

## Article

# Influence of Sustainable Environment Based on a SWOT-PEST Model on Sports Tourism Service Integration Development

Yuhu Zhao <sup>1</sup>, Xiangping Mei <sup>2</sup> and Jianqiang Guo <sup>1,\*</sup><sup>1</sup> School of Physical Education, Changzhou University, Changzhou 213164, China<sup>2</sup> Huaide College, Changzhou University, Jingjiang 214500, China

\* Correspondence: gjq@cczu.edu.cn

**Abstract:** The rapid growth of the social economy allows the masses to have more free time to enjoy a material and civilized life, and also allows many families to participate in sports tourism activities. However, as the development of sports tourism has just started, it still has some deficiencies in service integration. Meanwhile, the concept of sustainable development has been applied to sports tourism services. Through the survey on service attitudes and quality of the service staff by selected tourists, it was found that, according to the concept of sustainable development, 140 tourists have described service attitude and quality as very good and good, and only 35 tourists made other choices. In addition, to solve the shortcomings of sports tourism, this paper studied sports tourism services according to the sustainable environment of a SWOT-PEST model. Through expert scoring, the SWOT-PEST model was scored and compared with the model previously used. The score after use was above 4.3 points, and the score before use was below 4 points. Therefore, the research methods in this paper were valuable for research into sports tourism services.

**Keywords:** sports service; SWOT-PEST model; sustainable environment; sustainability concept



**Citation:** Zhao, Y.; Mei, X.; Guo, J. Influence of Sustainable Environment Based on a SWOT-PEST Model on Sports Tourism Service Integration Development. *Sustainability* **2023**, *15*, 1632. <https://doi.org/10.3390/su15021632>

Academic Editors: Chia-Huei Wu and Yu-Hsi Yuan

Received: 9 December 2022

Revised: 7 January 2023

Accepted: 9 January 2023

Published: 13 January 2023



**Copyright:** © 2023 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

## 1. Introduction

Sports tourism refers to social and cultural environment activities with both sports and tourism attributes for the purpose of physical exercise or participating in sports-related activities in the tourism link [1,2]. As an emerging industry chain with rapid development in the tourism industry, sports tourism has been highly valued and loved by everyone. Nowadays, the standard of living is slowly rising and people have more energy to follow a higher quality of life. Physical and mental health, game entertainment and leisure have become the prerequisites of daily life. In view of this, it is an important work to meet the diverse sports requirements of the people and improve people's healthy living standards. As a medium of physical and mental health and leisure life, sports tourism has many advantages [3]. However, at this stage, the sports tourism industry is in its early stage of growth and there are a series of challenges. Therefore, taking the sports tourism service project in A as an example, this article applies a SWOT-PEST method to analyze the advantages, disadvantages and some development opportunities of sports tourism service in the development process. The reason for the research is that the establishment of a sports tourism service system not only contributes to the promotion of the sports tourism industry, but also gives, improves and satisfies the increasing needs of the general public for leisure and fitness.

Along with the rising standard of living and spiritual pursuit of many people in material civilisation, people's concept of sports, fitness and recreation is still being further enhanced. Sports activities and leisure tourism have become a new and indispensable part of daily life. The leisure and sports tourism services are flourishing and have provided a positive impetus to enhance the economic development and stable development of Area A. It is beneficial for tourists to experience the happiness of outdoor sports, which promotes the public's health and completes the national fitness campaign.

## 2. Literature Review

The demand for sports tourism is becoming stronger and stronger. How to improve the service level of sports tourism's scenic spots to attract more tourists is the focus of many scholars' research, and the research literature is substantial. Markus Zarko noted that sports and entertainment tourism referred to the form of tourism in which tourists actively participated in various sports activities during the holiday. It could be said that the main motivation of such a holiday was participation in sports. He used regression analysis to assess the impact of sports and entertainment activities on tourists' intention to revisit, and found that the quality of sports and entertainment services affected tourists' satisfaction [4]. Cordina Renzo investigated consumer participation in the sports tourism service industry by exploring the game day experience of passive sports tourists. He stressed the importance of showing real and sincere experience through the interaction between tourists and local fans. The research results showed that the interaction between tourists and local fans could create a more unforgettable and enjoyable travel experience [5]. Shi Xiaofeng applied the literature method and logical analysis to study the value and current status of rural sports tourism. He proposed ways to facilitate the growth of rural sports tourism and the value of developing rural sports tourism as an important guide to urban-rural integration, upgrading of rural industrial structures, transfer of surplus labour, sustainable development of rural sports culture and the construction of health in China [6]. Cho Heetae assessed the cross-cultural extension of the Nostalgia Scale for Sport Tourism (NSST), which was initially developed and tested against the background of American football tourists. He found that sports nostalgia had a significant impact on the willingness to revisit at both the individual and group levels. NSST was applicable to understanding sports tourists' nostalgia under different sports and cultural backgrounds [7]. Research scholars have done a lot of research on sports tourism, but they rarely consider the SWOT-PEST model based research on them. Therefore, it is valuable to use a SWOT-PEST model in this paper.

The SWOT-PEST model is one of the most popular research methods in various fields, and it has also been well used in sports tourism research. Many experts and scholars have made a series of research results. Mascarenhas Margarida aimed to study the environmental sustainability of the sports tourism market. Through the survey of sports practitioners on the environment of sports tourism, his study provided practical significance for sports tourism managers. For example, sports tourism departments needed to work together to develop environmental strategies and initiatives, and customize sports services according to the professional knowledge of sports practitioners in the natural field [8]. Tuan Vuong Khanh adopted a qualitative method to study the environmental, social, economic and other factors affecting the sustainable development of tourism in the new era. As a result, policy makers, leaders of culture, sports and tourism departments were encouraged to use the study to plan and implement policies, develop tourism and meet the needs of tourists [9]. Sanaie Mohammad investigated the current situation of sports tourism from the perspective of experts based on SWOT technology. He used the SWOT model to analyze strengths, weaknesses, opportunities, threats and evaluation factors to determine the corresponding strategies in sports tourism and ultimately provide several strategies for tourism development [10]. Yap Ghialy identified tourism as one of the primary strategies for economic diversification towards the goal of sustainable tourism, aiming to establish a diverse tourism product ranging from cultural, urban and nature tourism to education. He used secondary data, questionnaires and a SWOT analysis to identify the advantages and disadvantages of competing destinations in order to help make better investments in tourism, focusing on the development of the highest quality health tourism products [11].

