

Impact of environment, culture, and sports tourism on the economy: a mediation-moderation model

Sonia Lohana, Muhammad Imran, Ahmed Harouache, Aysha Sadia & Zahoor Ur Rehman

To cite this article: Sonia Lohana, Muhammad Imran, Ahmed Harouache, Aysha Sadia & Zahoor Ur Rehman (2023) Impact of environment, culture, and sports tourism on the economy: a mediation-moderation model, Economic Research-Ekonomiska Istraživanja, 36:3, 2222306, DOI: [10.1080/1331677X.2023.2222306](https://doi.org/10.1080/1331677X.2023.2222306)

To link to this article: <https://doi.org/10.1080/1331677X.2023.2222306>



© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 19 Jun 2023.



Submit your article to this journal [↗](#)



Article views: 312



View related articles [↗](#)



View Crossmark data [↗](#)

Impact of environment, culture, and sports tourism on the economy: a mediation-moderation model

Sonia Lohana^a, Muhammad Imran^a, Ahmed Harouache^a, Aysha Sadia^b and Zahoor Ur Rehman^a

^aFaculty of Technology Management & Business, Universiti Tun Hussein Onn Malaysia, Batu Pahat, Johor, Malaysia; ^bAccenture Information Technology Services and Consulting, Brisbane, Queensland, Australia

ABSTRACT

The aim of this study is to investigate the direct relationship between the environment, culture, sports tourism and economy. Additionally, in this study, we have used sports tourism as a mediating variable in the relationship between environment, culture, and economy. Moreover, the moderating role of the destination image in the proposed relationships is examined. To validate the model, data obtained from 373 Malaysian Ministry of Tourism, Arts, and Culture employees is incorporated into structural equation modeling (SEM), PLS 4. According to the findings of this study, there is a positive and significant relationship between the environment, culture, sports tourism and the economy. Additionally, sports tourism mediates the relationship between the environment, culture, and a country's economy. Interestingly, the study also found that destination image does not moderate the relationship between sports tourism and the economy. Overall, these findings highlight the importance of a healthy and culturally rich environment and the potential benefits of sports tourism for the economy. The findings of this research have important implications for policymakers and can be helpfully used in the tourism industry. In practical implications, fostering a healthy environment, preserving cultural heritage, and promoting sports tourism and destination image can boost the country's economy.

ARTICLE HISTORY

Received 27 March 2023
Accepted 1 June 2023

KEYWORDS

Environment; culture; sports tourism; destination image; economy

JEL CODES

O13; M14; L83; Z32; F63

1. Introduction

As global economic growth continues declining, academic and industrial researchers increasingly focus on environmental and social issues. Although the environmental and social elements, such as culture, are still disputed, it is one of the basic principles of economic growth generally recognized by countries worldwide (Angus & Jhally, 2022; Xu & Hu, 2020). In the modern era, developing a country's economic growth is

CONTACT Muhammad Imran  imran29sims@gmail.com

© 2023 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

crucial for achieving the ultimate objective: the prosperity and development of individuals and new forms of innovation. Countries with robust economies have better public finances, which may improve social issues like culture and environmental concerns like increasing inequalities in prosperity and pollution by developing new infrastructure and reforms to existing institutions (Howarth & Kennedy, 2016; Pomeranz & Topik, 2014). Furthermore, the strengthening of cultural values and the quality of the environment can also create a stronger basis for the growth of the country's economy and additional opportunities for that development. Therefore, it is possible to say that a country's economic growth is the consequence of the interaction between the culture and environment of the country and that it is the effort to attain integrated and sustainable growth. The contribution of Malaysia's manufacturing industries to the country's overall growth cannot be overstated. It is essential to realize the relationship between culture, environment, and economy to confirm the economic and industrial development of the country (Imran & Jingzu, 2022).

Despite this, scholars have studied the environment and the culture associated with sports tourism. The impacts related to tourism have, in particular, been explored from economic and environmental points of view, as was performed in the research conducted by Canteiro et al. (2018). According to Mair and Smith (2022), these effects can be divided into economic, environmental, and social. Previous researchers conducted their studies on residents of India, China, and the USA, and they concluded that sports tourism could be modeled on an extensive criterion, for instance, social benefits, environmental advantages, and economic benefits (Hritz & Ross, 2010; Giampiccoli et al., 2015). Similarly, the cultural consequences of this behavior have also been the subject of extensive study (Timothy, 2014). Although several studies have investigated the effects associated with residents' views of tourism's impact on the community using multidimensional scales, much more research still needs to be conducted (Cheng et al., 2019). According to Perić (2018) findings, the cultural impact on sports tourism is connected to changes in a country's moral and social values and economy. In several situations, the effects of a country's culture and environment are related to a positive impact on the nation's services to its people, which in turn creates prospects for tourism in that country (Mamirkulova et al., 2020).

