tourist arrivals in 43 African countries. The determinants include political stability, tourism infrastructure, marketing and information, and the level of development at the destinations. Data from 1996 to 2000 were collected and analysed by using the OLS and GMM methods. The study broke down tourist arrivals by several continents: the Americas, Europe, and Africa. The results showed that political instability can negatively affect tourism in Africa. However, tourist infrastructure, marketing and information, and the level of development at the destination play an important role in boosting the tourism industry in Africa. Several studies examined the effect of crime on tourism, such as Perry and Potgieter

(2013), Altindag (2014), Nkosi (2010), Nguyen (2022), etc. They produced the consistent findings that crime can have a negative effect on tourism. Altindag (2014) conducted the study on European countries by using panel data from 1983 to 2015. The study divided crime into several types, namely violent crime, homicide, rape, robbery, and assault. The results showed that violent crime can have a lasting negative effect on international tourists and international tourism revenues. This implies that before tourists choose a destination country, their safety takes precedence over other factors, such as exchange rates (Sharma and Pal, 2020; Yen et al., 2021). Perry and Potgieter (2013) also examined the effect of crime on tourism but their study was conducted on South Africa, using literature and data from South African Tourism (SAT).

Their findings consistently showed that tourists' safety is considered before they travel. Nkosi (2010) also gave credence to the findings that a higher level of crime can deter international tourists from visiting. An interview was conducted to the local community of the city of Umhlathuze and Kwazulu-natal. Alleyne and Ian Boxill (2003) investigated the relationship between crime and tourist arrivals in Jamaica. Data over a period of 3 years ranging from 1962 to 1999 from the European countries. The study did not only consider the total crime but also murder cases in their model, and results showed that crime can reduce tourist arrivals to Jamaica. Mohammed and Sookram (2015) also explored the relationship between crime and tourist arrivals in Jamaica, making a comparison with other countries, particularly Trinidad and Tobago. The study split crime into property and violent crime, and the results showed that both types of crime (property and violence) can have unfavourable impacts on the tourism industry in the countries of study.

METHODOLOGY

This study uses annual time series data over a period of 30 years starting from 1986 to 2016. A total of seven variables have been used in the model estimation. Data on the number of tourist arrivals (A), consumer price index (CPI), exchange rate (ER), Gross Domestic Product (GDP), hotels and accommodations (NS), the number of people in unemployment (UN), and the violent crime index rate (VCIR). The variables were obtained from the official website of the Department of Statistic Malaysia (DOSM) and the World Bank (https://data.worldbank.org). The control variables, namely CPI, the exchange rate, GDP, accommodations, and unemployment, were selected based on previous studies. The model specification is as follows (Perles-Ribes et al., 2017):

$$A_t = \alpha + \beta_1 CPI_t + \beta_2 ER_t + \beta_3 GDP_t + \beta_4 NS_t + \beta_5 UN_t + \beta_6 VCIR_t + \varepsilon_t \qquad (1)$$

where by A represents the number of tourist arrivals, CPI represents inflation, ER indicates the exchange rate, GDP represents economic growth, NS represents accommodation, UN is unemployment and VR represents violent crime index rates. α is the intercept and ε is the random error term. t is the number of years. A simplified flowchart of the method used is as follows (Figure 1):
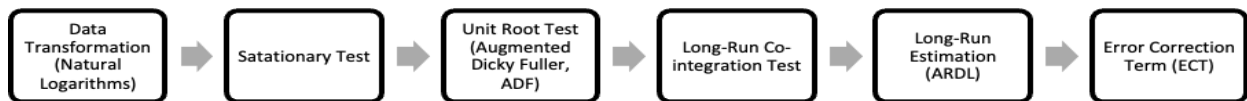
Figure 1. Flowchart Methodology (Source: Authors compilation)

To analyze the effect of violent crime, GDP, inflation, accommodation, the exchange rate, and unemployment on tourist arrivals in percentage, all the variables must be transformed into the natural logarithms, and thus a new model specification is as follows (Perles-Ribes et al., 2017):

$$LnA_t = \delta + \partial_1 LnCPI_t + \partial_2 LnER_t + \partial_3 LnGDP_t + \partial_4 LnNS_t + \partial_5 LnUN_t + \partial_6 LnVCIR_t + e_t \qquad (2)$$

Whereby LnA represents the log of the number of tourist arrival, LnCPI represents the log of consumer price index, LnER represents the log of the exchange rate, LnGDP represents the log of GDP, LnNS represents the log of accommodation, LnUN represents the log of unemployment, LnVCIR represents the log of violent crime index rate, δ represents the intercept and e represents the random error term.

Table 3. Variable Description Source. Department of Statistic Malaysia (DOSM) and the World Bank (https://data.worldbank.org)

Variable name	Definition/ proxy and data source	Symbol	Unit measurement
Tourist arrival	The number of tourist arrival (number of arrival)	A	Number of arrivals
Inflation	Consumer price index (2010=100)	CPI	(2010=100)
Exchange rate	Official exchange rate local currency unit per US$, period average)	ER	Local currency unit per US$, period average
Economic growth	Gross Domestic Product (current local currency unit)	GDP	(current local currency unit)
Accommodation	Hotel and Accommodation	NS	Hotel and Accommodation
Unemployment	The number of unemployed people	UN	The number of unemployed people
Violent crime	Violent crime index	VCIR	violent crime index

This study employs the ARDL approach to examine the effect of violent crime on tourist arrivals in Malaysia from 1986 to 2016. The approach is chosen as it is robust and able to produce better results with a small sample size of data. It can also estimate a long-run linear regression model in the presence of co-integration among the variables (Esquivias et al., 2021). Several other co-integration techniques can also be employed, such as Engle-Granger (1987) as well as Johansen and Juselius (1990). However, these techniques require all the variables to be integrated in the same order. The order of integration for the ARDL approach can be purely I(0) and I(I) or mixed but not I(2). Basically, the ARDL approach requires a stationary test to be

conducted first. This implies that the co-integration test based on the ARDL approach can be employed regardless of whether all the variables are in the order of I(0), I(1) or a mixture of I(0) and I(1) but not I(2). Thus, to test the presence of root unit in the time series, the Augmented Dickey Fuller (ADF) test is applied, and the model based on Perles-Ribes et al. (2017) is as follows:

$$\Delta x_t = n_0 + n_1 x_{i=1} + \sum_{i=1}^{k} n_1 \Delta x_{t=i} + \varepsilon_t \qquad (3)$$

Where Δ is the first differential operator, ε_t is the white noise, and x_t is the variable for the time series data. The hypothesis that needs to be tested is the null hypothesis, $H_0: n_1 = 0$, which means there is a unit root (non-stationary time series), while the alternative hypothesis, $H_1: n_1 > 0$, which suggests that the time series data have no unit root or are stationary. If the null hypothesis is rejected, it indicates that the variable (x_t) is stationary with a mean value of zero (Perles-Ribes, et al., 2017). Next, to estimate the ARDL model, there are three steps to be followed. The first step is to estimate a long-run relationship (co-integration) among the time series variables. The model (Pesaran et al., 2001) is as follows:

$$\Delta LNA_t = \theta_1 + \sum_{i=1}^{p} \Lambda_1 \Delta LNA_{t-i} + \sum_{i=0}^{q} \Lambda_2 \Delta LNCPI_{t-i} + \sum_{i=0}^{r} \Lambda_3 \Delta LNER_{t-i} + \sum_{i=0}^{s} \Lambda_4 \Delta LNGDP_{t-i} + \sum_{i=0}^{t} \Lambda_5 \Delta LNNS4_{t-i} + \sum_{i=0}^{u} \Lambda_6 \Delta LNUN_{t-i} + \sum_{i=0}^{v} \Lambda_7 \Delta LNVCIR_{t-i} + \pi_1 LNA_{t-1} + \pi_2 LNCPI_{t-1} + \pi_3 LNER_{t-1} + \pi_4 LNGDP_{t-1} + \pi_5 LNNS_{t-1} + \pi_6 LNUN_{t-1} + \pi_7 LNVCIR_{t-1} + \mu_t$$

$$(4)$$

where by Δ is the first differential operator, (p, q, r, s, t, u, v) are the optimum lag, and μ refers to the error term. To identify the existence of a long-run relationship between the variables in the equation, then the null and alternative hypotheses are tested using the F-statistical test as follows:

$$H_0: no\ cointegration: (\pi_1 = \pi_2 = \pi_3 = \pi_4 = \pi_5 = \pi_6 = \pi_7 = \pi_7 = 0)$$
$$H_0: cointegration: (\pi_1 \neq \pi_2 \neq \pi_3 \neq \pi_4 \neq \pi_5 \neq \pi_6 \neq \pi_7 \neq \pi_7 \neq 0)$$

If the estimated value of F-statistic exceeds the upper bound critical value, then the null hypothesis is rejected. This suggests that the estimated long-run relationship are co-integrated among the variables. If the estimated value of F-statistic is less than the lower bound critical value, the null hypothesis is not rejected. If the estimated value of F-statistic falls between the lower and upper bound critical values, then it cannot be identified whether there is a co-integration. It means that the result is inconclusive. If there is co-integration among the variables, then the long-run relationship can be estimated using the ARDL approach. After the existence of co-integration has been confirmed, then the second step is to estimate the ARDL model (p, q, r, s, t, u, v) in the long run. Following Pesaran et al. (2001), the equation is as follows:

$$LNA_t = \theta_{11} + \sum_{i=1}^{p} \pi_1 \Delta LNA_{t-i} + \sum_{i=0}^{q} \pi_2 \Delta LNCPI_{t-i} + \sum_{i=0}^{r} \pi_3 \Delta LNER_{t-i} + \sum_{i=0}^{s} \pi_4 \Delta LNGDP_{t-i} + \sum_{i=0}^{t} \pi_5 \Delta LNNS_{t-i} + \sum_{i=0}^{u} \pi_6 \Delta LNUN_{t-i} + \sum_{i=0}^{v} \pi_7 \Delta LNVCIR_{t-i} + \pi_8 \Delta LNA_{t-i} + \pi_9 \Delta LNCPI_{t-i} + \pi_{10} \Delta LNER_{t-i} + \pi_{11} \Delta LNGDP_{t-i} + \pi_{12} \Delta LNNS_{t-i} + \pi_{13} \Delta LNUN_{t-i} + \Lambda_{14} \Delta LNVCIR_{t-i} + \mu_t$$

$$(5)$$

In the last step, the term ARDL short model should be estimated by considering the error correction term (ECT) derived from the long-run ARDL model. The error correction model (ECM) can be expressed in the following equation (Pesaran et al., 2001):

$$\Delta LNA_t = \theta_{111} + \sum_{i=1}^{p} \Lambda_1 \Delta LNA_{t-i} + \sum_{i=0}^{q} \Lambda_2 \Delta LNCPI_{t-i} + \sum_{i=0}^{r} \Lambda_3 \Delta LNER_{t-i} + \sum_{i=0}^{s} \Lambda_4 \Delta LNGDP_{t-i} + \sum_{i=0}^{t} \Lambda_5 \Delta LNNS_{t-i} + \sum_{i=0}^{u} \Lambda_6 \Delta LNUN_{t-i} + \sum_{i=0}^{v} \Lambda_7 \Delta LNVCIR_{t-i} + \Lambda_7 ECT_{t-i} + \mu_t$$

$$(6)$$

The co-efficient value (Λ_7) of ECT can explain two things. First, it will measure the speed of adjustment towards the long-term equilibrium. The time is taken to converge towards the long-term equilibrium. Second, ECT can also confirm the long-run relationship among the variables.

Table 4. Results of Descriptive Statistics (Source: Authors compilation)

	Tourist Arrival	Inflation	Exchange Rate	Economic Growth	Accommodation	Unemployment	Violent Crime
Mean	16.2290	4.3733	1.1549	26.5860	11.1903	5.8492	4.3892
Median	16.1739	4.4026	1.1697	26.5993	11.3124	5.9043	4.4514
Max.	17.1274	4.7462	1.4227	27.8539	11.8067	6.2228	5.0335
Min.	15.1511	3.9581	0.9181	24.9943	10.2914	5.3702	3.9208
Std. Dev	0.6752	0.2455	0.1719	0.8624	0.4784	0.2464	0.3209
Kurtosis	1.5102	1.8782	1.4384	1.9036	2.1242	2.3735	2.1231
Jarque-Bera	2.8753	1.9072	3.1741	1.8349	2.7713	1.5871	1.067849
Sum	503.0993	135.5721	35.8009	824.1654	346.8989	181.3247	136.0656

RESULTS AND DISCUSSION

The results of the descriptive statistical analysis on seven variables (inflation, exchange rate, economic growth, accommodation, unemployment, and violent crime) are reported in Table 4. The analysis is to see the mean, median, maximum, minimum, etc. The results show that the highest mean among the seven variables is economic growth at 26.5860. The median value of economic growth is 26.5993 and the highest value among the variables. Next, the highest maximum value is also economic growth at 27.8534 with a minimum value of 24.9942. The differences between the maximum and minimum for inflation, exchange rate, accommodation, unemployment, and violent crime are 0.7882, 0.50465, 1.5152 and 1.1127, respectively. For the maximum and minimum difference in descriptive statistics results on the environmental impact variable is 6.416977. It can be concluded that the maximum and minimum difference at the highest value is in the economic growth.