Before, sports tourism only focused on the research of customer experience and satisfaction, and the industry focused on the specific advantages of the value of sports tourism in various regions. Getting tourists' satisfaction can help to improve the service of sports tourism in this region. There is also the use of sustainable development to study how to better develop sports tourism and the environmental, social, economic and other

influencing factors of sustainable development of tourism in the new era. It is found that the concept of sustainable development is beneficial to the development of sports tourism.

### 3. Sports Tourism Service Methodology

#### 3.1. Sports Tourism

Sports tourism is different in both a broad and narrow sense. Sports tourism is generally based on sports and supported by the environment. The sports service commodities launched are designed to meet the needs of everyone to pursue stimulation, cultivate sentiment and break through, so that participants can meet the needs of fitness activities in tourism [12,13]. To put it simply, it can be summarized in one sentence. Sports tourism is a complex social development activity consisting specifically of playing, sightseeing, and participating in various sports activities. Sports tourism can be called the sports cultural communication activities in which tourism participants participate in in order to achieve multiple purposes in the process of playing activities [14]. Sports tourism has a special tourism method. The participation of sports tourism is different from that of general tourism activities in nature. It has a certain uniqueness and professional ability. It must be combined with the participation and institutions of sports activities in the tourism process. Sports tourism is the product of the integration and development of sports industry and tourism industry, as shown in Figure 1.

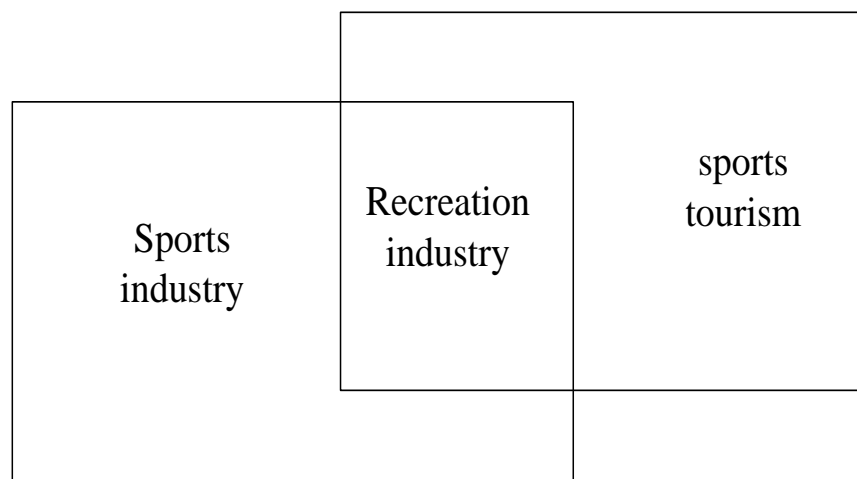


Figure 1. Sports tourism relationship diagram.

The resources related to sports tourism are the preconditions for the production of sports tourism activities, and are the influence of environment and civilized society on holiday tourism participants, which leads to a social behavior of tourists to participate in activities [15]. The development of sport and tourism together can create certain social, cultural, artistic, economic and environmental benefits. Sports tourism resources include many aspects. Moreover, with the rapid development of society as a whole and science and technology, the connotation and extension of sports tourism resources are constantly innovative. The types and total number of sports tourism resources are becoming increasingly diverse. The types of sports tourism resources are shown in Figure 2.

#### 3.2. Theoretical Construction of Sports Tourism Service System

Detailed standards have been set for tourism transportation, tourism safety, tourism commodities, information management, maintenance of resources and natural environment, which are conducive to promoting the service quality of various tourist attractions. The establishment of sports tourism service systems should aim at providing professional sports tourism services for sports tourists. In addition, other goals should be taken into account. The establishment and optimization of sports vacation tourism service system can solve the service requirements that accompany rapidly growing sports tourism [16].

From the component elements of the service system, it mainly includes a series of services related to individual behavior in the process of tourists' sports tourism. According to the characteristics of action requirements of sports tourism activities, it can be divided into four aspects. It can be seen from Figure 3 for details.