Malaysia continues to host many sporting events and spends millions looking for others. This has boosted the country's tourist industry, economic growth, and foreign exchange earnings (Watanabe et al., 2018; Detho et al., 2020). Evidently, the outcomes have been fairly unequal, and the costs may have overshadowed the advantages. Despite this predominantly external orientation, Malaysia hosts several successful sporting events where the local authority is maintained. Sports activities are expanding significantly around the globe, including in Malaysia, with increased quantity and diversity of competitions at all levels. Major sporting events are heavily marketed for their potential to support and enhance the nation's economic growth (Edwards, 2015).

Furthermore, despite the substantial evidence to the contrary, sports tourism is often promoted for the economic advantages it can give to a country (Roche et al., 2013). Before, during, and after the event, sports tourism is believed to strengthen the host country's economy as a destination for international tourists (Fourie & Santana-Gallego, 2011). Furthermore, sports tourism has long-term financial effects on host

country organizations that improve the country's economy. In recent years, Mapjabil et al. (2015) have suggested that sports tourism is a significant factor in the Malaysian economy and has previously received little attention.

Sports tourism plays an essential role in a destination's image and economy; moreover, a destination's image is increasingly considered important in growing a country's economy (Cheung et al., 2017). Many previous studies have assessed the effects of sports tourism and destination image, as well as the effects of destination image generated by sports tourism. Still, the relationship between these constructs in growing a country's economy is rare. However, destination image effects and economic benefits are inevitably intertwined (Arnegger & Herz, 2016); destination images clearly define tourists and are thus the secret to overall tourist spending and economic growth of any country. Destination image is important in Malaysia's tourism sector, increasing future tourism sector income and economy. Given the importance of destination image in tourism, this study considers destination image as a moderating variable in the relationship between sports tourism and a country's economy. Previous studies have found that environment, culture, sports tourism, and destination image play significant roles in the development of a country's economy (Zouni et al., 2021). Methodologies have included empirical studies examining the relationships between these factors. However, there is a research gap in the Malaysian context regarding the role of destination image as a moderating variable in the relationship between sports tourism and the economy (Cham et al., 2021).

The relationship between environment, culture, sports tourism, and destination image has been extensively studied in the context of economic development. In Malaysia, this relationship has been recognized as a crucial factor in the country's tourism industry, which is a significant contributor to the national economy. A study by Raihan and Tuspekova (2022) and Tehseen and Anderson (2020) found that there is a positive relationship between the environment and culture with the economy. While Malaysia has a diverse cultural heritage that includes Malay, Chinese, Indian, and indigenous communities, and this cultural richness provides a unique experience for tourists (Abidin et al., 2020). Additionally, Malaysia has hosted several international sporting events, which have contributed to the development of the country's economy and improved its image as a tourist destination (Chang et al., 2020). Therefore, the relationship between environment, culture, sports tourism, and destination image is a critical factor in Malaysia's economic development, and it should be fostered to ensure the continued growth of the tourism industry. Specifically, the study aims to examine the direct impact of environment, culture, and sports tourism on the economy, with sports tourism being used as a mediating variable between environment, culture, and the economy. Additionally, the study evaluates the role of destination image as a moderating variable in the relationship between sports tourism and the economy.

2. Literature review and hypothesis development

2.1. Environment and country economy

According to Panayotou (2016), environmental protection fails without economic growth, while economic development suffers without environmental protection. The

environment places restraints on the growth of the economy. These constraints shift depending on the degree to which resources can be substituted, and technology advancements and structural changes can be made (Song et al., 2019). Numerous studies have shown that unregulated and excessive pollution of the environment has a negative influence on economic development. For example, Azam (2019) argues that environmental pollution has a modest knock-on effect on growth and social well-being due to its impact on resource reduction, health, and natural tragedies associated with weather change. He explains this by saying that environmental pollution has a knock-on effect on natural disasters. In addition, due to emissions and global warming, significant harm can be caused to society and the economy (Adedoyin et al., 2020). According to the findings of several studies, effective environmental regulations contribute to a country's economic growth (Aye & Edoja, 2017; Adam et al., 2022). At the same time, the economy's growth significantly influences the environment. Numerous scholars provide evidence that the amount of pollution rises gradually, beginning at smaller degrees of PCI (per capita income), reaches a peak at greater amounts of income, and then begins to fall again after reaching that peak level (Castiglione et al., 2015).