Table 5. Unit Root of Augmented Dickey-Fuller (ADF) with and without Trend (Source: Authors compilation)

Variable	Intercept		Intercept and Trend	
	Level	First Difference	Level	First Difference
Tourist Arrival	-1.000332 (0.7402)	-6.012364*** (0.0000)	-2.648208 (0.2634)	-5947029*** (0.0002)
Inflation	-1.223789 (0.6508)	-4.765745*** (0.0007)	-0.994245 (0.9299)	-5.222547*** (0.0011)
Exchange Rate	-1.081502 (0.7099)	-4.227584*** (0.0026)	-1.641717 (0.7517)	-4.149762** (0.0144)
Economic Growth	-2.336131 (0.1678)	-5.830602*** (0.0000)	-1.840443 (0.6596)	-6.814795*** (0.0000)
Accommodation	-2.966322* (0.0501)	-7.433410*** (0.0000)	-1.133119 (0.9055)	-8.689798*** (0.0000)
Unemployment	-1.236834 (0.6450)	-5.235665*** (0.0002)	-3.395251* (0.0739)	-5.887946*** (0.0002)
Violent Crime	-1.703860 (0.4188)	-3.513721** (0.0148)	-1.925526 (0.6156)	-3.509180* (0.0571)

Note: ***, ** and * indicate significance levels of 1%, 5%, and 10% respectively.

The results of the unit root test are reported in Table 5. The findings suggest that all of the variables are not stationary in level under intercept without trends except for accommodation. However, under intercept and in the first difference, the results show that all variables are significantly stationary. The results under intercept with trends and in level show that all the variables are not stationary except for unemployment which is significant at the difference level of 10%. In the first difference, all the variables are significantly stationary. Table 6 shows the results of the bound test. The bound test was performed before estimating the long-run coefficients. The findings are reported in Table 3. The F-statistic value is 4.7115 and higher than the critical value at the 1% significance level. It is larger than the lower bound of 2.12 and upper bound of 3.23. The results suggest that the null hypothesis is rejected, and thus there is a long-run co-integration among the variables.

Table 6. Bound Test (Source: Authors compilation)
Note: *** indicates a significance level of 1%

	F-statistic	
	4.7115***	
Critical Value	Lower Bound	Upper Bound
1% significance level	3.15	4.43
5% significance level	2.45	3.61
10% significance level	2.12	3.23

Table 8. Estimated Short-Run Coefficient Using the ARDL approach (Source: Authors compilation) Notes: ***, **, and * indicate significance levels of 1%, 5% and 10%, respectively

Variable	Coefficient	Std. Error	Prob.
Inflation	-5.229638**	2.137717**	0.0249**
Exchange Rate	-0.883056**	0.340262**	0.0183**
Economic Growth	0.116560	0.621959	0.8534
Accommodation	-0.165777	0.550549	0.7668
Unemployment	-0.289604	0.253030	0.2674
Violent Crime	-0.457420**	0.213649**	0.0462**
ECT	-0.873687***	0.161968***	0.0000***

Table 7. Estimated Long Run Coefficient using the ARDL approach (Source: Authors compilation)

Variable	Coefficient	Standard Error	Probability
Inflation	-5.985711**	2.184658**	0.0135**
Exchange Rate	0.490922	0.352560	0.1880
Economic Growth	2.469839***	0.676900***	0.0018***
Accommodation	-0.189744	0.629115	0.7664
Unemployment	0.057097	0.226092	0.8035
Violent Crime	0.048043	0.117162	0.6866
C	-21.999786***	6.450273***	0.0031***

Note: R-squared is 0.9845, and adjusted R-squared is 0.9750. *, **, *** indicates a significance level of 10%, 5%, and 1% respectively

Table 7 shows the results for the long-run coefficients using the ARDL approach. The results show that inflation can have a negative effect on tourist arrivals in the long run as it is significant at 5%. The coefficient value is -5.98, and thus this means that a 1% increase in inflation can cause tourist arrivals to drop by 5.98% in the long run. Athari et al. (2021) also supported that inflation can disrupt tourism due to increases in various prices of goods and services, including travel, hotels, recreation services, etc. Blengini and Heo (2020) also supported that firms need to adapt pricing strategies to macroeconomic factors (i.e., inflation pressures). From the table, it shows that a higher exchange rate has no effect on tourist arrivals in the long run as it is not significant. The coefficient value is 0.49, therefore this means that a 1% increase in the exchange rate cannot cause tourist arrivals to change in the long run. Athari et al. (2021) also found that a favourable exchange rate can attract more tourists as they can exchange their currencies for more local currencies. As a result, they can have more money and thus visit many places. The results also show that economic growth can have a positive effect on tourist arrivals in the long run as it is significant at 1%. The coefficient value is 2.46, and this means that a 1% increase in economic growth can cause tourist arrivals to increase by 2.46%. Athari et al. (2021) and Song and Wu (2021) also agreed that economic growth can boost tourism. This is because higher GDP can expand the tourism industry, and thus more tourist attractions can be explored and improved to attract more tourists. The results also show that an increase in accommodation does not have any effect on tourist arrivals in the long run. The coefficient value is -0.18, and thus this means that a 1% increase in accommodation does not cause tourist arrivals to change in the long run. This suggests that accommodation is not the main priority for tourists, and thus we can see about 270,000 backpackers a year visiting Malaysia. They are willing to rent low-cost rooms so that they can stay for many days. The results also show that unemployment can have no effect on tourist arrivals in the long run as it is not significant. The coefficient value is -0.05, and this means that a 1% increase in unemployment cannot cause tourist arrivals to change in the long run. The results also show that violent crime can have no effect on tourist arrivals in the long run.

Table 8 shows the result for the short-run coefficients using the ARDL approach. The results show that inflation can have a negative effect on tourist arrivals in the short run as it is significant at 5%. The coefficient value is -5.2296, and thus a 1% increase in inflation can cause tourist arrivals to drop by 5.2296% in the short run. This is similar to the result of Meo et al. (2018), which suggests that inflation can result in tourists' purchasing power decreasing in the country. Hence, they are less interested in visiting countries with high inflation. From Table 7, it also shows that a higher exchange rate can have a negative effect on tourist arrivals in the short run as it is significant at 5%. The coefficient value is -0.8831, therefore a 1% increase in

the exchange rate can cause tourist arrivals to drop by 0.8831% in the short run. This corresponds to the result of Athari et al. (2021) as well as the result of Sharma and Pal (2020) that a higher exchange rate can negatively affect tourism, which is similar to the expected theory. Tourists have to spend more money to exchange for local currencies. By contrast, a. more competitive exchange rate (lower), will attract more tourists to visit the country due to the fact that they need to spend less money for their holiday. The results also show that economic growth has no effect on tourist arrivals in the short run.

The coefficient value is 0.1166, and thus a 1% increase in economic growth cannot cause tourist arrivals to change in the short run. The results also show that an increase in accommodation does not have any effect on tourist arrivals in the short run. The coefficient value is -0.1658, and thus a 1% increase in accommodation does not cause tourist arrivals to change in the short run. This implies that many tourists, especially backpackers, visit Malaysia on a budget. They stay in places that are not expensive and travel on a budget. That is the reason why inflation may disrupt their holiday. The results also show that unemployment can have a negative effect on tourist arrivals in the short run. The coefficient value is -0.2896, and therefore a 1% increase in unemployment does not cause tourist arrivals to change in the short run. The table also shows that violent crime can have a negative effect on tourist arrivals in the short run as it is significant at 5%. The coefficient value is -0.4574, and thus a 1% increase in violent crime can cause tourist arrivals to drop by 0.4574% in the short run. The results indicate that safety is a basic feature of successful tourism in Malaysia, and that failing to provide a secure environment can compromise future arrivals (Kim et al., 2021). The results are in line with earlier evidence in the case of South Africa (Garidzirai, 2021). The results of diagnostic tests (Breusch-Godfrey Serial Correlation LM, Ramsey RESET stability and Heteroscedasticity) are reported in Table 9. The results show that the model does not suffer any diagnostic problems. Hence, the model is reliable to explain the effects of inflation, exchange rates, economic growth, accommodation, unemployment, and violent crime on tourism in Malaysia. Figure 2 shows the results of the plots of the CUSUM graphs. The plots are within the boundaries. This shows that the model is stable.

Table 9. Diagnostic Test (Source: Authors compilation)

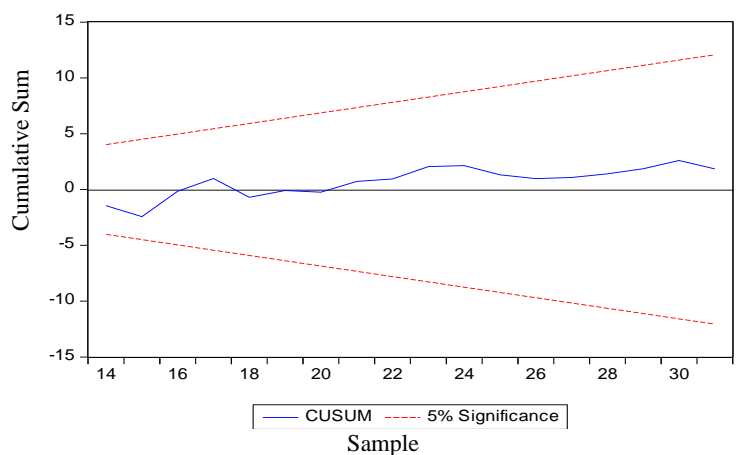| Test statistic	F-statistic	Probability
Jarque - Bera	0.897784	0.638335
Breusch-Godfrey Serial Correlation LM	1.528101	0.3128
Ramsey RESET Test	0.154774	0.6989
Heteroskedasticity Test	0.777117	0.6586

Figure 2. Results of CUSUM (Source: Author's Own Results)

CONCLUSION

This study aims to investigate the effect of violent crime on tourist arrivals in Malaysia. A unit root test was conducted, and the results show that all of the variables measured (economic growth, inflation, violent crime, exchange rate and unemployment) are not stationary in level under intercept without trends, except accommodation. However, under intercept and in the first difference, the results show all variables are significantly stationary. Other than that, the results under intercept with trends show that all variables are not significant in level except for unemployment. However, in the first difference, all of the variables are stationary. These findings of mixed order of integration allow us to conduct a co-integration test. The results revealed that there is a co-integrated relationship among the variables. The results of the ARDL test show that inflation and economic growth can affect tourist arrivals in the long run, and the results also show that inflation and exchange rates can affect tourist arrivals in the short run. The findings also suggest that an increase in the violent crime rate can reduce the number of tourist arrivals into Malaysia. Prior studies support our significant findings on exchange rates, inflation and economic growth affecting the number of tourist arrivals. Similarly, the findings provide new evidence on the negative impact that violent crime can play on tourism arrivals suggesting that ensuring safety is critical for the tourism sector. These findings are important for influencing policymakers to formulate policies on reducing violent crime in Malaysia. The Malaysian government should increase expenditure on improving security within the country. The number of police officers could be increased to strengthen patrols in all areas. In addition, law enforcement against violent crime in Malaysia could be improved to act as a deterrent to would-be criminals. Like other previous studies, this current study also has several flaws. For future research, property crime should also be included in the model.

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COVID-19 AND THE FUTURE OF THE SOUTH AFRICAN
TOURISM INDUSTRY: A SUPPLY-SIDE PERSPECTIVE

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Abstract: The tourism industry is struggling to recover and overcome the shortfalls due to the ongoing COVID-19 pandemic. The research identified the determinants to consider in the future from a South African supply-side perspective. An online questionnaire was employed in 2020. Exploratory factor analyses identified the dependent (the perceived future of the industry after COVID-19) and independent variables: ways to reach suppliers' target market(s) during the pandemic, the predicted adopted strategies after COVID-19 and the perceived sector risk. Linear regression analyses revealed the significant variables that provide guidelines for managing the industry's future.