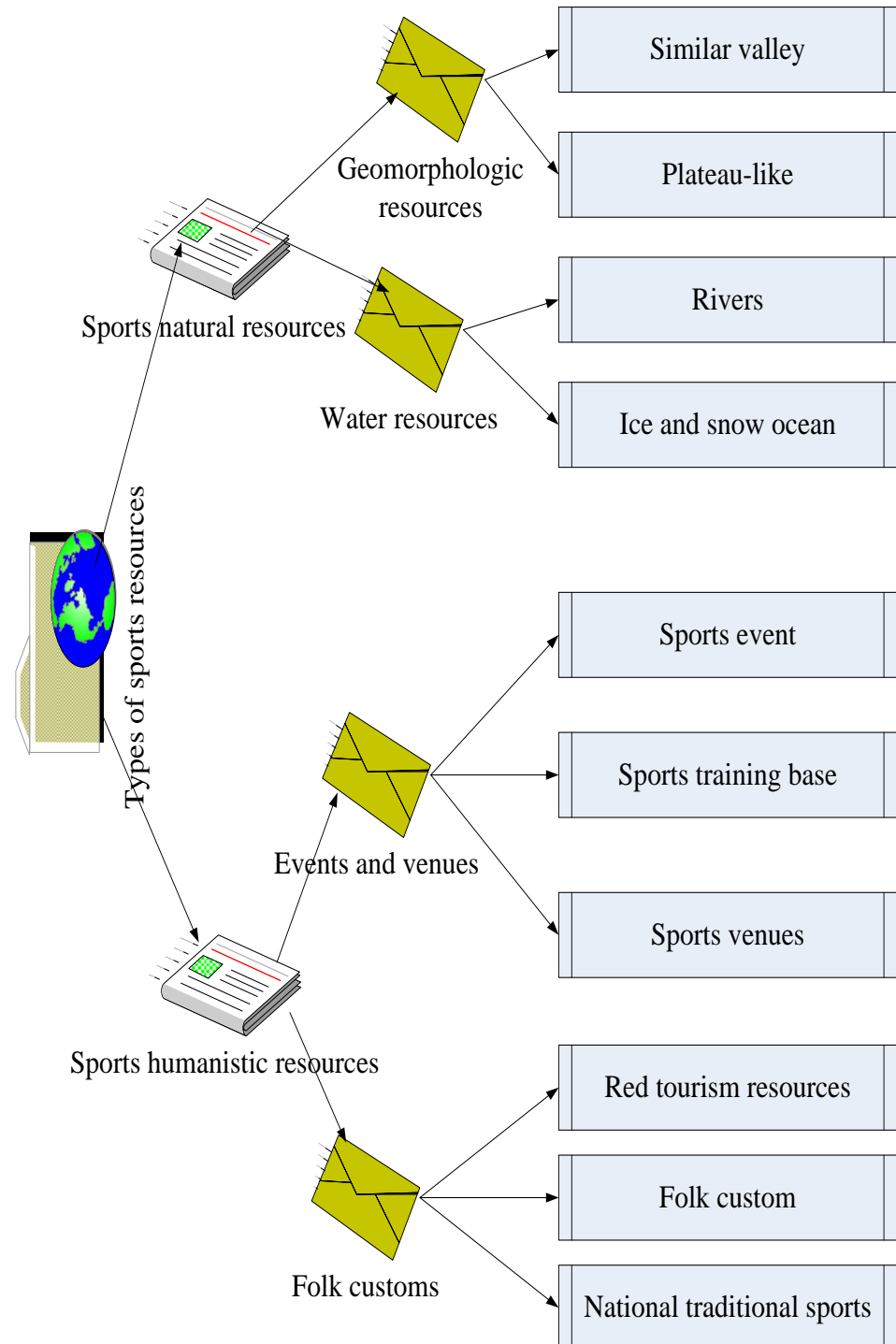


Figure 2. Classification of sports tourism resources.

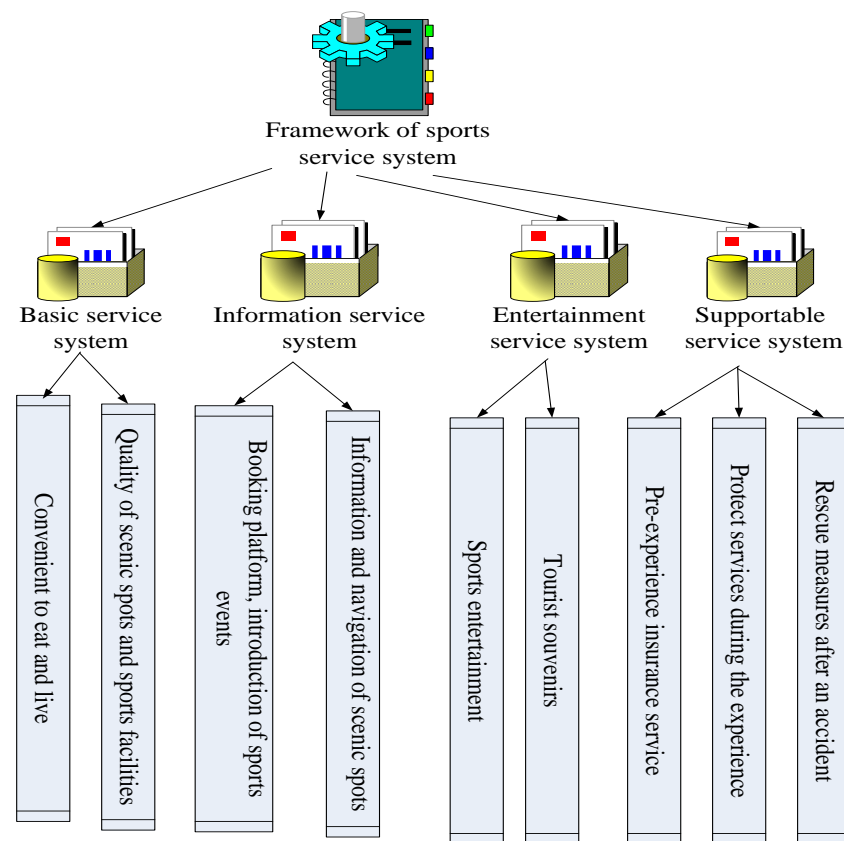


Figure 3. Framework of sports tourism service system.

### 3.3. SWOT-PEST Analysis Method

SWOT (Strengths Weaknesses Opportunities Threats) is an analysis method of enterprise competition, which generally takes full account of internal structural conditions and external environmental factors [17]. According to the current situation, the relevant advantages, disadvantages, opportunities and threats are listed and analyzed to build the SWOT coordinate. The results and methods obtained generally contain certain decision-making characteristics, and have obvious and specialized characteristics. At the same time, limited by environmental hazards, there are also time limitations such as ignoring social development, which easily leads to a lack of in-depth problem analysis [18]. PEST (Macro Environmental Analysis Model) analysis is a more specific environmental analysis method. During analysis, many materials should be collected and mastered in a timely manner. In view of the background of the research problem, the actual situation of the research subject is explored from the four environmental elements, so as to master the environmental analysis on the overall progress, and comment on the impact of relevant elements on the target strategy.