Since the 1990s, the question of how the environment relates to economic growth has emerged as one of the most contentious topics of discussion among economists. In most cases, this research focuses on the correlation between one's income level and the amount of pollution in the external environment at various stages of economic growth. According to the environmental hypothesis, there is a correlation between the commencement of economic development and a rise in environmental contamination. However, according to Lorente and Álvarez-Herranz (2016), economic growth makes environmental rehabilitation possible after reaching a certain income threshold. The environmental conditions of a country directly impact its economy, and vice versa. For example, natural disasters such as floods, hurricanes, and wildfires can cause significant damage to a country's infrastructure and affect its economic growth. On the other hand, economic activities such as mining, logging, and industrial production can contribute to environmental degradation, leading to pollution and climate change. However, while the importance of balancing economic growth and environmental sustainability is widely recognized, there is often a lack of clear policies and strategies that address both issues. In addition, past research suggests evidence that the environment boosts economic growth and that environmental pollution decreases with the rising usage of technology beneficial to the environment. In light of this, we postulate the following hypotheses:

H1: Environment is positively and significantly related to the country's economy.

2.2. Culture and country economy

The correlation between culture and economic development has been studied by many economists (Kong, 2000). Studies of the link between cultural preservation and economic growth are rare in the academic literature in Malaysia. The subfields of business administration, such as strategy, management, and organization theory, are the primary exception to this pattern. It was not until the latter half of the twentieth

century that cultural significance to economic performance became widely acknowledged. Culture is gaining importance and justification to achieve the overall economic growth of the country in a business environment that is dynamically changing. It is because culture is one factor that affects organizations' performance, competitive advantage, and economic development. In order to achieve the overall economic progress of the country, culture is gaining importance (Imran et al., 2021). It eventually becomes apparent in the organization's economic growth, competitive edge, and overall success. The absence of culture poses a challenge to organizations everywhere. It deteriorates to the degree that it realizes the significance of culture to the interaction of economies and the growth of countries (Frederking, 2002; Imran et al., 2022). More awareness about how culture relates to economic growth must be provided to avoid considering culture as a residual description and suppose that culture is appropriate to the entire interpretation. A country's economy must have mechanisms that connect cultural influences with economic considerations.

The relationship between Malaysian culture and the country's economy is complex and multifaceted. The government has made efforts to promote the country's cultural heritage through various policies, but at the same time, the government's focus on economic development has had a significant impact on cultural practices. The displacement of rural communities and traditional ways of life has resulted in the loss of cultural heritage and practices. Furthermore, the government's development policies have often prioritized economic growth over environmental protection, destroying natural resources and displacement of indigenous communities. Therefore, Malaysia's cultural heritage is closely linked to the sustainable development of the country's economy. Because of the importance of culture in a country's economy, as discussed above, this hypothesis is developed in the context of the Malaysian economy.

H2: Culture is positively and significantly related to the country's economy.

2.3. Environment and sport tourism

Most studies on mega-events effects have concentrated on their financial and touristic consequences (Ferrari & Guala, 2017; Tichaawa & Bob, 2015). It is not apparent how the country's environment genuinely influences the sports tourism sector or the general wellness of individuals who live in the community hosting the event. This special issue compiles a collection of studies investigating a wide range of measurable and non-measurable effects, including those on the economy, tourism, society, and participation in sports. It deals especially with the strategic decisions pollution-free host countries must make to host sporting events. However, a country's environment may have intricate and nuanced social implications, often tremendously influencing local economies, tourism, and culture (Panayotou, 2016). Concurrently, a country's natural environment often greatly impacts the amount of sport tourism that occurs there. For example, Wu (2019) suggests that a country's pollution-free environment plays a role in the country's economy but also influences sports tourism. Even the many different types of sport tourism activities can destroy the environments in which they are conducted (Malchrowicz-Moško & Poczta, 2018). Increasing leisure pressure and the loss of quality in these regions could cause a negative association with the environment

(Han et al., 2015; Wiramihardja et al., 2022). Malaysia is a country in Southeast Asia that hosts many sporting events. For a long time, the Malaysian government has focused on a pollution-free environment and wants to increase sports tourism.

The relationship between the environment and Malaysian sports tourism is a critical one, as Malaysia's unique natural environment and cultural heritage are significant attractions for sports tourists. Furthermore, the influx of visitors and increased tourism can also lead to overcrowding, further exacerbating environmental issues. This relationship reveals that sustainable sports tourism in Malaysia requires careful planning and management to minimize its impact on the environment. However, there is still room for improvement, as the government's development policies have often prioritized economic growth over environmental protection. Therefore, the following hypothesis is recommended:

H3: Environment is positively and significantly related to sports tourism.

2.4. Culture and sports tourism

One of the leading and fastest-growing sectors of the global tourism sector is culture and sport. Cultural and tourism industries are increasingly being utilized to promote sports venues and boost their competitiveness and popularity, which is expected to continue (Alberti & Giusti, 2012). To gain a comparative edge in the increasingly competitive sports tourism industry and to establish a regional distinction in the face of globalization, many regions are now actively working to strengthen their tangible and intangible cultural assets. The expanding link between tourism and culture is investigated in various studies on the influence of culture on tourism. Moreover, numerous elements of the association between tourism, culture, and the attractiveness of a location have been the subject of research conducted by several scholars (Herrero-Prieto & Gomez-Vega, 2017; Romão et al., 2013). It also seems significant that a person's attitude to a tourist would be associated with their reasons for touring to experience a different culture. An attitude toward a destination is an evaluation reaction that may generate either positive or negative thoughts toward the host country's culture (Funk & Bruun, 2007). An individual's cultural response can be summed up by prior knowledge and experience (direct or indirect) with the sporting host destination. This knowledge and experience can be derived from numerous resources (for instance, the mass media, friends, and coworkers at work) that impact the interest in participating in sport tourism (Kumar & Dhir, 2020).