Key words: COVID-19, tourism suppliers, tourism industry future, post-pandemic, intervention strategies

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INTRODUCTION

The impact of COVID-19 on the global economy, and service sectors in travel, tourism, and hospitality, has been widely reported. During strict lockdown protocols, the tourism industry saw a significant decline in the demand for service offerings and a predicted employment loss of 100.08 million jobs globally (Statista, 2020). Resilience and sustainability are the core aspects the industry has struggled with, even pre-pandemic (Ioannides and Gyimothy, 2020). COVID-19 has forced a transformational way of thinking and provided promising opportunities to work on sustainability to ensure the industry's future (Higgins-Desbiolles, 2020; Gössling et al., 2020).

In South Africa, tourism is an important sector that contributed 3,7% to the country's GDP in 2019 (pre-pandemic) (Stats SA, 2021a). Compared to other industries and sectors, tourism is more important than agriculture, utilities (electricity, gas and water), and construction (Stats SA, 2021b). Tourism activities and related spending directly contributed R209 billion to the national economy in 2019 (Stats SA, 2021a). In 2020, the tourism sector was negatively affected by the COVID-19 pandemic, which resulted in a high level of economic uncertainty (De Villiers et al., 2020; Musavengane and Leonard, 2022). From a demand perspective, the overall number of travellers (arrivals and departures) decreased by 71,0% between 2019 and 2020 (Stats SA, 2021c). From a supply perspective, business surveys conducted by Stats SA and the Department of Tourism (in partnership with the International Finance Cooperation and Tourism Business Council of South Africa) in 2020 found that 98% of responding tourism businesses indicated they were negatively affected by the pandemic, nearly 20% of the businesses were making short-term layoffs due to South African government's COVID-19 regulations, 58% were unable to service their debt, and 61% were unable to cover their fixed costs in 2020 (Department of Tourism, 2021).

While there are signs of uptake in tourism activity in 2022 (iAfrica, 2022), the South African travel and tourism industry will most likely recover slowly within the coming months or even years (Kruger and Viljoen, 2021). The pandemic represents a crisis event that will transform the South African tourism sector and the context in which it operates (Rogerson and Rogerson, 2020). The magnitude of the pandemic will reshape existing patterns of tourism demand and supply which therefore need to be understood and researched for designing appropriate policy interventions for recovery (South African Tourism, 2021; Rogerson and Rogerson, 2021). While various studies have assessed the impact of the pandemic on tourism demand in South Africa (Rogerson and Rogerson, 2020; Rogerson and Rogerson, 2021; Bama and Nyikana, 2021; Kruger and Viljoen, 2021; Matiza and Kruger, 2022), limited studies have focused on the supply-side. Dube (2021) conducted a document analysis on the implications of the lockdown on the South African tourism industry, while Rogerson et al. (2021) focused on tourism businesses in one province (Limpopo) through qualitative interviews.

To help fill the gap in the current literature and provide possible recovery strategies, this research aimed to identify the determinants that need to be considered in the future from a South African supply-side perspective. The dependent variable was, therefore, the perceived future of the industry in a post-pandemic world. The results shed light on the determinants that can help regenerate the travel and tourism industry to inform planning for tourism recovery in South Africa. The results are timely not only for South Africa but also for other developing counties.

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Background

The following sections specifically address the related literature.

Is regeneration of the South African tourism industry possible?

Since tourism is considered a catalyst for economic growth and diversification, the tourism industry is highly dependent on other sectors to succeed, for example, transport, banking, agriculture and food production, telecommunications, labour markets, as well as all other economic sector resources that are pooled to provide the tourism experience (Stanblib, 5.8.2019). This is indicative that since the pandemic now burdens tourism, other sectors in the economy will result from diminished demand from tourism stakeholders and experience added negative impacts, not to mention the impact of economies of scale, employment, operational costs, and logistics. In the media, reports have shown how the environmental damage caused by industrialization (particularly air quality) has improved since the shut-down of factories and other industrial producing sectors (World Economic Forum [WEF], 2020b). In some cases, during hard lockdowns imposed during the pandemic's peak, wildlife has been spotted in towns and cities, as less human movement has caused animals to venture around more freely and without fear (Euro News, 25.4.2020). If more environmentally conscious and sustainable travel behaviour is expected from visitors in the future, the chance of a shift in source markets is a foreseeable challenge that needs to be overcome (Kruger and Viljoen, 2021). For example, South Africa is a world-renowned destination. The primary source markets emanate from Europe and North America (National Department of Tourism [NDT], 2019) – questioning the future of long-haul markets and, subsequently, the increase of carbon footprints associated with long-haul travel. Therefore, a mitigating initiative would be to rely on domestic tourism to regenerate the South African tourism industry (Matiza and Kruger, 2022). However, this is easier said than done since many tourism operators in South Africa have focused almost exclusively on the needs and preferences of international inbound travellers for a long time. In addition, the pricing in the South African tourism industry is so exuberant that South Africans cannot afford to travel in their own country. This is depicted by statistics on the average length of stay for overnight travel. The domestic market stays around four nights, while foreign markets stay up to 12 nights (National Department of Tourism [NDT], 2018). Pricing is not the only variable influencing these results. However, it significantly contributes to destination choice and actual travel.

Since the potential impact on household spending will be prioritized over essential spending, leisure and tourism will be the last priority of many domestic tourists. Therefore, restructuring pricing for domestic (South African) and regional (SADC [The Southern African Development Community]) markets will be developed. This causes other problems since foreign tourists might feel that alternative pricing measures exploit them. Hence, a fine line between tourism equity, equality and accessibility will have to be enforced, with the potential of legal or statutory guidelines to ensure fairness.

Another pressing matter, especially foreign inbound tourism, is issuing business and leisure travellers visas. Here the use of more technology-based solutions like e-visas and biometrical information for travellers who have previously obtained a visa will be prioritized (Organisation for Economic Co-operation and Development [OECD], 2014). If the ease of travelling and doing business is increased, the potential to return to a "business as usual" action plan can be formulated, including mitigating efforts to ensure that tourism and travel services are more robust in response to the pandemic. Here national tourism stakeholders need to urge government departments such as tourism, home affairs, trade and international relations to ensure a visa on arrival or e-visa system for all inbound arrivals and not solely major source markets. The extension of visas is another concern, as some foreign visitors might be inclined to stay longer if they could.

Tourism is a labour-intensive sector, with nearly one in every ten employed individuals globally being directly or indirectly employed due to tourism (Fin24, 28.2.2019). Nevertheless, the WTTC (2020) estimated that nearly 100 million jobs are at risk due to COVID-19 in the G20 countries, of which South Africa is also a partner. With that said, in many countries (including South Africa), the use of formal legislative minimum wage for tourism, travel and hospitality employees is extremely low - at R20 (approximately €1) per hour in South Africa (Binder Dijker Otte [BDO], 18.12.2018). Moreover, the sector provides jobs to many unskilled and uneducated workers, making these workers very vulnerable in times of economic uncertainty (Pizam, 1982). It should also be emphasized that national requirements for unemployment benefits (such as UIF) should be strictly enforced to ensure workers' safety and well-being, that employers are not misusing employees, and that they are paid fairly. Naturally, this will have to be discussed with the relevant national departments such as labour and labour unions and the revenue services so that no or minimal tax is levied on tourism, travel, and hospitality employees as a special tax incentive. This is especially important since many in the sector rely on the generosity of patrons through tips, which are not a formal source of income, urging the development of formal job opportunities (World Economic Forum [WEF], 2015).

Closely related to employment are training, education and skills. Since many employees have no formal education, they have little to no success gaining positions in other sectors, especially in developing countries like South Africa (World Bank, 2019). This means that departments of education and training, as well as tourism, should offer free training for tourism, travel and hospitality employees to ensure that they not only provide services that are benchmarked but that they can be formally registered as a tourism service profession (be it a waiter or bartender) with the necessary "soft-skills". This will also positively influence the social standing of employees in the service sector and provide them with more opportunities to have stable careers and care for their families and dependents more effectively. Therefore, the stigma associated with service sector work should be minimized or removed to ensure that more people are willing, formally skilled, and gain the maximum benefits of being permanently employed in the service sector (Hanisch et al., 2016). This will also have to be addressed in national legislation and the labour act to ensure that employees are employed for more extended periods (geared towards permanent employment), contribute to tax and have a meaningful existence in society.

South Africa: the induced good, the organic bad, and the discriminatory ugly

Starting with the good, South Africa has embraced various branding campaigns over the last three decades, from "a world in one country", highlighting the unique and diverse natural and scenic beauty, to "alive with possibility", aimed at increasing foreign investment and confidence, and currently "inspiring new ways" which showcases the country's competitive strengths and national pride (BrandSA, 16.2.2022). In all, the brand image of South Africa tries to solidify the country as the gateway to Africa for travel and investment. The trajectory of the brand campaigns should have been favourable until COVID-19. The bad relates to the media frenzy concerning South Africa's handling of the COVID-19 pandemic, which made headlines worldwide. By October 2020, the "South African variant" was known globally. Reassuringly the WHO renamed the variants based on the Greek alphabet to avoid stigma toward nations where new variants arose (Breslow, 2021). In November 2021, South African scientists were the first to identify the Omnicron variant that emerged from Botswana for the second time. One would think that having the capability and the intensive network of scientists and clinical practitioners would be the proverbial "feather in the cap" for a developing country like South Africa. However, this was a "fall from grace" as the media backlash and subsequent banning of South Africans and other Southern African communities were enforced, leading to "travel discrimination" (BBC, 29.11.2021).

The ugly lies in what has been termed "tourism xenophobia/discrimination" and the post-pandemic societal crises (Yang and Wong, 2020). This could potentially impact tourists' perceived destination image. Destination image is crucial in destination marketing and competitiveness (Van Dyk et al., 2019). Destination image encompasses various aspects like active and purposive promotion to create the "projected" image, contrary to the "perceived" image formed in the mind of people. Perceived images can also be classified into primary (first-hand experience/previous visit) and secondary images from information generated by various other sources (organic and induced) beyond the individual's own experience (Kislali et al., 2020). "Organic" images are based on sources of information not aimed at promoting the place, such as news, novels, popular culture, and word of mouth. "Induced" images are based on information sources with a commercial interest in promoting a place, such as brochures, advertisements, travel agents, and guidebooks (Kislali et al., 2020). In the digital era, sharing organic information via social media has led to a surge of misinformation, scepticism, and increased nationalist/populism sentiments (Bergmann, 2020).

It would nearly be impossible to anticipate how organic information has shaped the perceived image of South Africa on a global scale. Moreover, the impact of the induced information mitigates the projected image of South Africa. Therefore, it is crucial to understand how tourism suppliers view the future of the industry post-COVID. To achieve this, suppliers' initiatives to connect with target markets need to be assessed, and identify strategies for future marketing and management, from a South African perspective, in conjunction with perceived risk.

MATERIALS AND METHODS

This study applied a quantitative research method using a structured online questionnaire developed in QuestionPro©. Figure 1 illustrates the steps to collect the data and the multivariate statistical analyses applied to analyze the data.

Population, sampling method and survey

The questionnaire measured respondents' socio-demographic information, the tourism business suppliers' profile, their main target markets and ways to reach and engage with them during the pandemic (10 statements measured on a 5-point Likert scale of extent), the planned management and marketing strategies after the pandemic (18 statements measured on 5-point Likert scale of extent) and the perceived future of the industry (30 statements measured on a 5-

Figure 1. Steps in the data collection process and multivariate statistical analyses

point Likert scale of agreement). The researchers developed the statements included in the questionnaire based on the reports by The World Tourism Organization (UNWTO, 2020a; UNWTO, 2020b) and the World Economic Forum (WEF, 2020a; WEF, 2020b). The findings from this research also expand on the empirical findings by Kruger and Viljoen (2021).