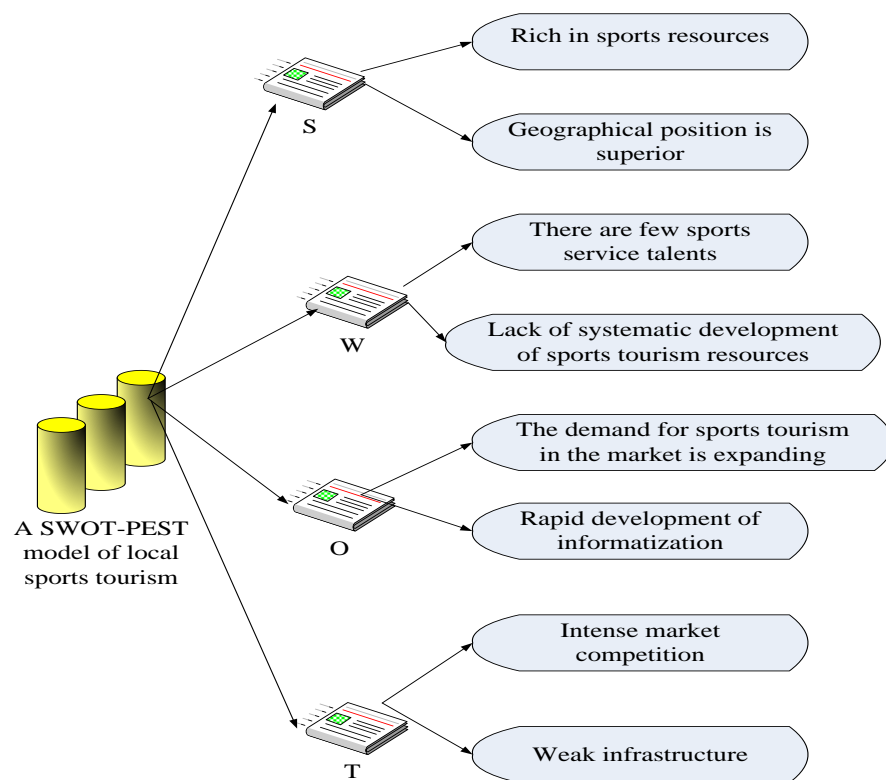
The SWOT-integrated PEST analysis method started in western countries and was initially applied to strategic management, at system and other levels. In recent years, the theoretical basic research has gradually deepened, and some scholars have begun to apply this analysis method to other levels [19]. In view of this, this paper attempts to apply this analysis method to sports tourism services and to carry out scientific research. PEST is put into the SWOT analysis method, which can systematically pair the relatively dispersed and individual factors for comprehensive analysis. Relevant factors are clearly defined and accurately positioned, which is convenient to intuitively display the good and bad situation of the target, so as to seize the opportunity, develop strengths and avoid weaknesses. According to the SWOT-PEST matrix analysis entity model, the behavioral strategic policy is formulated, making the strategic plan more scientific and comprehensive [20]. The content of the SWOT-PEST entity model is shown in Table 1.

**Table 1.** SWOT-PEST model matrix.

SWOT-PEST	Politics (P)	Society (S)	Economy (E)	Technology (T)
Strengths (s)	SP	SS	SE	ST
Threats (t)	TP	TS	TE	TT
Opportunities (o)	OP	OS	OE	OT
Weaknesses (w)	WP	WS	WE	WT

**3.4. SWOT-PEST Analysis Method and Sports Tourism Service**

The SWOT-PEST model of sports tourism in Area A is established. The internal structure, good or bad situation and external opportunities faced by the development of sports tourism in A are closely combined with other development factors to build the combinations for the diversion matrix. Important factors are extracted from this to formulate clear scientific and reasonable development strategies. Then, the internal and external factors are identified in Area A, which is beneficial to explore the existing problems in the development of sports tourism in tourist attractions, and to provide a clear framework for the selection of strategies for the development of sports tourism in Area A. The specific process is shown in Figure 4.



**Figure 4.** SWOT-PEST model of sports tourism in Area A.

At the economic level, with the advent of China’s tourism era, it is necessary to improve the infrastructure of sports tourism and make adequate preparations for the arrival of the holiday tourism era. At the same time, government departments should introduce preferential policies for project investment to attract companies from all over the world to invest in tourism projects. The investment of foreign companies has been increased, and the problem of excessive dependence on public infrastructure can be solved. At the social level, the local government issues relevant environmental protection policies and takes the initiative to repair the damaged natural ecological environment of local tourist attractions. In terms of innovation, various technologies have been used to

establish and improve the tourism digital platform. According to tourism information and cloud technology, there are many advantages for tourists to be provided with more complete tourism information. In terms of talents, sports tourism technical talents are actively cultivated and introduced, so as to improve the salary and introduce high-end technical talents.

The product square root method is used to calculate the geometric mean value  $\overline{M}_i$  of each matrix. Each geometric mean value is normalized to an eigenvector.

$$\overline{M}_i = \left( \prod_{j=1}^n x_{ij} \right)^{\frac{1}{n}} \quad i, j = 1, 2, \dots, n \quad (1)$$

$$M_i = \frac{\overline{M}_i}{\sum_{j=1}^n \overline{M}_j} \quad i, j = 1, 2, \dots, n \quad (2)$$

The maximum eigenvalue  $M_{max}$  of the judgment matrix is calculated.

$$M_{max} = \frac{1}{n} \sum_{i=1}^n \frac{\sum_{j=1}^n a_{ij} w_j}{x_i} \quad i, j = 1, 2, \dots, n \quad (3)$$

The resource upload rate is set to  $x_{ij}$ . The formula for its calculation is:

$$x_{ij} = \sum_{i,j=1}^m a_i b_j \quad (4)$$

Among them,  $a_i$  represents the resource upload rate of the edge gateway layer.  $b_j$  indicates the resource upload rate of the edge service layer. It is assumed that the overall task of the integration of sports and tourism resources is  $W_i$ , which is expressed in the form of a matrix:

$$W_i = \begin{bmatrix} w_{11} & w_{12} & \cdots & w_{1i} \\ w_{21} & w_{22} & \cdots & w_{2i} \\ \vdots & \vdots & \vdots & \vdots \\ w_{21} & w_{22} & \cdots & w_{2i} \end{bmatrix} \quad (5)$$

The channel allocation ratio for all requested assignments is:

$$W_v = \sum_{i,j=1}^n \exp\left(\frac{v_{ij} * \theta H}{l^2}\right) \quad (6)$$

Among them:  $\theta$  denotes the sending rate of mission requests, and  $H$  denotes the channel bandwidth.

### 3.5. Sustainable Development of Sports Tourism

To realize the sustainable development of sports tourism, the sustainable development plan of sports tourism must first be formulated. Secondly, the sustainable appearance design of sports tourism products is required. It is also necessary to carry out cultural education for sustainable development to enhance the awareness of all sectors of society on the sustainable development of sports tourism. Tourism agencies are encouraged to disseminate sustainable information to the public, so that the sustainable development of sports tourism becomes the initiative of people from all walks of life. Finally, the consistent sustainable development of sports tourism and cities has been completed. The decision-making of sports tourism development and urban infrastructure management must focus on creating the driving force for sustainable tourism development and the environment for sports tourism development. Therefore, it is necessary to achieve the consistent sustainable development of sports tourism and cities from the background of urban sustainable development.

By integrating the concept of sustainability into sports tourism service, it can be found that seven sports tourism in A region have brought great changes, helped build an envi-



ronmental management system in A region, and reduced the impact on the environment during the development of sports tourism without sacrificing the environment. Secondly, the sustainable development in the environmental protection of sports tourism in Area A is mainly reflected in the use of clean energy, the treatment of waste gas and wastewater, and the green sustainable development. At the same time, it also improves the tourist experience of tourists, and makes the sports scenic spots in Area A sanitary and clean in catering services, and has certain characteristics; accommodation is also hygienic and safe, paying attention to the protection of members' privacy, and providing meticulous and thoughtful service, which makes sports tourists feel physically and mentally happy and conveys the uniqueness of combining sports with tourism.