Malaysian culture is a significant attraction for sports tourism, as it offers a unique blend of cultural heritage, cuisine, and arts. Malaysia's rich cultural diversity is often showcased in sporting events, such as the annual Hari Sukan Negara, which celebrates the country's sports culture and encourages participation in various sporting activities. The cultural aspect of sports tourism in Malaysia has also been used to promote community engagement and social cohesion (Jaafar et al., 2020). The commercialization of cultural heritage for tourism purposes can lead to the commodification and distortion of traditional practices, resulting in the loss of cultural authenticity. As noted by scholars such as Megeirhi et al. (2020), there is a need for a more sustainable and responsible approach to cultural heritage preservation in sports tourism.

Regarding the importance of culture in the tourism sector, the researchers propose the following hypothesis based on sports tourism in the context of Malaysia.

H4: Culture is positively and significantly related to sports tourism.

2.5. Sports tourism and the country's economy

The recognition of society's potential growth of sport tourism has led to an increased interest in displaying the economic effect of sport tourism. It involves the measurement of the net effect of a non-resident spending more finances in society than would have been expected if the event had not been held (Scheyvens & van der Watt, 2021). Staging sporting events can advance various economic and development-related goals (Misener & Mason, 2006). It has been estimated that the sports tourism industry is worth as much as \$438.6 billion. It creates 635,000 full-time and part-time jobs and generates \$12.9 billion in tax revenue from the global tourism market. Sports tourists splurge more than regular tourists, frequently from a more advantaged demographic (Global Spa & Wellness Summit, 2013). Marumo et al. (2015) provide additional evidence that points to the great economic importance of sport tourism due to the economic benefits of the people's movements. These benefits include the development of jobs, cultural exchanges, individual services, and a range of commercial activities involving sports cruises, tours, attractions, and tourist spots. It results in a significant impetus for economic growth and the production of new employment opportunities, in addition to an expanding source of foreign currency (Siyabulela, 2016).

Sports tourism is a significant contributor to the Malaysian economy, generating revenue from the influx of visitors and the development of sports facilities and infrastructure. According to Ahmad et al. (2019), the Malaysian government has recognized the potential economic benefits of sports tourism and has made significant investments in the development of sports facilities, such as the construction of world-class stadiums and sports complexes. The hosting of international sporting events, such as the Formula One Grand Prix and the Southeast Asian Games, has also contributed to the country's tourism industry and the economic growth of Malaysia (Lim & Ibrahim, 2020). Sporting event tourism revenue has become a significant economic factor for host countries. Consequently, based on the Malaysian economy, we suggest the H5.

H5: Sports tourism positively and significantly affects the country's economy.

2.6. Mediating role of sport tourism

In terms of the effect that sports tourism has on the association between the environment and the economy of the country, earlier research has shown that the environment influences the economy of the country (Rahman, 2017; Ulucak, 2020; Xu et al., 2022). According to Perić (2018), the environment impacts sports tourism, affecting the country's economic situation. It might explain the indirect effect of sports tourism on the country's economy through the environment. Therefore, it can be concluded

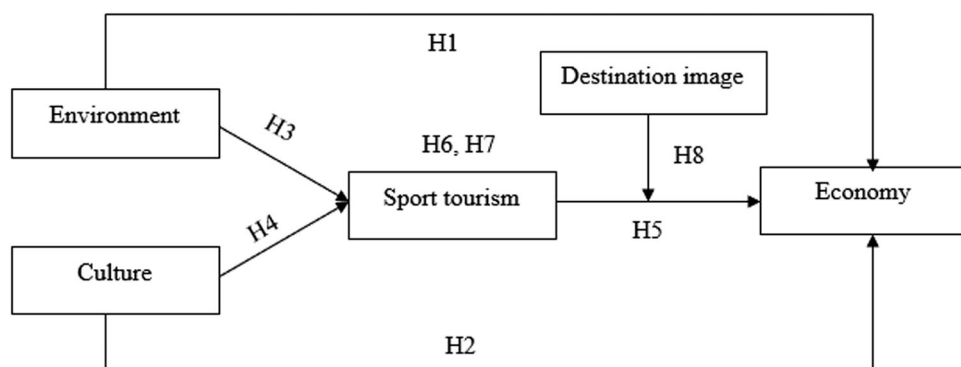


Figure 1. Research model.