The link to the online questionnaire was distributed to tourism business suppliers on the Facebook page #tourisminmyblood from June 2020 to August 2020. Because the survey was conducted during Level 1 lockdown in South Africa, this approach was deemed the most appropriate to reach the target population. The group administrators acted as gatekeepers and posted the link on their site. It serves as a platform for discussions between industry role-players, networking, and sharing stories and experiences during COVID-19. Since respondents were instructed to distribute the link to their network of tourism suppliers, a convenience snowball sampling method was employed. 101 fully completed responses were obtained and included in the analysis. A sample of 370 respondents would have been appropriately representative and could have validated the results (Krejcie and Morgan, 1970). The authors acknowledge
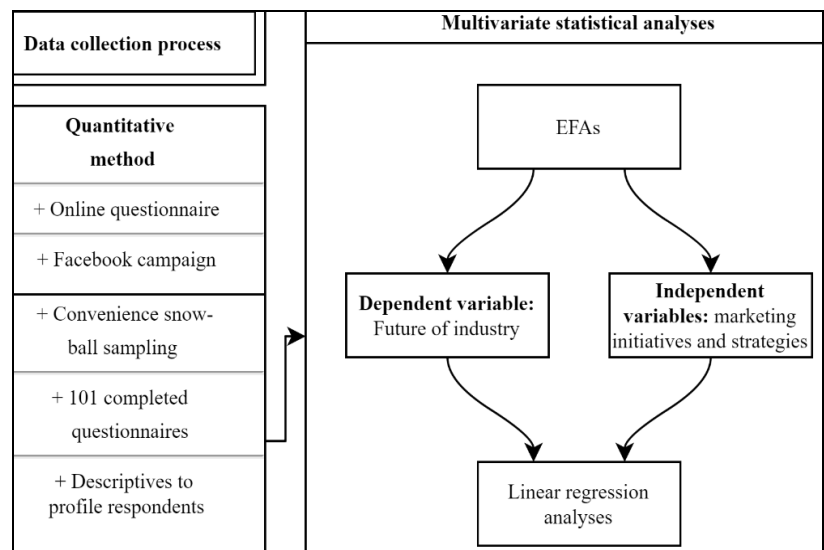
the limitation of an unrepresentative sample size. Due to the exploratory nature of the research, the results are considered worthwhile to view from a developing country perspective. Most of the respondents were female (67%), 51 years old with tertiary education (54%) from the Western Cape (28%) and Gauteng (21%), which are two of the largest and wealthiest provinces in the country. The participating tourism suppliers have been operating for 15 years and were classified as micro-enterprises (1-9 employees) (51%). The most represented sector was lodging and accommodation (59%), followed by MICE (Meetings, Incentives, Conferences and Events) (14%).

RESULTS AND DISCUSSION
The multivariate analysis involved exploratory factor analyses (EFA) in identifying the dependent (the predicted future of the industry) and independent variables (initiatives to reach the target market(s) during the pandemic and the predicted adopted strategies after COVID-19) in the regression analyses.

Results of the EFAs
The factorability of the data was determined by the Kaiser-Meyer-Olkin (KMO >.70) and Bartlett's test of sphericity (p < 0.05) statistics. Exploratory Factor Analyses (EFA > 0.5) and Principal Component's Analysis (EV>1) using a Varimax rotation with Kaiser normalization were performed in IBM Statistical Program for Social Sciences (SPSS) Version 27 (IBM Corp., 2022) (Table 1). Refer to Kruger and Viljoen (2021) for the statements and factor loading coefficients. The perceived future of the tourism industry was the dependent variable, and five factors were extracted. *Rebranding* ($\bar{x}$ = 3.83) and *sustainability* ($\bar{x}$ = 3.66) followed by *localization* ($\bar{x}$ = 3.64) were indicated as the measures that will influence the future of the industry the most. Respondents agreed that *stimulus* ($\bar{x}$ = 3.22) would likely influence the industry. *Recovery* was rated by respondents as neutral ($\bar{x}$ = 2.61). Table 1 shows three initiatives that connect with their target market(s) during COVID-19. Unsurprisingly, *rebates* ($\bar{x}$ = 4.00) was rated the highest, followed by *digital engagement* ($\bar{x}$ = 3.71), while *sales promotion* was less likely to occur ($\bar{x}$ = 2.55). Finally, respondents were asked about the management and marketing strategies the industry would adopt due to the pandemic, and four factors were extracted. Based on the mean values, *safety and training* ($\bar{x}$ = 3.88) followed by *rates and tariffs* ($\bar{x}$ = 3.76) would be the most adopted strategies. Strategies aimed at *loyalty and incentives* and *local and domestic* ($\bar{x}$ = 3.24 respectively) would be implemented to a moderate extent.

Table 1. EFA results of the perceived future of the industry,
current marketing initiatives, and future management and marketing strategies

Factors	Items	Eigenvalues (EV)	Var. (%)	Loading Coeff. (>.50)		Avg, inter-item correlation	Cronbach (α)	Mean (x̄)
				Min	Max			
[1] **Perceived future of the tourism industry (dependent variables)** [5-point Likert scale: 1 = completely disagree to 5 = completely agree]								
Stimulus	9	5.34	29.67	0.48	0.83	0.39	0.85	3.22
Rebranding	6	2.70	15.01	0.41	0.78	0.33	0.74	3.83
Recovery	4	1.73	9.59	0.67	0.79	0.48	0.78	2.61
Sustainability	4	1.30	7.24	0.45	0.66	0.31	0.60	3.66
Localization	4	1.13	6.29	0.47	0.85	0.41	0.76	3.64
[2] **Current marketing initiatives** [5-point Likert scale: 1 = not at all to 5 = definitely]								
Digital engagement	4	4.21	42.09	0.70	0.85	0.58	0.84	3.71
Sales promotion	3	1.29	12.91	0.54	0.86	0.45	0.70	2.55
Rebates	3	1.05	10.49	0.54	0.81	0.32	0.61	4.00
[3] **Future management and marketing strategies** [5-point Likert scale: 1 = not at all to 5 = definitely]								
Safety and training	6	6.45	22.24	0.58	0.89	0.58	0.88	3.88
Loyalty and incentives	6	2.63	9.09	0.47	0.80	0.39	0.79	3.24
Local and domestic	3	2.28	7.87	0.52	0.75	0.34	0.61	3.24
Rates and tariffs	3	2.12	7.31	0.59	0.83	0.36	0.61	3.76

[1]Perceived future of the industry: KMO: 0.71; Bartlett's test of sphericity: [x^2 (406) = 1396.02, p < 0.05]
[2]Current marketing initiatives: KMO: 0.82; Bartlett's test of sphericity: [x^2 (45) = 394.13, p < 0.05]
[3]Future management and marketing initiatives: KMO: 0.76; Bartlett's test of sphericity: [x^2 (153) = 920.15, p < 0.05]

Results of the linear regression analyses
Spearman's rho first investigated the relationship between the factors (Table 1) and the dependent variables (perceived future of the industry). Standard least-squares regression analysis was performed, and the stepwise regression models had the best results. Table 2 shows the stepwise linear regression analysis results and reveals which independent variables had a statistically significant relationship with the dependent variables. The perceived infection risk of the sectors was also included in the regression analysis and was coded 1 and 0: No to moderate risk (Level 1 = no to minimal risk; Level 2 = minimal to moderate risk) = 1 and Moderate to extreme risk (Level 3 = moderate to high risk; Level 4 = high risk; Level 5 = extremely high risk) = 0. To regenerate *stimulus* (related to macro-economic and fiscal measures by governments to help the travel industry), *rebranding* (related to micro-economic restructuring measures, reimagining and revisiting marketing messages, tourism-reliant destinations diversifying beyond tourism operations) and *loyalty and incentives* (for example, incentivized loyalty programmes, greater flexibility of packages, rebranding campaigns to gain travellers trust, and more innovative and technology-based measures to connect with travellers), will have to be adopted by the tourism suppliers. Regarding *rebranding*, *stimulus* has a mutually positive relationship along with *sustainability* (related to more pro-

environmental travel measures), while *rates and tariffs* (related to ease, fees and revisiting cancellation policies) must be adopted or revised. The focus should be on *rebranding* to help manage *recovery* (related to business and employment recovery within 6-12 months of containing COVID-19). *Safety and training* (greater health and safety measures aimed at guests and staff and training, health screenings, and emphasizing health and safety procedures in marketing and policies) had a negative relationship implying that these measures will not help the industry recover over the long term. Regenerating industry *sustainability* (related to more pro-environmental travel measures) yielded the most determinants. *Rebranding*, *digital engagement* (for example, a strong social media presence), *sales promotion* (deals, vouchers, competitions and online experiences), *loyalty and incentives* and *rates and tariffs* will have to be adopted or revised.

However, *recovery* and *safety and training* had negative relationships, implying that these measures may not help manage *sustainability*. Finally, regarding *localization* (related to domestic and intra-regional measures), *loyalty and incentives* and *local and domestic* (related to repositioning and redefining main source markets, greater marketing campaigns aimed at domestic markets and an emphasis on youth travel) marketing and management strategies will have to be adopted. However, the perceived sectoral risk showed a negative relationship, meaning that suppliers recognize that different sectors are likely to be impacted differently depending on the level of risk.

Table 2. Regression model predictors and stepwise linear regression results for the results of the future of the industry

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
2 (Stimulus)	(Constant)	-0,027	0,509		-0,053	0,958
	Loyalty and incentives	0,618	0,120	0,447	5,166	0,000*
	Rebranding	0,324	0,115	0,244	2,822	0,006*
3 (Rebranding)	(Constant)	1,844	0,313		5,899	0,000*
	Sustainability	0,234	0,079	0,277	2,945	0,004*
	Rates and tariffs	0,185	0,052	0,307	3,586	0,001*
	Stimulus	0,163	0,070	0,217	2,318	0,023*
2 (Recovery)	(Constant)	0,043	0,463		0,092	0,927
	Rebranding	1,138	0,124	0,673	9,166	0,000*
	Safety and training	-0,289	0,073	-0,289	-3,943	0,000*
7 (Sustainability)	(Constant)	0,195	0,422		0,461	0,646
	Loyalty and incentives	0,727	0,122	0,589	5,935	0,000*
	Sales and promotions	0,137	0,051	0,219	2,671	0,009*
	Rebranding	0,257	0,092	0,217	2,808	0,006*
	Digital engagement	0,097	0,057	0,138	1,721	0,089*
	Rates and tariffs	0,146	0,055	0,200	2,679	0,009*
	Safety and training	-0,161	0,058	-0,220	-2,757	0,007*
	Recovery	-0,162	0,073	-0,222	-2,228	0,028*
3 (Localization)	(Constant)	1,915	0,474		4,041	0,000
	Local and domestic	0,315	0,074	0,379	4,279	0,000*
	Perceived sectoral risk	-0,330	0,132	-0,221	-2,499	0,014*
	Loyalty and incentives	0,286	0,127	0,200	2,253	0,027*

[1] Model 1, the R^2 value was 0.315, and the adjusted R^2 value was 0.301 [$F_{(2, 98)}$ = 22.551, $p = 0.001$]
[2] Model 2, the R^2 value was 0.303, and the adjusted R^2 value was 0.281 [$F_{(3, 97)}$ = 14.055, $p = 0.001$]
[3] Model 3, the R^2 value was 0.482, and the adjusted R^2 value was 0.472 [$F_{(2, 98)}$ = 45.649, $p = 0.001$]
[4] Model 4, the R^2 value was 0.540, and the adjusted R^2 value was 0.505 [$F_{(4, 96)}$ = 21.120, $p = 0.001$]
[5] Model 5, the R^2 value was 0.244, and the adjusted R^2 value was 0.221 [$F_{(3, 97)}$ = 10.432, $p = 0.001$]

FINDINGS AND CONCLUSION

The linear regression analyses revealed a distinct set of determinants to help manage the five identified future South African travel and tourism industry factors. Reoccurring determinants with positive relationships include *rebranding*, *loyalty and incentives* and *rates and tariffs* which are important to reignite the industry.

Rebranding the South African travel and tourism industry will be critical for *recovery*, as evident by the results outlined in the literature review due to negative media exposure and "travel discrimination" imposed on the country (BBC, 29.11.2021; Breslow, 2021). Tourists will be equally important to assess the post-pandemic perceived destination image of the country. In this regard, Matiza and Kruger (2021a) concluded that inbound tourists to South Africa could be classified into Psychocentric-, Near psychocentric- Allocentric-, and Near allocentric- tourist market segments based on the extent to which South Africa's country image, place brand dimensions and destination attributes (pull travel motives) informs their perceptions. The authors recommended that in the case of South Africa, post-crisis marketing spending could be optimized by targeting psychocentric and near psychocentric tourist segments with relevant information, including innovative attribute-based products, targeted marketing promotions, and post-crisis communication.