### 3.6. Methodology

#### 1. Expert interview method

The outline of expert interview was drawn up, and 20 experts were randomly selected. They were scholars of sports tourism service research, some operators of sports tourism, and builders of sports tourism service. Through interviews with them, we found out what they thought about the integration and development of sports tourism service in the sustainable environment based on the SWOT-PEST model, and what was the difference between them and the sports tourism service without the SWOT-PEST model before. There was an analysis of influencing factors and feasibility of implementing sharing strategy, drawing on new ideas and viewpoints, laying a good foundation for the design of thesis questionnaire, and sorting out and summarizing the collected data.

#### 2. Questionnaire survey.

By referring to relevant books and literature, consulting the relevant appendix questionnaires of sports tourism services at home and abroad, and combining the opinions of tutors and relevant experts, the questionnaire was compiled for the research content. This paper mainly selects 208 tourists, who come to A for sports tourism many times. By investigating them, it studies what changes have taken place in the service of scenic spots after the integration of sports tourism services by the SWOT-PEST model. The 208 tourists selected here have different educational backgrounds, ages, genders and income, which indicate that the data sample is representative. First, in the form of issuing questionnaire and recycling, the basic situation of sports tourism service is analyzed and summarized. The questionnaire recovery rate and effective rate are shown in Table 2, all of which meet the requirements and are true and reliable. Finally, the reliability and validity of the questionnaire are tested by experts.

**Table 2.** Statistical table of distribution and recovery of questionnaires.

Quantity Issued (copies)	Quantity Recovered (Copies)	Recovery Rate%	Effective Questionnaire (Copies)	Effective Rate%
208	203	97.6	200	96.15

### 4. Sports Tourism Service Results

Based on a multi-faceted systematic software analysis, the strength, weakness, opportunity and threat factors of the integrated development of sports tourism services are summarized and analyzed in four aspects: political, economic development, social development and technical, as illustrated in Table 3.



**Table 3.** SWOT-PEST analysis matrix of sports tourism service integration.

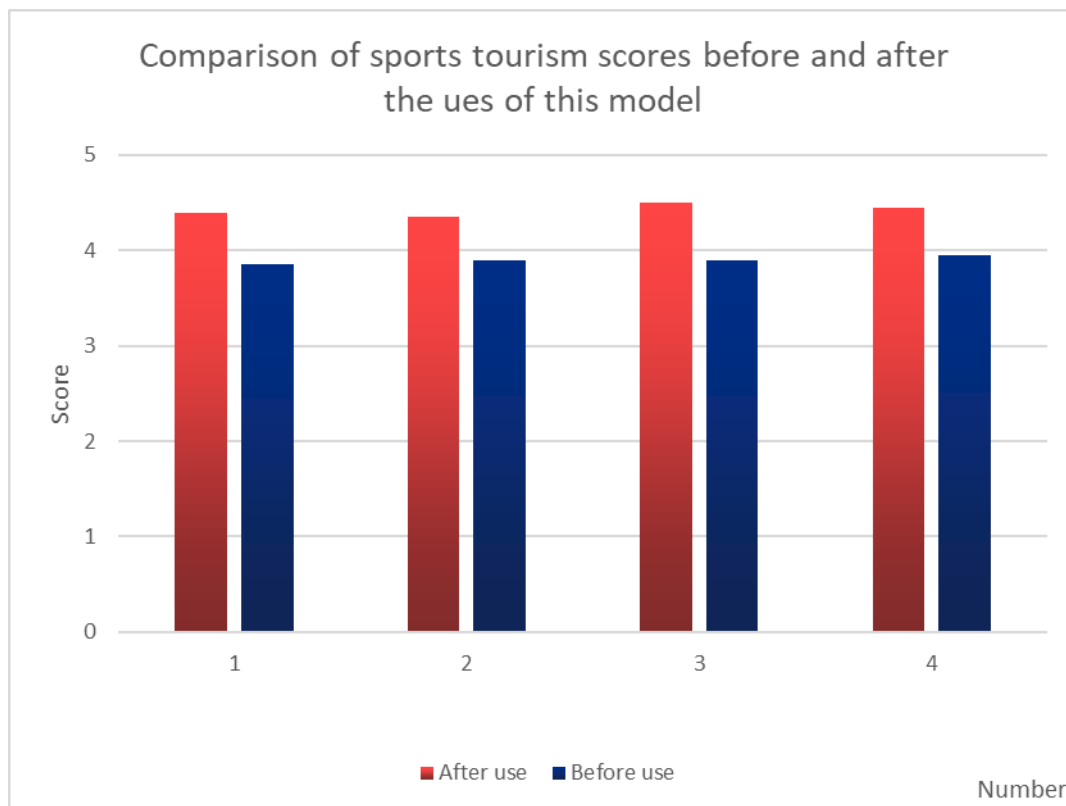
	<b>Politics (P)</b>	<b>Economy (E)</b>	<b>Society (S)</b>	<b>Technology (T)</b>
<b>Advantage (s)</b>	<ol style="list-style-type: none"> <li>1. Government departments attach great importance to sports tourism services.</li> <li>2. The introduction of relevant policies and financial subsidies for the sustainable development of sports services</li> </ol>	<ol style="list-style-type: none"> <li>1. The economy is growing rapidly, and the development trend of sports tourism is rising steadily.</li> <li>2. The average income of residents is rising.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rich sports tourism resources</li> <li>2. Social organizations attach great importance to sports tourism.</li> </ol>	<ol style="list-style-type: none"> <li>1. Then, modern scientific and technological means are used to build sports tourism services.</li> <li>2. The construction of smart tourism facilities is developing rapidly.</li> </ol>
<b>Disadvantages (w)</b>	<ol style="list-style-type: none"> <li>1. Detailed policies such as sports tourism laws and regulations are imperfect.</li> <li>2. The local government lacks detailed regulatory documents for the development of sports tourism services.</li> </ol>	<ol style="list-style-type: none"> <li>1. Many places have weak economic foundations.</li> <li>2. The national financial investment is limited, which needs the support of the central authorities and the government every year.</li> </ol>	<ol style="list-style-type: none"> <li>1. Single sports tourism service</li> <li>2. The level of service personnel is not high</li> </ol>	<ol style="list-style-type: none"> <li>1. Lack of high-end service talents in sports tourism</li> </ol>
<b>Opportunity (o)</b>	<ol style="list-style-type: none"> <li>1. State support for sports tourism</li> </ol>	<ol style="list-style-type: none"> <li>1. The government strongly supports the training of sports tourism service talents.</li> </ol>	<ol style="list-style-type: none"> <li>1. Demand for sports tourism has increased. There is a need to improve the quality of sports service personnel.</li> </ol>	<ol style="list-style-type: none"> <li>1. Development of various cloud computing and big data technologies</li> </ol>
<b>Threats (t)</b>	<ol style="list-style-type: none"> <li>1. The marketing operation of sports tourism is not scientific enough</li> </ol>	<ol style="list-style-type: none"> <li>1. Service management and information publicity are not strong.</li> </ol>	<ol style="list-style-type: none"> <li>1. The quality of sports service is not high and the organizational form is single.</li> <li>2. Local people's awareness of sports tourism consumption and concept of sports consumption are not strong.</li> </ol>	<ol style="list-style-type: none"> <li>1. The construction of smart tourism facilities is imperfect.</li> </ol>