Source: created by the researcher based on the results of our study's data analysis.

that sports tourism is a mediator in the link between the environment and the country's economic growth. Sustainable sports tourism development can contribute to the preservation of the environment and cultural heritage while also supporting economic growth. According to (González-García et al., 2022) the development of tourism and sports events can promote environmental protection, while the promotion of cultural heritage in sports tourism can enhance community engagement and social cohesion. As noted by scholars such as Chang et al. (2022), sustainable sports tourism can act as a mediator between environmental, cultural, and economic factors in Malaysia.

The promotion of sports tourism can contribute to the preservation of the environment and cultural heritage while supporting economic growth. In terms of the mediating impact that sports tourism has on the relationship between a country's culture and its economic growth, an earlier study has revealed evidence of a positive association between culture and the economic well-being of the countries (Petronela, 2016; Robertson & Dale, 2015; Vuong, 2016). Cooper and Alderman (2020), highlighted the sequential link and explained the indirect influence that sports tourism has on the economy of a country along with its culture. Therefore, based on previous research findings, we contend that sports tourism mediates the association between culture, environment and a country's economic growth (Figure 1). Similarly, considering the context of the Malaysian economy, we suggested H6 and H7.

H6: Sports tourism mediates the relationship between the environment and the economy.

H7: Sports tourism mediates the relationship between culture and economy.

2.7. The moderating role of destination image

A destination image is created *via* a multi-step interaction involving people and locations (Rizky et al., 2017). A tourist's ideas and emotions regarding the location are created based on the tourist's subjective understanding of the interfaces, and these beliefs and attitudes comprehensively impact image creation (Moon & Han, 2019). Destination images can be understood to represent the aggregate of their thoughts and feelings toward a certain location (Chiu et al., 2014). A composite image of a

destination is created on the interactions with the many characteristics of the destination. It may present between good and negative features (Glyptou, 2021). Within the realm of tourism, a destination's image is intimately connected to the activities that tourists engage in while visiting the location and their general sense of it. When tourists are pleased with the overall quality of their experience, such as when they feel delighted and have a feeling of distracted, more possible to have a decisive view of a location and desire to return to the area in the future (Loureiro, 2014). As a result, a tourist's impression of their tour experience and the country's economy may be positively correlated when a destination image is created on tour experiences.

Despite the enormous influence that a destination's image has on tourists' views of the country's touring experience, value, and economy, only a small amount of study has paid attention to the moderating effect that a destination's image has on the relationship of sport tourism. Recent research by Line and Hanks (2016) revealed that the destination image moderates the relationship between experience quality and loyalty. On the other hand, some scholars have treated the destination image as a predictor of the desire to post travel intentions (Gannon et al., 2017). This research seeks to fill a gap in the current research by investigating the degree to which a link exists between sports tourism and the country's economy. The final hypothesis is summarized as follows:

H8: Destination image will moderate the relationships between sports tourism and the country's economy.

2.8. Methodology

2.8.1. Measures

This research assessed the environment using five items adapted from Lo et al. (2014). The culture was measured with five items adapted from a prior study (Hasyim, 2019). In addition, sports tourism is comprised of five items derived from previous research (Zhou, 2015). The economy was also evaluated using a set of five items adapted from Andereck and Nyaupane (2011). Destination image three items were adapted from the research by Mohamad et al. (2012). In this study, we used destination image as a moderating variable and assessed it using these three items. The adopted items for this study include five main variables: environment, culture, sports tourism, destination image, and country economy. These variables were chosen as they are crucial factors in determining the attractiveness of a tourist destination. Previous studies have shown that these variables have a significant impact on the decision-making process of tourists when choosing a destination. Furthermore, items were measured using reliable measures that have been used in prior studies to ensure validity.

All the items were rated on a five-point Likert scale, with five being a strong agreement and one a strong disagreement. According to Krosnick (2018), a scale with five points is beneficial to one with seven or nine points for the following reasons: first, respondents are more likely to feel satisfied as a result of the shorter amount of time required, and they are more likely to welcome; second, the number of respondents is better lastly, the conflict among respondents is significantly lowered. Moreover, this

study employs a quantitative research design and utilizes a cross-sectional approach to examine the relationships between environment, culture, sports tourism, destination image, and the country's economy. The study uses survey data collected from Malaysian tourists who have visited the country to obtain their perceptions of the environment, culture, sports tourism, and destination image.

2.8.2. Respondents

This research gathered data from long-term workers (3 years tenure) with at least three years of service at the Ministry of Tourism, Art, and Culture in Kuala Lumpur, Malaysia. To fulfil the requirements of this research, data was gathered only from employees of the Department of Tourism and Culture. Only forty of the ministry's employees were willing to participate in this study after the researchers tried to contact the HR branch of the ministry and then asked for consent to gather information from workers. We gave the manager of the human resource department a questionnaire in an envelope along with a letter from the university informing them that data was being collected, along with a cover letter. The questionnaires were gathered after four months, between July and November of 2022. Only 430 were returned from the ministry out of the 800 surveys distributed; 57 were dropped out because the values they provided were inaccurate. As a consequence, only 373 questions were used for further analysis.