Coupled with *rebranding*, the results showed that *loyalty and incentives* and *rates and tariffs* would be practical ways to help the industry recover by reinforcing *stimulus*, *sustainability*, and *localization*. For *sustainability*, which yielded the most determinants, the result is supported by the assumption that travellers will be more cautious of adverse environmental impacts related to travel (Carbon Brief, 7.5.2018; WEF, 2020a). This travel behaviour could particularly benefit nature-based tourism providers such as national parks, lodges, nature reserves and wildlife parks which South Africa is known for.

The potential for community-based tourism development also presents itself where lesser-known, more rural, and wilderness areas of the country could benefit from tourism post-pandemic. Therefore, special packages through *sales and promotions* and *digital engagement* aimed at nature-based travellers could give South Africa a competitive advantage post-pandemic.

Regarding *localization*, the results show that South African tourism suppliers must adopt an intensive and revised marketing strategy emphasizing incentives and promotions aimed at the domestic travel market. However, Adinolfi et al. (2021) point out two main barriers to increasing domestic leisure travel. The first is the disparity between leisure travel offerings and leisure travel culture among the country's vast majority (i.e., Black) population. The second is the impact of the pandemic on the economy and the decrease in earnings among a significant portion of the population. Therefore, suppliers must rethink current marketing messages and pricing strategies to stimulate domestic tourism.

In a study aimed at the South African domestic travel market in the context of COVID-19 by Matiza and Kruger (2022), three domestic recreational tourist segments were identified: *Independent Budget-conscious Gen Z*; *Linger-lusting Gen Y*; and *Wealthy Wander-lusting Baby Boomer tourists*. Their findings showed that a one-size-fits-all policy and strategy approach would not be viable for domestic tourism recovery-oriented marketing and promotion in South Africa. Rogerson and Baum (2020) further suggested that the positive benefits of leveraging VFR (visiting friends and relatives) travel in post-disaster recovery situations must be harnessed by tourism suppliers.

However, travel and tourism suppliers must also rethink and carefully revise their marketing strategies and messages for the international market. In this regard, Matiza and Kruger (2021b) segmented post-COVID-19 pandemic tourists based on three psychographic factors of perceived risk (physical health-related-, social- and psychological risk) and identified three segments, 'Dogmatic tourists' (optimistic about travelling in the future), 'Sceptical tourists' (cautiously optimistic) and 'Apprehensive tourists' (highly cautious). Their findings implied that tourism destinations must be aware of the changing needs of the travelling marketing due to the pandemic; therefore, destinations must adapt accordingly.

However, the sectors' perceived risk level was negatively related to *localization*. The result can be explained by the fact that some travellers will still travel cautiously despite the industry recovery, which is supported by the traveller segments identified by Matiza and Kruger (2021b) and Neuburger and Egger (2021). The result further supports the notion of Kruger and Viljoen (2021) that from a supply-side perspective, some sectors will recover faster than others, for example, food and beverage, compared to MICE due to government restrictions. Therefore, the different tourism sectors must reconsider their offers to function and remain resilient during and after the pandemic.

Safety and training revealed negative relationships with *recovery* and *sustainability,* confirming Matiza and Kruger's (2021:170) observation that "stringent overt safety measures like health certificate requirements, the proliferation of sanitation stations and mandatory quarantining as part of the travel and tourism experience of the future may negatively influence tourist decision-making", and in the case of the research, also prevent the industry from recovering sooner. This could be due to the costs involved in implementing and continuously monitoring and evaluating the necessary safety and training protocols over the long term. While adequate health and safety protocols and measures are essential for the recovery of the industry and regaining market confidence, from the results, the suppliers appear to be wary of the long-term feasibility of these measures. With travel resuming worldwide and easing restrictions, COVID fatigue is evident with travellers eager to travel. However, the safe and long-term recovery of the industry will depend on mutual and cautious compliance from suppliers and travellers. *Safety and training* should now be considered a given and necessary part of travel. For suppliers, the efforts implemented during the pandemic should remain part of their daily operations in preparation for future pandemics. This will require investment in, for example, technology to enable contactless travel to reduce risk and ensure customer confidence (Dube, 2021).

Limitations and future research recommendations

Dube (2021) noted that the chances of South Africa being a destination of choice for travellers post-pandemic are higher than the rest of Africa, given its geo-political advantages as a gateway destination to the region. This research identified South African tourism suppliers' perspectives on managing the future of the industry post-COVID-19. The results revealed interesting findings and a distinct set of determinants that can help regenerate the industry on different levels ranging from *stimulus*, *rebranding*, *recovery*, *sustainability* and *localization*. Key to the industry's resilience will be revising *rebranding*, *loyalty and incentives,* and *rates and tariffs,* while *safety and training* will slow recovery. However, the measures implemented during COVID-19 should remain to ensure a long-term competitive advantage as a travel destination. The government has a crucial role to play and could consciously make travel more attractive and affordable by waiving numerous levies and taxes that could drive down the prices of airline tickets and other tourism products (Dube, 2021; Bama and Nyikana, 2021). The authors acknowledge the following limitations and propose some future research interests. The sample size is not representative of South African tourism suppliers due to the online survey method that had to be employed during the hard lockdown. Nevertheless, the results provide interesting insights into the suppliers' perspectives, which have been, to date, neglected. A qualitative approach may deem more successful in future when targeting tourism suppliers. The situation due to the pandemic in developing countries such as South Africa is very different from developed countries, and comparative studies are therefore recommended.

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MOBILE-APPLICATION USAGE POTENTIAL FOR NATURE INTERPRETATION AND VISITOR MANAGEMENT AT MASAI MARA NATIONAL RESERVE, KENYA; WILDLIFE VIEWERS' PERSPECTIVES

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Abstract: Visitor management is a vital aspect of destination management, and several ways are used to balance conservation goals and tourist satisfaction. In this regard, nature interpretation has been used to achieve this delicate balance of conservation and tourist satisfaction. Various nature interpretation approaches have been used, with each strategy having differing expense, knowledge, and human resource requirements. Indeed, advancement and extensive usage of cellphones and the internet present new opportunities to be exploited for smart nature interpretation practicalities. Thus, this study attempted to evaluate the potential for using mobile Applications for environmental interpretation in Kenya's Masai Mara National Reserve. 570 people were surveyed, including 413 tourists and 157 tour guides. The study indicated that while nature (plants and animals) draws people to the reserve, other elements of the suggested Mobile Application are crucial. Correlational statistics revealed that the proposed features were less affected by the respondents' demographic factors. The study revealed that smartphone Applications might sustainably distribute environmental interpretation information in natural environments.

Keywords: wildlife tourism, visitor management, nature interpretation, wilderness navigation mobile Application, visitor information, tour guiding, trail orientation signage, Masai Mara

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INTRODUCTION

Nature interpretation is an educational activity that examines and attractively reveals an area's physical, biological, and cultural attributes and interrelationships using tangible objects and first-hand experience to create satisfaction, caring actions, awareness, and obligation to the interpreted values and areas. Nature interpretation attempts to convey cultural and natural heritage values, deter negative impacts and support conservation initiatives of protected areas. Over the years and also in the contemporaries, nature interpretation has become one of the essential foundations in visitor management as destination managers, and planners endeavour to balance between sustainable conservation of tourism resources and visitor satisfaction (Stokes and Crawshaw, 1986; White Oak Wildlife, 2021; Unites States Environmental Protection Agency, 2021; Salazar, 2005). Nature interpretation, also known as environmental education, has been used as a visitor management strategy for areas that attract visitation to solicit public support for conservation initiatives.

Nature interpretation, used synonymously with environmental or conservation education depending on the season or management focus, has been implemented varyingly at different destinations. These approaches include the use of interpreters or tour guides, visitor education centres, display boards, directional signage, visitor codes, guidebooks, brochures, and other print media broadly classified as personal and non-personal approaches in nature interpretation (Salazar, 2005; Black and Ham, 2005; Mak et al., 2011). Interpreters or tour guides, as a personal form of nature interpretation, are people from different educational and socio-cultural backgrounds that have specialised in providing an essential interpretation of observed realities and experiences in an area entertainingly (Mak et al., 2010; Black and Ham, 2005; Nyahunzvi and Njerekai, 2013; Prakash et al., 2011; Huang et al, 2010; Poudel and Nyaupane, 2013). Scholars argue that the quality of nature interpretation delivery

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depends on the competencies of tour guides/ interpreters. That is, the knowledge and skilling possessed by tour guides or interpreters can make them serve as better mediators and positive change agents within destinations for sustainability (Marzouki and Posecion, 2019; Jahwari et al., 2017; Guzman, 2011; Rahmawati, 2015; Lin et al., 2017). In most destinations, tour guide training is not strictly regulated (Ong et al., 2014; Jacobson and Robles, 1992; Leff, 2011).

In contrast, others regulate them through licensing and/or membership in professional associations to manage tour guides' conduct, skilling, and competencies. On the contrary, some scholars argue that the experience and social-cultural background significantly impact interpreters' or tour guides' interpretational delivery and competencies (Prakash and Chowdhary, 2010; Huang et al., 2010). And given the human resources and cost implications of training and engaging tour guides, this approach becomes expensive, albeit being among the best because of the personal touch and immediacy provided in any guiding situation. As managers and planners strive for the sustainability of attractions and destinations, they commonly complement interpreters with other non-personal nature interpretation approaches (Kuo, 2002). These non-personal nature interpretation approaches include information centres, trails, signages, and display boards (Juma, 2016; Kuo, 2003; National Parks Service, 2022, June 23; Mukhina et al., 2017; Švajda et al., 2018).

In essence, the implementation of nature interpretation approaches varies from one scenario to another; various techniques complement each other depending on the area and management objective or focus. Complementarity is critical for the sustainable development of destinations and or attractions as different nature interpretation approaches present certain advantages or disadvantages over others. These facts notwithstanding, destination planners and managers have endeavoured to apply different approaches to different visitor groups and scenarios (Stewart, 2017; Kuo, 2002). For instance, in expansive nature-based destinations, nature trails or tracks with adequate orientation maps, signage, visitor codes, and information centres will facilitate practical interpretation by tour guides. The diverse nature interpretation approaches present destination managers with different characteristics and challenges relating to the cost of implementation, appropriateness, effectiveness, size, and scale of the undertaking. In this regard, with the enormous growth in internet access and smartphone ownership, and in an attempt to enhance the diversity of cost-effective nature interpretation techniques that are effective and accessible to a wider reach. Other jurisdictions have used mobile applications for outdoor navigation and nature interpretation. These facts are not the standing; using mobile applications amongst contemporaries is a new trend that presents challenges and opportunities. This study, therefore, sought to assess the potential for using an innovative mobile application for nature interpretation and visitor management in Masai Mara National Reserve, Kenya.

LITERATURE REVIEW

The use of smart solutions and Applications in nature interpretation is gaining traction in tourism, both among service providers and tourists, thanks to technological advancements combined with greater online sociability. In this regard, the current research had sought to establish existing Applications and smart solutions as implemented in nature-based tourism destinations like national parks and reserves. This analysis consequently guided the study in establishing the potential for a mobile-phone-based Application in nature interpretation amongst visitors and guides visiting Kenyan national parks and reserves. Nature interpretation in wildlife tourism destination areas in Kenya should never be disregarded, given current trends and forecasts that will impact future travel and tourism. Among the projections and trends that will characterize the future of tourism are tech-enabled travel, personalization and guidance, planning and experiences, sustainability, safety and health-focused measures, and a return to business travel (Bowen and Whalen, 2017; Kaplan, 2018; Kountouris and Sakkopoulos, 2018). And indeed, it has been observed that extensive deployment of smart technology is vital in tourism, and opine that these technologies make tourists more engaged and expect more from places or destinations (Zhang, and Yang, 2016). Further to these, Koo et al. (2019) observed that integrating smart technologies and infrastructure into visitor experiences at tourist attractions and destinations is a worthwhile investment. Research on smart tourism suggests that tourism infrastructure and information communication technologies are combined to improve destination and business efficiency and tourists' experiences (Gretzel, 2016; Femenia-Serra & Neuhofer, 2018; Muñoz et al., 2019).