As shown in Table 3, these are the strengths, weaknesses, opportunities, and threats of the four aspects of the development of sports tourism in Area A: political, economic development, social development, and technology. By studying these aspects, we can better understand the specific situation of tourism development in Area A, which has laid the foundation for the next research on its sports tourism services.

Sports tourism service projects have urgent key and major constraints to be prioritized. The SWOT-PEST analysis method was applied to carry out comprehensive differential analysis. Relevant factors restricting the development of sports tourism services were comprehensively and thoroughly refined to clarify the correlation of various factors and analyze the problem points, which can maximize the use of internal structural advantages and flexible use of external opportunities to avoid external threats.

In order to study the impact of the sustainable environment based on the SWOT-PEST model on the integrated development of sports tourism services, this study model was used to study the integration of sports tourism services in Area A. Twenty experts and scholars were selected to rate the effect of sports tourism integration in Area A using the research model in this paper, mainly from the four aspects of sports tourism service quality, sports tourism service personnel quality, financial support for sports tourism and intelligent services. The four aspects were numbered according to 1–4. The score range was 1–5 points compared with that of sustainable environment without the SWOT-PEST model.

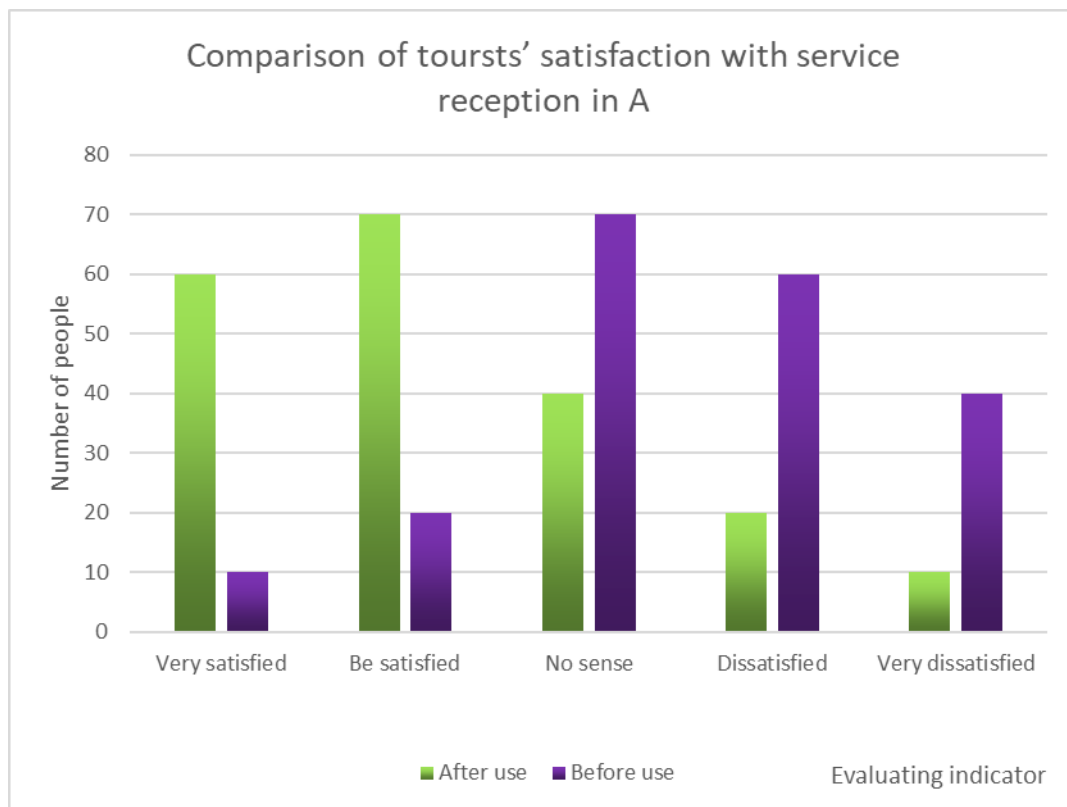
The higher the score, the better the effect. The final result was the average of experts' scores, and the specific scoring comparison results are shown in Figure 5.



**Figure 5.** Comparison of sports tourism service scores before and after the use of this model.

As shown in Figure 5, after using the SWOT-PEST model for sustainable environment, experts' scores on all aspects of sports tourism services were much higher than before. After use, the score was above 4.3 points, and before use, the score was below 4 points. Among them, the highest score after use was 4.5 points in terms of financial support for No. 3 sports tourism, 0.6 points higher than before. However, the lowest score after use was the quality of No. 2 sports tourism service personnel, only 4.35 points. However, it was 0.45 points higher than before. The highest score before use was for No. 4 intelligent service, 3.95 points, 0.5 points lower than after use. However, the lowest score before use was for the service quality of No. 1 sports tourism, which was only 3.85 points, 0.55 points lower than after use. The above data showed that the sustainable environment of the SWOT-PEST model was used to study sports tourism integration, which was conducive to upgrading the services of sports tourism destinations. The Internet and finance were used to provide digital services for sports tourists, which could meet the special needs of different sports tourists. It was also conducive to strengthening financial support for sports tourism and improving the establishment of basic public facilities.