2.8.3. Common method bias (CMB)

As CMB has been shown to appear often in earlier studies, it has the potential to skew the results. Researchers are aware of the CMB problem that occurs in surveys (Jordan & Troth, 2020) because it may enhance the associations between measured variables. This difficulty with the CMB leads to bias and misleading high correlations, as Organ and Ryan (1995) highlighted by conducting a meta-analysis of 55 investigations and demonstrating their findings. As a result, certain methodical approaches shown to lessen CMB's impact have been followed in the present research. First, we ensured that the questionnaire included in this study had no contradiction and that each question was worded in language that was easy to understand, along with being clear and exactly objective. Second, to increase the number of individuals who responded to the survey, individuals were assured that the data they provided would be kept secure. Moreover, to ensure the absence of Common Method Bias (CMB), Harman's test proposed by Harman and Harman (1976) was conducted using SPSS. This test was applied to all latent variables with their respective eliminated items. The results indicate that the first variable explains only 39.462% of the variance, which is below the recommended threshold of <0.5 by Podsakoff et al. (2003). Consequently, this thorough examination of the CMB allows us to proceed with hypothesis testing with confidence.

3. Results

PLS-SEM analysis using SmartPLS 4 was used to test the hypothesis. PLS-SEM generally concentrates on the relationship between theory and expectation, and the results

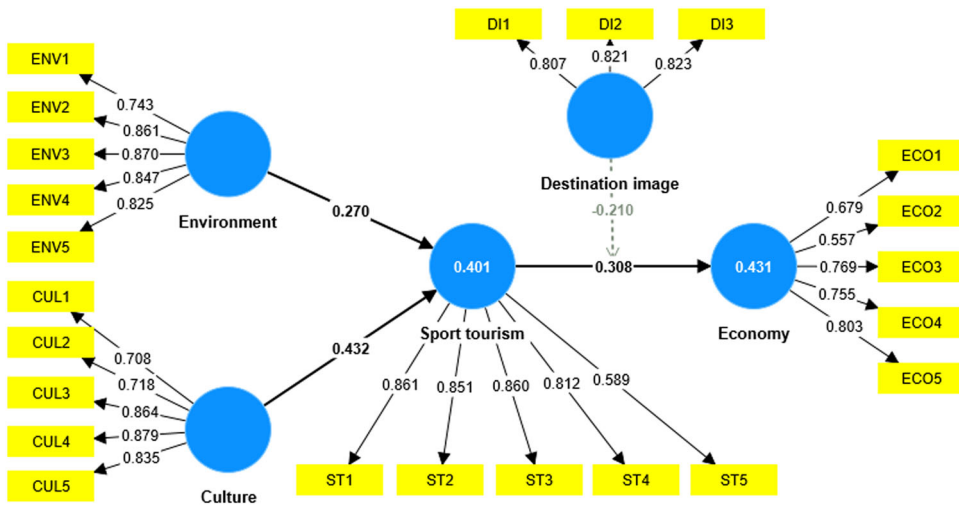


Figure 2. Measurement model.

Source: created by the researcher based on the results of our study's data analysis.

should be validated following this emphasis (Hair et al., 2014). Moreover, PLS-SEM is a suitable method that needs to be used in research on the social sciences. Furthermore, when the data do not meet the hypothesis of normality, PLS is deemed an appropriate approach to use (Ong & Puteh, 2017; Yang et al., 2022). Moreover, the study showed that PLS-SEM is a much more trusted method than covariance-based SEM (CB-SEM) when measuring and establishing variable validity (Hair et al., 2014). Likewise, PLS version 4 incorporates the measurements (Figure 2) and the structural models into its analysis.

3.1. Measurement model

Four tests—indicator, internal consistency reliability, convergent, and discriminant validity—are included in the measurement model to validate the constructs (Hair et al., 2010). Table 1 and Figure 1 shows that the least and highest factor loadings are 0.557 and 0.870, respectively; a minimum threshold value of 0.50 is proposed by (Hair et al., 2014). It means that items may be relied upon without any concerns. A minimum of 0.5 and 0.6 for the CR and AVE, respectively, is required Hair et al. (2014). Values of CR within 0.60 and 0.70 are considered appropriate in exploratory studies, while values within 0.70 and 0.90 are considered sufficient to excellent, and values exceeding 0.95 are regarded undesirable. There is no problem with internal consistency or reliability, as seen in Table 1. The level of convergence between a collection of variables and a concept is described by the term 'convergent validity'. Considering that the minimum and maximum AVE values are 0.516 and 0.689, respectively, as shown in Table 1, the study satisfies the criteria Hair et al. (2014) established.