Further to these, Gretzel (2016) and Femenia-Serra & Neuhofer (2018) observe that globally, countries and organizations are working hard to encourage smart tourism development (Koo et al., 2019; Gretzel, 2016). Tourists employ smart technology to engage actively with other stakeholders and build their own experiences (Neuhofer et al., 2012). Smart tourists are providers and users of Smart Tourism technology services. Smart visitors now create, share, and persuade others. In today's smart world, digital platforms and media like the internet, social media, navigation Applications, and smartphones are used for more than just information (Neuhofer et al., 2012; Morrison, 2019). Contemporary tourists have become more independent and competent (Park et al., 2019) and heavily reliant on mobile telephony, Applications, smart gadgets, and situation and geo-location solutions (Dorcic et al., 2019). Smart Tourism technology services assist travellers in integrating content better and making better decisions (Xiang et al., 2015; Shiwei et al., 2020; Xu, 2022).

General appeal and the future of smart Applications in tourism

Every year, with eight billion tourists, nature-based protected places and national parks and reserves are popular in contemporary tourist destinations (Balmford et al., 2015). Visitors pay attention to national parks and reserves for their diverse tourist, ecological, and cultural resources and recreation opportunities (Espinosa et al., 2017; Kim et al., 2018). In this regard, park management agencies must establish more specific and quantifiable indicators critical to management frameworks to guarantee sustainable use incorporating the best possible sightseer experience and protecting the resource. Only in this way can the value of tourist experiences and the destination's cultural and natural resources be assessed and controlled. (Kim et al., 2018). More research suggests that spending time outside might benefit our mental and physical

health (National Parks Service, 2022, June 23; Stewart, 2017). Unfortunately, preserving urban and national parks is not always straightforward. National Park managers must monitor hundreds of miles of untamed terrain, making maintenance difficult. Not many people think about technology outdoors, but a new analysis claims technology can support the management of many nature-based protected areas worldwide (Korpilo et al., 2017; Liberato et al., 2018; Muñoz et al., 2019; Thimm and Seepold, 2016). In this regard, the concept of smart parks promotes technological advancements as the most cost-effective way to sustainably preserve and utilize national parks to their full potential. Some experts, however, believe that the problem is more complicated, noting reasons such as growing tourist demand on natural resources and budget constraints as forcing protected area managers and teams to strengthen the capacity (Kabii et al., 2019a; Pai et al., 2020; Xu et al., 2020). Therefore, a smart park's concept should integrate large rural parks with the internet of things technology to instantly communicate valuable intelligence to establish an integrated network system.

Arguably, according to Thimm and Seepold (2016), the use of technology for better communication and data collection is not new. The paper identifies some successful commercial Applications of the internet of things to maximise open space utilisation. For example, Disney World has been using Magic Bands to improve guest experiences (Kountouris and Sakkopoulos, 2018). Scholars like Kaplan believe that using technology in parks might benefit a broad spectrum of people (Kaplan, 2018). The beneficiaries might include park visitors, companies, towns, and management authorities, enhanced air quality, communal life, education, and overall nature connection (Chu et al., 2012; Kountouris and Sakkopoulos, 2018; Lee et al., 2017; Saeedi, et al., 2010; Yuan, 2014). Indeed, a networked information system would also help park staff do their jobs more effectively. On the other hand, park rangers might monitor wildlife and safeguard sensitive species using Applications like Smart Earth Network, allowing tourists to exchange data and register animal sightings or invasive species reports (Chu et al., 2012; Shimokihara et al., 2020). Connected parks systems also potentially provide life-saving information to campers and tourists, such as real-time weather alerts (Korpilo et al., 2017; Muñoz et al., 2019; Thanos et al., 2016; Wang et al., 2012; Zhang et al., 2019). Therefore, these present the potential of employing similar Applications to safeguard natural resources and visitor management scenarios of destinations like Masai Mara National Reserve.

Smart community safety Applications like the Oxford Flood Sensor Network already employ this information exchange to keep communities safe (Clark and Nyaupane, 2022; Mandić and Garbin, 2019). Thousands of visitors to national parks rely on technology to enhance their experience. For instance, Applications like Chimani and Google Maps allow users to discover many national parks and reserves in the United States of America using global positioning systems (Chu et al., 2012; Kountouris and Sakkopoulos, 2018, Saeedi et al., 2010). Kaplan argues that national park organisations should collaborate with corporations to create a single software platform to maximize effectiveness (Kaplan, 2018). In this context, the key success factors are its interconnection, data interoperability, analytics, and end-user communication. Thus, Kaplan proposes getting stakeholders together at innovation events like hackathons to generate ground-breaking solutions (Kaplan, 2018).

Scholars observe that the internet has continued to change how people communicate, organize, and share information globally and that it has grown in importance in our daily lives, influencing both individuals and major economies (Bessho et al., 2008; Bowen and Whalen, 2017; Johnson, 2022). While the digital population is visible expanding globally, internet access and availability vary significantly by country. This setback is explained by the slow advancement of digital infrastructures in remote localities, a global problem. Nevertheless, mobile internet has grown in popularity in recent years as smartphones have become more accessible and affordable (Statista, 2021). As more people worldwide utilise smart mobile devices to access the internet, mobile internet currently accounts for over 50% of global online traffic (Gharaibeh and Gharaibeh, 2022). In January 2021, over 59.5 percent of the world's population, or 4.66 billion people, used the internet, with another 92.6 percent (4.32 billion) using mobile devices for internet access (Johnson, 2021). For a country like Kenya, with about 54.38 million people, 33.4 million are aged 15 years and above as of January 2021 (Statista, 2021), and internet penetration rates of 40.0 percent for the whole population and 65.13 percent for those aged 15 and older accounting for 21.75 million internet users (Johnson, 2022). Furthermore, Kenya had 108% of the population with mobile connections in January 2021. Between 2020 and 2021, social media users in Kenya grew by 2.2 million, or 25%, to 11.0 million.

The statistics for Kenya indicate a favourable situation for mobile Application use in tour guiding and nature interpretation. The statistics are not far from global statistics regarding internet access and usage. Citizens of the world spend more than half of their lives traveling from one location to another, whether for leisure, work, or necessity (Korpilo et al., 2017). Travelers still have the unavoidable desire to stay connected with their mobile devices during these journeys, whether long or short, for pleasure (reading, informing, interacting) or for work (skype, meetings, emails, platforms) (Gračan et al., 2021; Rezapouraghdam et al., 2021; Xu et al., 2022). Nowadays, charging stations and internet access are installed in transportation hubs and carriages, making more comfortable and practical transportation and hospitality infrastructures. These services improve the customer experience and elevate the status of destinations and transportation systems in the service infrastructure (Liberato et al., 2018; Thimm and Seepold, 2016). These contemporary trends provide a foundation for mobile Applications in information dissemination like nature interpretation in outdoor recreation settings.

Since 2013, Smart Parks (formerly ShadowView) has used new ways to safeguard endangered wildlife, humans, and the environment. Smart Parks continues to help environmental organisations using sensor technologies and other cutting-edge technology by delivering smart Applications in four key areas where security and safety are priorities (Gračan et al., 2021; Korpilo et al., 2017; Liberato et al., 2018; Pai et al., 2020). First, tourist safety is critical in managing protected areas. Indeed, visitor safety programmes like rescue, vehicle, and visitor tracking are essential for those visiting nature-based destinations like parks and reserves. The second focus is that communities have the most significant impact on animals and biodiversity. Community conservation efforts involve and rely on the local community to conserve biodiversity. Communities can considerably impact biodiversity and wildlife conservation;

therefore, effective conservation programs incorporate community values and concerns as every society, life type, and area have unique priorities. Human-animal conflicts and water scarcity are difficulties that necessitate wildlife and water monitoring utilising technology to preserve assets for future generations. In addition, basic Smart Parks Applications will help in protecting animals from poachers and reducing human-wildlife conflicts is the goal of the technique, theft detection, wildlife tracking, electric fence line monitoring, ranger and vehicle tracking (Korpilo et al., 2017; Xu et al., 2022). Using a tour handbook, joining a sightseeing tour group, visiting an online site, or hiring a personal tour guide have all been utilised in the past; however, it has been recognised that the style and quality of traditional approaches to nature interpretation are insufficient to meet the diverse and individual tourism demands (Kang et al., 2017; Lin et al., 2014).

A smartphone-based intelligent tour guide system should be developed and implemented to supplement the traditional approaches. The number of people utilising smartphones and mobile Applications for daily tasks has increased due to developments in communications technology (Gharaibeh and Gharaibeh, 2022). Indeed, the smartphone is a transformative technology that has revolutionised and simplified communication and is regarded as a technological breakthrough that improves texting, photography, and internet access. The low cost, high computational power, and portability make smartphones more popular than other information communications technology. Smartphone and internet use, therefore, are gradually changing this landscape as mobile-based indoor and outdoor nature interpretation and information dissemination systems eventually take centre stage (Courtney, 2021; Kaplan, 2018; Long and Zhang, 2017; Meliones and Sampson, 2018; VoiceMap.me, 2021; Zhang et al., 2018). Navigation Applications embedded in smartphones and tablets aim to guide users to predefined or user-defined points of interest and routes. However, the smartphone must meet basic and modern functionality requirements (Kountouris and Sakkopoulos, 2018; Lee et al., 2017). Lastly, the mobile Application should create a central management system (adding, removing, and managing) of attractions of interest (Kountouris and Sakkopoulos, 2018).

Practical, exploratory, and Applications are rare, yet effective practices exist. The Self Tour audio guide with built-in global positioning systems is the newest and most comprehensive way to make personalised tours of key tourist locations worldwide (Thanos et al., 2016; VoiceMap.me, 2021). The mobile Application delivers all content to the smartphone or tablet, and one does not have to look at the phone once the tour begins. The tours can be done on foot or by automobile. Some Applications like ParkFinder, Oh Ranger, and National Park Service Applications are popular and are available for free (Courtney, 2021). Research carried out in Kagoshima, Japan, suggests that navigation Applications are helpful for efficient outdoor mobility support (Shimokihara et al., 2020). They significantly reduce time wastage during game drives as appropriate route assistance to the next attraction or destination is made easy. A mobile Application prototype for Sarawak Park in Malaysia used locality/authenticity and interactive design to assess visitor experience. The findings showed that multimedia engagement in mobile travel Applications could enhance tourists' co-creation experiences (Lee et al., 2017). Travellers who want enough knowledge and objective understanding of the places visited and satisfaction of their journey might use smartphone Applications that simulate human tourism guides. These Applications have five modules: user interface, inference engine, knowledge base, dynamic database, and Geographic Information Systems Application for guide functions (Owaied et al., 2011).

According to research conducted to build a framework for their use, six constructs affect how travel Applications are used in Jordan, with word of mouth having no effect (Gharaibeh and Gharaibeh, 2022). These factors include aesthetics, trust, enabling conditions, economic advantages, perceived usability, and considered enjoyment. Global positioning system-guided nature interpretation Applications have improved learning outcomes during excursions. These research findings provide helpful information about technical Applications that can be used practically anywhere (Hincapié et al., 2021). Additionally, mobile Applications provide individualised self-guided services for tourists at any time and in any location and contribute to the wise administration and precise marketing of the scenic area, ensuring healthy market prospects (Zhang et al., 2018). Given these contemporary trends, this research sought to establish perceptions of smartphone Applications that provide on-site nature interpretation in the Masai Mara National Reserve to complement the existing approaches.