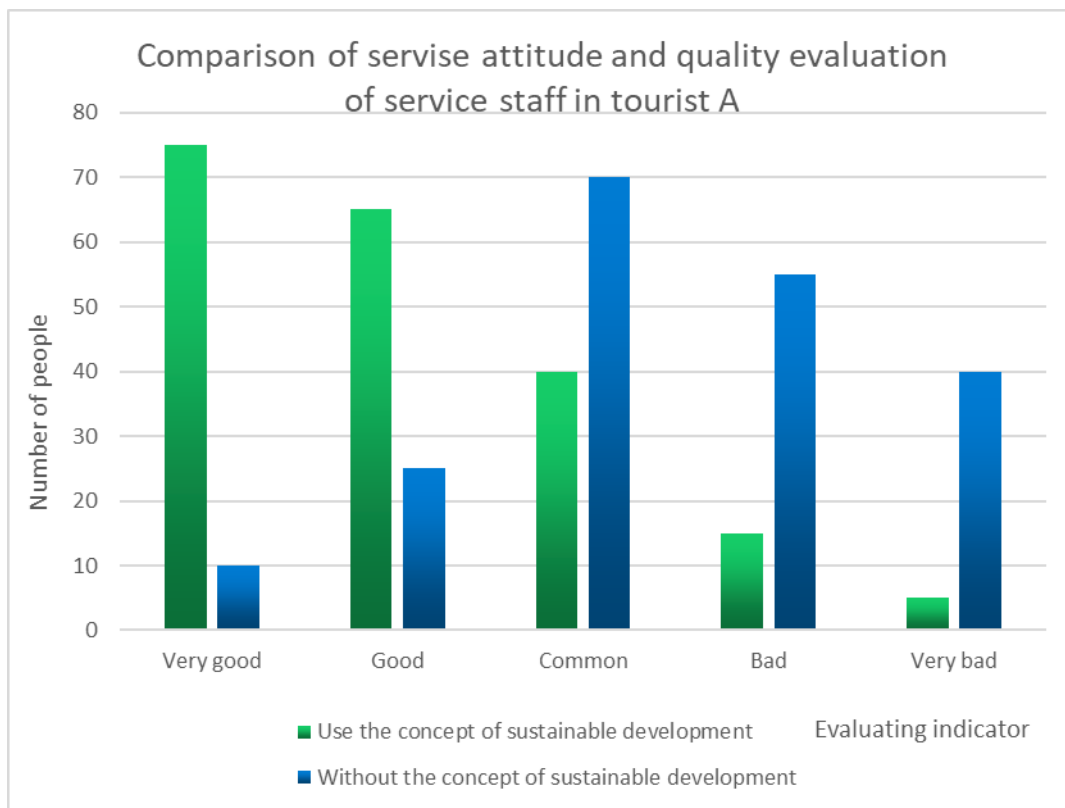
The impact of this research model on sports tourism services was further investigated. 200 tourists were selected to investigate the reception level of sports tourism services in Area A, mainly from the aspects of very satisfied, satisfied, not satisfied, dissatisfied, and very dissatisfied with the reception level of sports tourism services. The survey results were compared with those before using the model. The comparison results are shown in Figure 6.



**Figure 6.** Comparison of tourists' satisfaction with the service and reception level of Area A.

Through the observation of Figure 6, it can be found that after the sustainable environment using the SWOT-PEST model, the satisfaction of tourists with A sports tourism service reception level rose linearly. Among them, 130 tourists were satisfied and very satisfied with their choices after use, accounting for 65% of the total number of visitors. There were only 30 satisfied and very satisfied tourists before use, accounting for only 15% of the number of people selected, and 100 fewer than after use. After use, there were 30 tourists who were dissatisfied or very dissatisfied with their choices, accounting for only 15% of the number of people selected, a very small proportion. Before use, there were 100 tourists who were dissatisfied or very dissatisfied, accounting for 50% of the number of visitors, 70 more than after use. This impact was mainly due to the application of the SWOT-PEST model to the sustainable environment. On the premise of improving the development of sports tourism, the service level and quality were valued, which also helped to improve the service professional skill level of service personnel. By organizing sports tourism service personnel to conduct industry training and evaluation on time, the sports tourism service personnel becomes more standardized.

The concept of sustainable development is also very helpful to the development of sports tourism services. In order to study its impact on sports tourism services, the 200 tourists selected above were still investigated. The service attitude and quality of sports tourism service personnel in Area A were investigated, mainly from the aspects of very good, good, average, bad and very bad. The survey results are compared with those without the concept of sustainable development. The comparison results are shown in Figure 7.



**Figure 7.** Comparison of tourists' service attitude and quality evaluation of service personnel in Area A.

As shown in Figure 7, after applying the concept of sustainable development to the sports tourism service at the bottom of Area A, compared with the time when it was not used, the evaluation attitude of tourists towards the service attitude and quality of sports tourism service personnel at Area A has risen linearly. Among them, after using the concept of sustainable development, 140 tourists chose good and very good, accounting for 70% of the total number. Only 20 tourists chose poor or very bad after use, accounting for only 10% of the number of people selected. However, there were only 35 tourists who chose good and very good before the use, accounting for only 17.5% of the number of visitors, 105 fewer than those who used the concept of sustainable development. However, 95 tourists chose bad and very bad before use, accounting for 47.5% of the total number of visitors, 75 more than those after using the concept of sustainable development.

## 5. Discussion

The influence of sustainable environment on the integration and development of sports tourism services involves many factors. This paper studies this influence based on the SWOT-PEST model. Compared with previous research on sports tourism service integration based on the SWOT-PEST model, there are some similarities, which can help to improve tourists' satisfaction with sports tourism services and services, and is conducive to the development of regional sports tourism. However, compared with others, the advantages in these aspects are more obvious, which can better analyze the strengths, weaknesses, opportunities and threats of sports tourism services in a region, as well as the problems in economy, politics and environment, and help to integrate sports tourism services in all aspects. Research on the integration of sports tourism services based on the SWOT-PEST model can help to develop sports tourism better, and also provide some reference values for future research on sports tourism services, and promote the sustainable and healthy development of sports tourism industry.