Discriminant validity describes a situation where two indications have to be statistically different. Traditional measures of discriminant validity were proposed by Fornell and Larcker (1981), and they may be judged in one of two ways. In the first method, the AVE square root is compared to the correlation, while in the second method, the

Table 1. Reliability and validity.

Construct	Items	Outer loadings	C.R	AVE	<i>a</i>	<i>R</i> ²
Environment	ENV1	0.743	0.894	0.689	0.887	0.401
	ENV2	0.861				
	ENV3	0.870				
	ENV4	0.847				
	ENV5	0.825				
Culture	CUL1	0.708	0.865	0.647	0.861	
	CUL2	0.718				
	CUL3	0.864				
	CUL4	0.879				
	CUL5	0.835				
Sport tourism	ST1	0.861	0.866	0.642	0.855	
	ST2	0.851				
	ST3	0.860				
	ST4	0.812				
	ST5	0.589				
Destination image	DI1	0.807	0.768	0.667	0.755	
	DI2	0.821				
	DI3	0.823				
Economy	ECO1	0.679	0.763	0.516	0.758	
	ECO2	0.557				
	ECO3	0.769				
	ECO4	0.755				
	ECO5	0.803				

Source: created by the researcher based on the results of our study's data analysis.

Table 2. Discriminant validity HTMT criteria.

Constructs	CUL	DI	ECO	ENV	ST
CUL					
DI	0.862				
ECO	0.751	0.624			
ENV	0.702	0.833	0.490		
ST	0.688	0.686	0.710	0.609	

Note: CUL, culture, DI, destination image, ECO, economic, ENV, environment, ST, sport tourism.

Source: created by the researcher based on the results of our study's data analysis.

AVE is compared to the squared correlation. Relatively recently, Henseler et al. (2015) argued that this conventional measure of discriminant validity is flawed. This is usually when all attributes have outer loadings that are not significantly different from one another, such as when each outer loading is between 0.65 and 0.85. As a result, they suggested a novel method to determine discriminant validity, which they called the ratio of heterotraits to monotraits (HTMT). An HTMT score of 0.90 suggests that the constructs in the issue are theoretically connected, but a value of 0.85 is suggested for the variables involved because of their greater level of differentiation. To put it another way, if the value of HTMT in distinctive variables is more than 0.85. Table 2 shows that there was no issue with the research's discriminant validity.

3.2. Structural model

This part discusses the structural model that the scholars use to evaluate the hypotheses that have been suggested. Previous research has shown that after performing the measurement model, the further step is to execute the structural model to evaluate the coefficient of paths and validate the hypotheses given (Imran et al., 2021). The

Table 3. Hypothesis results.

Hypothesis	Paths	β -value	SD	t-value	p-value	f^2
1	ENV -> ECO	0.083	0.026	3.249	0.001	
2	CUL -> ECO	0.133	0.039	3.438	0.001	
3	ENV -> ST	0.270	0.066	4.119	0.000	0.078
4	CUL -> ST	0.432	0.077	5.599	0.000	0.198
5	ST -> ECO	0.308	0.057	5.388	0.000	0.096
6	ENV -> ST -> ECO	0.083	0.026	3.249	0.001	
7	CUL -> ST -> ECO	0.133	0.039	3.438	0.001	
8	DI* ST -> ECO	-0.210	0.035	5.946	0.000	

Note: CUL, culture, DI, destination image, ECO, economic, ENV, environment, ST, sport tourism.

Source: created by the researcher based on the results of our study's data analysis.

data on the linkages in the structural model and the importance of those links can be found in Table 3. In this analysis, bootstrapping was performed using 5,000 separate samples. The finding that the environment significantly affects the economy ($\beta = 0.083$, $p = 0.001$, t-value = 3.249) supports H1. In addition, culture significantly impacts the economy ($\beta = 0.133$, $p = 0.001$, t-value = 3.438), which lends credence to the hypothesis that H2 is valid. Furthermore, the environment contributes to a significant and positive improvement in sport tourism ($\beta = 0.270$, $p = 0.000$, t-value = 3.119), which helps to support H3. According to the findings of this research, culture also has a substantial and positive relationship with sports tourism ($\beta = 0.432$, $p = 0.000$, t-value = 5.599); hence, it is validated. In the case of the economy and sports tourism, sports tourism does have a positive effect on the economy ($\beta = 0.308$, $p = 0.000$, t-value = 5.388), which means that H5 is also confirmed. According to Table 3, there is a discernible improvement in the quality of the association between the economy, culture, and environment when sports tourism is involved. There needs to be a strong correlation between both dependent and independent variables, and the presence of the mediating variable is the most important factor to consider when considering mediation (Memon et al., 2018). The findings confirm H6 and H7 that a significant level of mediation is provided by sports tourism in the link between the environment, culture, and economy ($\beta = 0.083$, $p = 0.001$, t-value = 3.249; $\beta = 0.133$, $p = 0.001$, t-value = 3.438). The concentration of the moderating impact was identified and calculated by Cohen's (1988) effect size approach in this research. Moderation analysis was performed using the destination image. Table 3 shows a negative moderating association between sports tourism and economy in the presence of destination image but is significantly moderated ($\beta = -0.210$, $p = 0.000$, t-value = 5.946), which does not support H8.