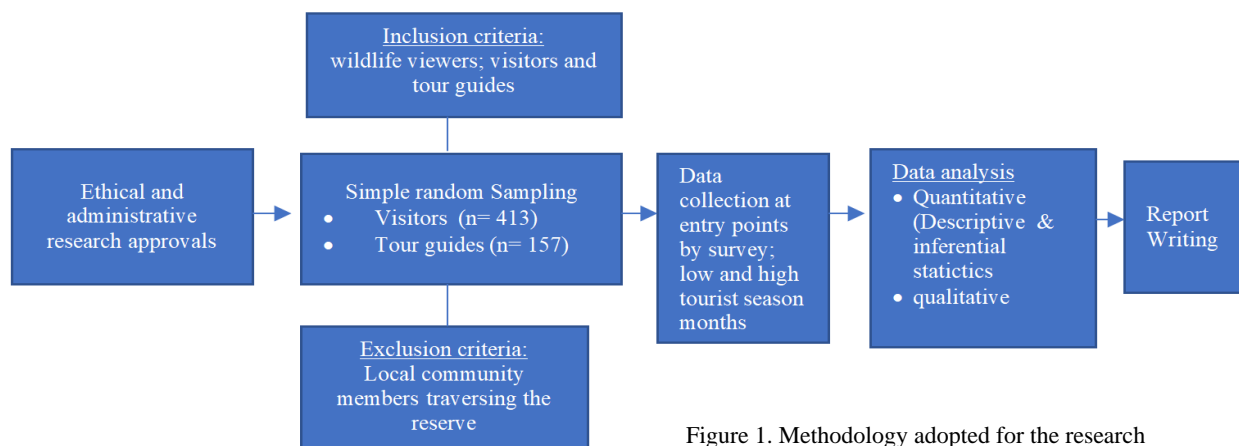Figure 1. Methodology adopted for the research

RESEARCH METHODOLOGY

This study used a survey with primarily questionnaires to collect data. The data was collected throughout six (6) months from November 2020 to February 2021 and August and September 2021 (Figure 1). The study included 157 tour drivers and 413 tourists from the Masai Mara National Reserve, for 570 respondents. This sample size was considered

representative because it was above the acceptable minimum sample size of 384 for universal populations (Babbie, 2016; Tonon, 2019). The target entry points to the Masai Mara National Reserve were Purngat, Keekerok, Oloolaimutia, and Sekenani gates, the busiest entry points. With a 20% response rate, the COVID19 pandemic challenges required questionnaire distribution and subsequent drop-off at the designated gates. The strategy was preferred over an online survey, which was cumbersome in prospecting and follow-up (Wright, 2006). Descriptive and inferential statistics were used to answer the research question 'What is the potential of deploying mobile-based applications for nature interpretation in Masai Mara National Reserve? For this investigation, *Spearman's rho* correlation was used to test the strength and direction of relationships (Babbie, 2016; Tonon, 2019). The data was collected over a six (6) months period, low season months of November (20%), December (11.2%), January (10.4%), and February (7%), as detailed in Figure 2 below.

The high season months of August (31.2%) and September (20.2%). The high season constituted 51% of the respondents and 49% for the low season (N=570). The respondents (N=570) included Kenyan (67.5%), non-resident (18.7), and resident foreigners (13.7%) that visited Masai Mara National Reserve for data collection (Figure 3). 61.9% of the respondents were males, 36.3% were females, and a further 1.8% for others (Figure 4). The skewed data towards the male gender was because 157 of the 570 respondents were tour driver guides who were predominantly male.

STUDY RESULTS

The majority of the respondents fell in the youthful category of ages 25- 40 years (54.4%), followed by those aged 41- 65 years (29.1%), those aged below 24 years constituted 14.6%, and lastly, senior citizens (66 years and above) with a small fraction of 1.9% as detailed in Figure 5 below. The demographics of the visitor age completely departed from past statistics where senior citizens constituted a more significant percentage of travellers than the current scenario attributed to the COVID-19 scare (Luo and Lam, 2020; Yang et al., 2021). On the education level of the respondents (N=570), over 49.3% of the respondents had a university education, 44.6% had college-level education, while 4.9% and 1.2% had secondary and primary level education, respectively Figure 6 below.
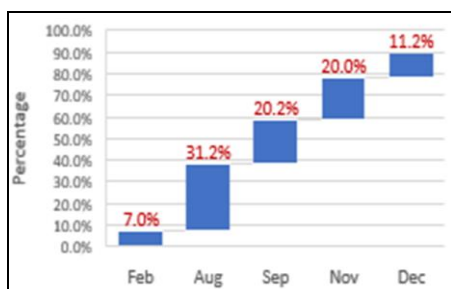
Figure 2. Months of data collection (n=570)
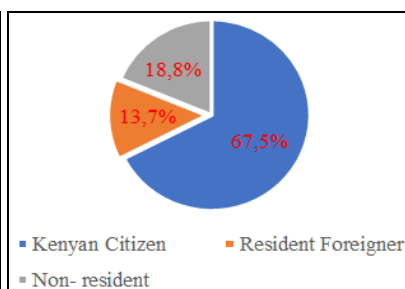
Figure 3. Nationality of respondents (n=570)
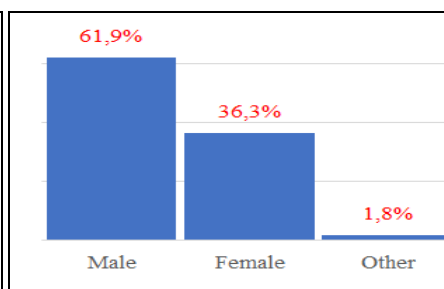
Figure 4. Gender of respondents (n=570)
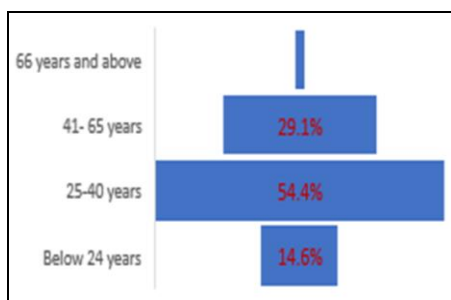
Figure 5. Age structure of respondents (N=570)
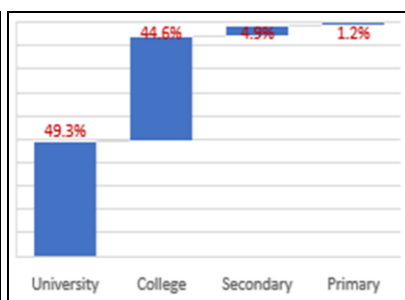
Figure 6. Education level (n=570)
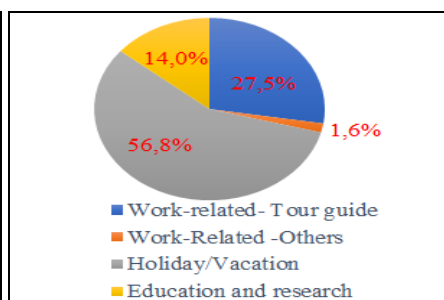
Figure 7. Respondents' purpose of visit (n=570)
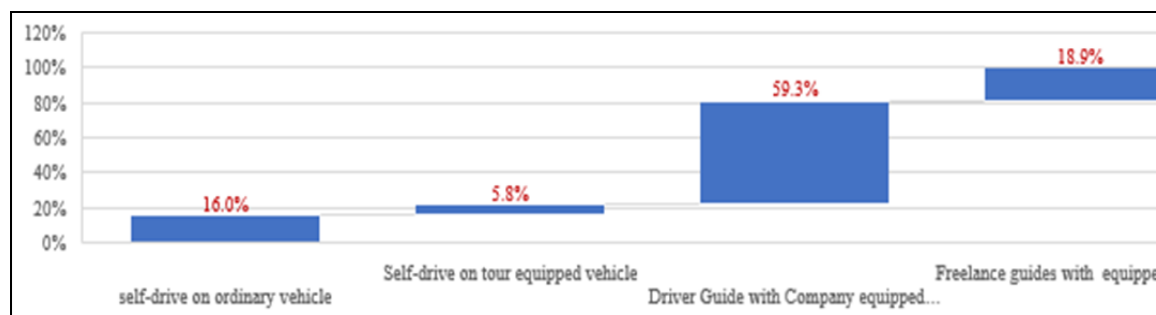
Figure 8. Vehicle type used by respondents (n=570) (Source: Research data)

Regarding the purpose of the visit, 56.8% of the respondents were on holiday/vacation, 27.5% were tour driver guides at work, 14% were on education and research, and a small fraction (1.6%) were visiting for other work-related purposes Figure 7 above. Indeed vacationers, tour guides, and education and research visits constitute the primary travel

purposes to Masai Mara National Reserve. The research also delved into establishing the most commonly used mode of accessing the reserve. Study results revealed that company tour-equipped vehicle with driver-guide (59.3%) was the most popular means, followed by local freelance guides with tour-equipped vehicles (18.9%), and closely followed by self-drive visitors on ordinary vehicles (16%) Figure 8 above. Visitors on Self-drive on tour-equipped vehicles were the least used means for accessing Masai Mara National Reserve. The study looked into the feasibility of introducing a mobile Application to help nature interpretation and visitor information in Masai Mara National Reserve.

Visitors and tour guides were asked if they preferred a mobile Application for Masai Mara National Reserve navigation and wildlife interpretation. The majority of responders (45.8%, n=570) agreed that this Mobile Application is needed to complement nature interpretation methodologies utilised at Masai Mara National Reserve. However, 35.3 per cent of respondents were unsure. As seen in the Figure 9 below, just 18.9% of respondents never endorsed utilising a mobile Application for nature interpretation, tourist information, or reserve navigation.

Figure 9. Attitudes towards proposed Mobile Application features (Source: research Data)

The study identified the mobile Application's possible characteristics. There were features like Masai Mara National Reserve navigation, description of vegetation and wild animals, offline usage, geotagging attractions or emergency rescue, and guest codes laws and regulations. Most respondents (n=570) agreed that guest codes (rules and regulations) should be included, with 22.6 percent unsure and 7% disagreeing (Figure 9 above). The finding emphasises the relevance of visitors to wildlife tourist areas in nature interpretation since responsible behaviour stems from education and knowledge.

The navigation of Masai Mara National Reserve came second. 69.3% replied yes, 21.4% were unsure, and 9.4% said no. In terms of navigation, geotagging tourist destinations or emergency rescue came third with 65.4% of respondents (n=570). Only 21.4 percent were unsure, and 8.4 percent said no (Figure 9). The Masai Mara National Reserve is a vast wilderness. Orientation and navigation are critical to getting the most out of your visit and avoiding getting lost or wasting time. Visitors deemed navigation, geotagging, and emergency rescue features crucial in the Mobile Application.

Because the Masai Mara National Reserve is a remote wilderness area with limited mobile phone coverage, the study suggested an offline mobile Application. The study found that 62.5 percent (n=570) agreed, while 27.5 percent disagreed (Figure 9). In contrast, 10% replied no to offline usage, indicating that the Mobile Application should be dependable for online and offline usage in this popular far-flung wildlife tourism area in Kenya. Wildlife description and identification at Masai Mara National Reserve had a 60.9 percent positive reaction from visitors (n=570), 24.4 percent were unsure, and 14.7 percent answered no. Description and identification of Masai Mara National Reserve flora came in last with approximately the same proportion. 57.5 percent replied yes, 29.1% were undecided, and 13.3 percent said no (Figure 9 above). Despite the attraction of wildlife (plants and animals) to the Masai Mara National Reserve, other aspects of the suggested mobile Application were deemed more important to an enriching and memorable experience. Other features proposed by respondents for the smartphone Application include timely and

Figure 10. Other suggested mobile Application features (Source: Research Data)

regular weather reports to support animal viewing activities and timings (Figure 10). These findings support previous research emphasising the value of regular weather updates for outdoor activities (Clark and Nyaupane, 2022; Mandi and Garbin Pranievi, 2019). The smartphone Application might also provide regular updates on attractions and natural interpretation throughout the enormous reserve. Some respondents agreed that improving mobile network coverage was a must. The mobile Application will rely on cell networks for geotagging, emergency search and rescue, and navigation.

The proposed mobile telecommunication masts should be camouflaged to blend in with the natural landscape. For the mobile Applications to work effectively, display boards and orientation signage should be upgraded, and all road junctions numbered. The road network must be improved to allow tourists to enjoy Masai Mara National Reserve as a wildlife reserve. Reserve users could use a platform to notify defaulters or other events as a proactive measure, requesting rapid corrective action. Despite this, other respondents stated that nature should be left alone.

Correlation Analysis of Attitudes and Respondent Demographics

A correlational analysis to establish which demographic affected the responses on the mobile Application questions, the study majorly showed weak positive and negative relations (Table 1 below). The visitors' education level and purpose of visit had the highest number of correlations, albeit weak positive and weak negative, respectively. This was followed by age, the type of vehicle used, and lastly, nationality and gender. The survey item 'would you prefer using a mobile Application with nature interpretation and navigation of Masai Mara National Reserve had weak positive relationships with age ($r_s = .107$, $p=.011$, $N=570$), education level, and vehicle type used with $r_s = .106$, $p=.011$, $N=570$. In addition, the purpose of the visit had a weak negative relationship with Would you prefer using a mobile Application with nature interpretation and navigation of the reserve ($r_s = -.187$, $p=.000$, $N=570$).

The nationality and gender of the respondents did not have any correlation with Would you prefer using a mobile Application with nature interpretation and navigation of Masai Mara National Reserve as the calculated p-value was higher than the given $p=0.05$. Navigation of the reserve had similar weak correlation results with age ($r_s = .160$, $p=.000$, $N=570$), education level ($r_s = .148$, $p=.000$, N=570), vehicle used ($r_s = .121$, $p=.004$, $N=570$), and purpose of visit ($r_s = -.206$, $p=.000$, $N=570$). The nationality ($r_s = .032$, $p=.452$, $N=570$) and gender ($r_s = .038$, $p=.367$, $N=570$) of the respondents did not correlate with navigation of Masai Mara National Reserve as the calculated p-value was higher than the given $p=0.05$.