## 6. Conclusions

Sports tourism has shown a vigorous development trend in recent years. It has developed rapidly due to its unique style, and has gradually formed a key development project with rich sports resources. However, with the surge of sports tourism tourists, the shortcomings of sports tourism services have become increasingly prominent. It is increasingly imperative to build a well functioning and sustainable sports tourism service management system. It will be an innovative movement with the unique characteristics of the times, and has many advantages. Through the construction of the SWOT-PEST matrix model of sustainable environment, the problems existing in the development of sports tourism services were pointed out, which provided solutions to increase the quality of sports tourism services. High-quality service talents were trained to strengthen the establishment of sports tourism related infrastructure in Area A. High-end sports tourism technical talents were introduced to provide personalized services for tourists, thus promoting the sustainable development of sports tourism services of Area A. At the same time, the concept of sustainability has been applied to the sports tourism services in Area A to improve the tourists' evaluation of the quality and efficiency of sports tourism services in this area. Based on the SWOT-PEST analysis model for the integration of sports tourism services, we should pay attention to the construction of finance and perfect laws, strengthen policy enforcement, strive to break down the power and responsibility barriers of local government departments, and increase financial input so that other parties can have more funds for sports tourism construction, so as to improve the quality of sports tourism services. In practice, the research of it can help to improve service quality, make tourists get better service, improve the tourist experience, and also increase the income of scenic spots, and have more funds to build services, so as to achieve a good cycle.

**Author Contributions:** Methodology, J.G.; Data curation, X.M.; Writing—review & editing, Y.Z. All authors have read and agreed to the published version of the manuscript.

**Funding:** The author would like to thank the National Social Science Foundation for the support of the Integrated Development of Culture, Sports, Health and Tourism in the Yangtze River Delta Region and its radiation Driving Effect. Project number: 20BTY049.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Data sharing is not applicable to this article as no new data were created or analyzed in this study.

**Conflicts of Interest:** The authors declare no conflict of interest.

## References

- Cooper, J.A.; Alderman, D.H. Cancelling March Madness exposes opportunities for a more sustainable sports tourism economy. *Tour. Geogr.* **2020**, *22*, 525–535. [[CrossRef](#)]
- Chang, M.-X.; Choong, Y.-O.; Ng, L.-P. Local residents' support for sport tourism development: The moderating effect of tourism dependency. *J. Sport Tour.* **2020**, *24*, 215–234. [[CrossRef](#)]
- Hemmonsby, J.; Tichaawa, T.M.; Knott, B. Strategic conceptualisation of the South African sport tourism sector's response to the Covid-19 pandemic. *Afr. J. Hosp. Tour. Leis.* **2021**, *10*, 54–68. [[CrossRef](#)]
- Zarko, M. Assessing tourist revisit intention through the sports and recreational services offered. *Bus. Syst. Res. Int. J. Soc. Adv. Innov. Res. Econ.* **2019**, *10*, 141–150.
- Cordina, R.; Gannon, M.J.; Croall, R. Over and over: Local fans and spectator sport tourist engagement. *Serv. Ind. J.* **2019**, *39*, 590–608. [[CrossRef](#)]
- Shi, X. Value Expression and Development Path of Sports Tourism under the Strategy of Rural Revitalization. *J. Hum. Mov. Sci.* **2021**, *2*, 37–43.
- Cho, H.; Joo, D.; Woosnam, K.M. Cross-cultural validation of the Nostalgia Scale for Sport Tourism (NSST): A multilevel approach. *J. Hosp. Tour. Res.* **2020**, *44*, 624–643. [[CrossRef](#)]
- Margarida, M. How has science highlighted sports tourism in recent investigation on sports' environmental sustainability? A systematic review. *J. Sport Tour.* **2021**, *25*, 42–65.

9. Tuan, V.K.; Rajagopal, P. Analyzing factors affecting tourism sustainable development towards vietnam in the new era. *Eur. J. Bus. Innov. Res.* **2019**, *7*, 30–42.
10. Sanaie, M.; Sheikvand, S. A Study on Sport Tourism Situation in North of Tehran Based on SWOT Technique from the Experts' Point of View. *Strateg. Stud. Youth Ans Sport* **2018**, *16*, 101–112.
11. Yap, G.; Saha, S.; Alsowaidi, S.S. The Competitiveness of Qatari Tourism: A Comparative and SWOT Analysis. *Adv. Soc. Sci. Res. J.* **2022**, *9*, 187–210. [[CrossRef](#)]
12. Gibson, H.J.; Lamont, M.; Kennelly, M.; Buning, R. Introduction to the special issue active sport tourism. *J. Sport Tour.* **2018**, *22*, 83–91. [[CrossRef](#)]
13. Hinch, T.; Ito, E. Sustainable sport tourism in Japan. *Tour. Plan. Dev.* **2018**, *15*, 96–101. [[CrossRef](#)]
14. Hassan, B.N.; Hilaly, H.; Khalf, A.A.R. Assessing Investment in Sport Facilities in Egypt and its Impact on Sports Tourism: Obstacles and Requirements. *Minia J. Tour. Hosp. Res. MJTHR* **2022**, *14*, 54–72. [[CrossRef](#)]
15. Mollah, R.A.; Cuskelly, G.; Hill, B. Sport tourism collaboration: A systematic quantitative literature review. *J. Sport Tour.* **2021**, *25*, 3–25. [[CrossRef](#)]
16. Chi, O.H.; Gursoy, D.; Chi, C.G. Tourists' attitudes toward the use of artificially intelligent (AI) devices in tourism service delivery: Moderating role of service value seeking. *J. Travel Res.* **2022**, *61*, 170–185. [[CrossRef](#)]
17. Benzaghata, M.A.; Elwalda, A.; Mousa, M.; Erkan, I.; Rahman, M. SWOT analysis applications: An integrative literature review. *J. Glob. Bus. Insights* **2021**, *6*, 55–73. [[CrossRef](#)]
18. Gepner, P. Analysis of business strategy of leading Vietnamese real estate developers using SWOT matrix. *Int. J. Multidiscip. Res. Growth Eval.* **2022**, *3*, 181–187.
19. Gao, J.; Cai, Z. Comparison and prospect of Chinese and Western accounting standards based on SWOT-PEST model. *Adv. Econ. Manag. Res.* **2022**, *1*, 24. [[CrossRef](#)]
20. Guo, Q.; He, Z. Building a Dual Circulation Development Pattern in Guangdong-Hong Kong-Macao Greater Bay Area Based on SWOT-PEST Analysis. *Open J. Bus. Manag.* **2022**, *10*, 3067–3088. [[CrossRef](#)]

**Disclaimer/Publisher's Note:** The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.