Table 1. Correlations between tour guiding attributes and demographics (n=570)

Spearman's rho Correlations		Nationality	Gender	Age	Education level	Purpose of visit	Vehicle Type Used
Would you prefer using a mobile Application with NI and navigation	Correlation Coefficient	.055	.037	.107[*]	.106[*]	-.187[**]	.106[*]
	Sig. (2-tailed)	.189	.376	.011	.011	.000	.011
	N	570	570	570	570	570	570
Navigation	Correlation Coefficient	.032	.038	.160[**]	.148[**]	-.206[**]	.121[**]
	Sig. (2-tailed)	.452	.367	.000	.000	.000	.004
	N	570	570	570	570	570	570
Description and identification of wild animals	Correlation Coefficient	.010	-.046	.073	.173[**]	-.228[**]	.070
	Sig. (2-tailed)	.815	.274	.082	.000	.000	.093
	N	570	570	570	570	570	570
Description and identification of Plants	Correlation Coefficient	.012	.035	.069	.036	-.133[**]	.028
	Sig. (2-tailed)	.778	.400	.099	.390	.001	.499
	N	570	570	570	570	570	570
offline usage capabilities	Correlation Coefficient	-.047	-.001	.146[**]	.097[*]	-.166[**]	.130[**]
	Sig. (2-tailed)	.267	.974	.000	.020	.000	.002
	N	570	570	570	570	570	570
Geotagging attractions or for emergency rescue	Correlation Coefficient	.058	.060	.097[*]	.090[*]	-.146[**]	.127[**]
	Sig. (2-tailed)	.167	.153	.020	.031	.000	.002
	N	570	570	570	570	570	570
visitor codes rules and regulations	Correlation Coefficient	.116[**]	.120[**]	.112[**]	.097[*]	-.097[*]	.058
	Sig. (2-tailed)	.005	.004	.008	.021	.021	.164
	N	570	570	570	570	570	570
*. Correlation is significant at the 0.05 level (2-tailed); **. Correlation is significant at the 0.01 level (2-tailed)							

Description and identification of Masai Mara National Reserve wild animals had two weak correlations with education level ($r_s = .173$, $p=.000$, N=570), and vehicle used ($r_s = -.228$, $p=.004$, N=570). Nationality ($r_s = .010$, $p=.815$, $N=570$), gender ($r_s = -.046$, $p=.274$, $N=570$), age ($r_s = .073$, $p=.082$, $N=570$), vehicle type used ($r_s = .070$, $p=.093$, $N=570$) the calculated p-value was higher than the given $p=0.05$. Description and identification of Masai Mara National Reserve plants had a weak negative correlation with purpose of visit ($r_s = -.133$, $p=.001$, $N=570$) and all other demographic variables having no relationship at all; nationality ($r_s = .012$, $p=.778$, $N=570$), gender ($r_s = .035$, $p=.400$, $N=570$), age ($r_s = .069$, $p=.099$, $N=570$), education level ($r_s = .036$, $P=.390$, $N=570$), and vehicle type used ($r_s = .028$, $p=.499$, $N=570$).

Offline usage capabilities showed weak positive correlations with age ($r_s = .146$, $p=.000$, N=570), education level ($r_s = .097$, $p=.020$, $N=570$), and vehicle type used ($r_s = .130$, $p=.002$, N=570). There was one weak negative correlation with the purpose of visit ($r_s = -.166$, $p=.000$, $N=570$), whereas nationality and gender had no relationship with offline usage capabilities. Showing a near similar pattern of relationships with the demographics of the respondents was geotagging attractions or for emergency rescue. Weak positive correlations were observed with age ($r_s = .097$, $p=.020$, $N=570$), education level ($r_s = .090$, $p=.031$, $N=570$), and vehicle type used ($r_s = .127$, $p=.002$, $N=570$). There was one weak negative correlation with the purpose of visit ($rs = -.146$, $p=.000$, $N=570$), whereas nationality and gender had no relationship with geotagging attractions or emergency rescue. Also considered in this correlation analysis was the proposal to have visitor codes (rules and regulations) included in the mobile Application. Given its importance in nature interpretation, visitor codes had the highest

correlations except for the type of vehicle used (r_s = -.058, p=.164, N=570) which did not correlate. Nationality (r_s = .116, p=.005, N=570), gender (r_s = .120, p=.004, N=570), age (r_s = .112, p=.008, N=570), education level (r_s = .097, p=.021, N=570), had weak positive correlations while the purpose of the visit (r_s = - .097, p=.021, N=570), had a weak negative correlation.

DISCUSSIONS

The study found a fall in the quantity and composition of visitors to the Masai Mara National Reserve. According to other researchers, the COVID-19 scare could have contributed to this outcome (Huang et al., 2021; Luo and Lam, 2020; Jiménez-Etxebarria et al., 2021). However, this study found a trend against females, international travellers, and the elderly. This number, while not glaring, deviates from the average population's male-female ratios. Because 157 of the 570 respondents were tour driver guides, most male, this departure and skewing of data occurred. Despite those above, some researchers claim that men prefer nature-based and outdoor activities to women (Ali and Obaid, 2014.; Darumurti et al., 2019; Humagain and Singleton, 2021; Meng and Uysal, 2008; Rutter et al., 2021). It may be argued that men are more adventurous than women, which could explain why men visit Masai Mara National Reserve more significantly than women.

The study also found that visitor age data had changed dramatically. Elderly visitors to Masai Mara National Reserve were less likely to visit throughout the study period than in years past. This scenario is attributed to the COVID-19 panic, as supported by similar research (Luo and Lam, 2020; Yang et al., 2021). As a result of the COVID19 pandemic, travel limitations, protocols, and a general fear of getting sick were in place (Jiménez-Etxebarria et al., 2021; Luo and Lam, 2020; Singh et al., 2022; Yang et al., 2021). This is especially true for seniors, for whom COVID-19 may have restricted vacationing despite increasing travel inclination. A clinically susceptible population, the elderly, was advised not to travel and stay home (Teeroovengadum et al., 2021). Contrarily, the young travelled more during the COVID-19 epidemic, possibly due to their increased immunity. This is likely to change when more people acquire COVID-19 vaccines and travel restrictions and protocols loosen globally. The study found that the Masai Mara National Reserve was mostly visited by tourists, tour guides, and researchers. This finding is backed by previous studies that claim most wildlife and nature-based vacations revolve around wildlife tourism (Castillo-Manzano et al., 2013; Lin et al., 2015; Lu and Zhang, 2015; Rabotic, 2014). The reserve is renowned for its biodiversity, large diversity and density, and birding. It is home to the world-famous wildebeest migration, making it the eighth natural wonder of the world and one of Kenya's mega wildlife tourism destinations. This notwithstanding, travellers are less motivated to education and research, albeit several educational and research groups constituted the visitors.

The study also indicated that tour-equipped vehicles with driver guides were the most common way of access, while self-drive vehicles and self-guided tours were the least. This finding could be attributed to the fact that the reserve is a large wilderness with bad roads and inadequate signage. The roads are all-weather, thus requiring vehicles with robust off-road capabilities and experienced driver guides. It has been observed that tour guides are skilled and experienced professionals who play an important role in wilderness areas not only as guides and interpreters but also serve as mediators and moderators acts and inactions of visitors (De Lima, 2016; Kabii et al., 2019b; Poudel et al., 2013; Randall and Rollins, 2009; Reisinger and Steiner, 2006). Further, long-distance travel into wilderness areas has required specialised tour vehicles to be equipped with specific equipment, including UHF two-way radios, charging connections, and onboard WiFi. These vehicular facilities keep travellers safe, comfortable and connected to social media and other modern communication channels. These developments cleared the path for using smartphones as modern information carriers. The study results indicated that the Mobile Application's visitor codes (destination customs, rules, and laws) were considered crucial. Indeed, simple interpretative ways that explain and convey particular standards and anticipated conduct like guest rules are vital, argue some experts, but often ignored (Merriman, 2005). However, visitor codes should be distributed widely to increase awareness despite their shortcomings. A smartphone Application with visitor codes that tourists always carry is a more sustainable strategy than the pricey, non-reusable print media, and many signages that contribute to littering and sigh pollution, respectively (Merriman, 2005; Smith et al., 2014).

For these reasons, the smartphone Application will try to sustainably disseminate visitor codes in numerous situations. Navigation was identified as the second must-have mobile Application feature. This could have been due to the dangers of getting lost or wasting time traversing a vast destination. Indeed, scholars assert that quality navigation, orientation tools, and media are vital (Saeedi et al., 2010; Shimokihara et al., 2020). The Application's navigation tool will be convenient for visitors as the Masai Mara National Reserve has multiple all-weather roads and wildlife-watching routes. Guests can navigate to their selected destinations without a tour guide by integrating navigation, geotagging, and emergency rescue for visitor safety. With a high-precision global positioning system, navigation can track vehicles and people in real time and pinpoint nearby attractions (Meliones and Sampson, 2018). The mobile Application can also be built to notify potential attractions or take extra activities to assist the user, say researchers (Meliones and Sampson, 2018; Saeedi et al., 2010; Shimokihara et al., 2020).

The paradox, however, is that the navigation tool, alongside geotagging static attractions and seasonal sightings, on the one hand, adds value to wildlife viewing experiences while on the other easily causes overcrowding and severe trampling, especially in the high season when tourist traffic is strong (Gordon et al., 2018; Schägner et al., 2017). This is especially true for animals like wild dogs, cheetahs, sandalwood, rosewood, rhinos, and elephants, which have strong conservation and protection policies and surveillance programs (Bhola et al., 2012; Ghosh et al., 2019; Green et al., 2019; Linden et al., 2020). In this regard, geotagging of attractions and sightings should be done with prudence to avoid and or mitigate overcrowding and poaching hazards through geofencing. The Mobile Application's offline capability was ranked third. This could be because the vast reserve has poor mobile network coverage, making the proposed Mobile Application unreliable. Poor network coverage in some reserve regions raises concerns about the Application's ability to be used at any time,

anywhere. Given this, a mobile application with online and offline usage capabilities might be recommended for outdoor and adventure activities. These characteristics will reassure users (Seok, 2018; Thong et al., 2021; Wang et al., 2020).

CONCLUSION

In conclusion, the study observed that the COVID-19 situation somewhat affected the travel demographics into Maasai Mara. The demographic 'purpose of the visit' had a weak negative correlation with all mobile application variables. This was indicative that as the visitor numbers under any of the purposes of the visit increased, the number of people endorsing a feature of the mobile Application decreased marginally. Age came in second in correlating with nearly all mobile application variables, albeit having a weak positive relationship and description of plants in the reserve being the exception. The weak correlations implied that the responses on the proposed mobile Application to support nature interpretation were largely marginally affected by the visitor demographic characteristics.

Moreover, most of the respondents essentially endorsed the Mobile Application feature, with slightly below half saying they will have used the mobile Application if available (see table above). It can be argued that a large percentage were 'not sure' because they were giving views over a proposed non-existent mobile application that required pretesting to provide a precise evaluation. These notwithstanding, most of the respondents endorsed the mobile application features. Largely, respondents accepted the suggested Mobile Application's offline usage functionality in this context.

The study concluded that three of the first four endorsed features were mobile and mobile application capabilities, not their information. These were navigation, offline usage, geotagging attractions or emergency rescue, and guest codes laws and regulations. The result is indicative that the infrastructure supporting nature interpretation is as vital as the nature interpretation information itself. Fifth and sixth on the priority list of prospective elements of the proposed mobile Application were descriptions of the reserve's wild animals and vegetation. Secondly, this could be attributed to tour guides' lower value on descriptions of plants and animals than visitor codes because they clashed with their competencies. Other suggestions were enhanced weather updates, defaulter reporting, and mobile connectivity. It was suggested that each road junction in the Masai Mara National Reserve should be numbered to facilitate mobile navigation applications.

Nevertheless, for the Mobile Application to be meaningful to its users, the dissemination platform should be reliable in its technical and functional capabilities. The replies were overwhelmingly positive, with weak correlations showing that respondents' demographics had little impact on their responses. Indeed, mobile Applications can be utilised to sustainably disseminate nature interpretation information in nature-based locations. The only initial obstacles are adequate network coverage and raising public awareness of its implementation to enhance existing techniques for nature interpretation.

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