3.3. Effect size (R^2)

Several studies advise calculating the f^2 value of each path in the structural model when determining the R^2 value of endogenous latent variables. It will allow a more accurate representation of the structure (Ringle et al., 2012). According to Selya et al. (2012), the f^2 value reveals whether an independent construct significantly impacts the investigated variable (the dependent variable). The f^2 has a little effect for values between 0.02 and 0.15, a medium influence for values between 0.15 and 0.35, and a strong effect for values over 0.35, according to Cohen (1988). According to Table 3,

the influence of culture on sports tourism is medium (0.198). At the same time, the effect of the environment (0.078) is small, and the effect of sport tourism on the country's economy is similarly smaller (0.096).

4. Discussion and conclusion

The results show that the environment and culture have a major positive impact on a country's economy. In addition, the present study's findings expand the existing literature by identifying the impact of sports tourism on the country's economic development. According to Jang et al. (2015), environmental activities are significantly related to the perception and attitude of tourists and contribute to increased productivity in the country. Additionally, there is a positive correlation between the environment and sports tourism. Our study seeks to comprehend the conceptual framework by which tourists are willing to participate in sports activities designed to affect the environment and culture when they believe countries are committed to increasing their economies. It may be the most important aspect of this research. This research contributes to the existing body of knowledge by examining how culture and environment impact a country's economy. In addition, Atalan (2020) discovered that the environment significantly impacts a country's economy. Furthermore, the culture of a country is an important component in its growth of that country. The findings of this study indicate that culture has a positive and significant impact on a country's economic growth; moreover, these findings are related to the study of Styliadis et al. (2014), who conducted similar studies in the past.

Sports tourism has a positive impact on economic growth. In addition, the creation of sports tourism policies is a vital step that relevant tourist activities should follow if countries are to become developed (Petrović et al., 2017). The findings are related to Bonzanigo et al. (2016), which demonstrated that adopting sports tourism to environmental management systems may greatly boost economic growth. The conclusion that sports tourism positively affects the country's economy is supported by (Duglio & Beltramo, 2017). The results of this study indicate that sports tourism has a positive and significant impact on the country's economy. The findings suggest that sports tourism can contribute to the growth and development of the economy, potentially through increased spending by tourists, job creation, and the generation of revenue for businesses operating in the tourism industry. The study's results also indicate that sports tourism can have a measurable impact on the country's GDP. Overall, these findings highlight the importance of sports tourism as a valuable and impactful component of the tourism industry.

Destination image has not substantially moderated the positive association between sports tourism and the economy. According to Kanwel et al. (2019), destination image in the tourism sector significantly influences the economic development of a country. It is unique research to establish an association between moderation and mediation. Furthermore, sports tourism substantially mediates the association between environment, culture, and economy, supporting previous studies that sports tourism and a country's economy are influenced by environment and culture (Chang et al., 2022).

To draw the following conclusion is hardly challenging a nation's economic growth level is a significant aspect that shapes the environment and culture. Generally, the current study's findings revealed that environment, cultural tourism, and sports tourism contribute substantially to Malaysia's economy. A significant positive association exists between environment, culture, and sports tourism. Similarly, sports tourism increased the positive relationship between the environment, culture, and Malaysian economy. Finally, the destination image does not positively moderate the link between sports tourism and the economy. In addition, in this study, a sample size of 430 was used, and a cross-sectional technique was employed to collect the data. Additionally, the data were analyzed using SmartPLS 4, which is a commonly used method for analyzing structural equation modeling data. These methodological choices were made to ensure that the results of the study were robust and accurate.

5. Implications of the study

The present study's outcomes substantially contribute to the sports tourism literature. First, based on the country's economy, we show the relationship between the environment, culture, and economy. Second, if countries take measures for sports tourism, it can benefit economic development. The results are similar to those of Baade and Matheson (2016), who asserted that countries could increase their economies through sports events. Third, researchers have determined the mediated relationship between sports tourism, culture, environment, and economy in light of Malaysia.

Furthermore, the findings show that destination image does not moderate the association between sports tourism and Malaysian economic growth. Importantly, the results demonstrate that environmental and cultural influence on Malaysian economic growth is fully mediated by sports tourism; environment and culture play an actual appearance in defining sports tourism that indicates the country's economy. It is a significant study because it recognizes the moderating and mediating influence between Malaysia's environment, culture, and economy. This statistical study generally understands the mediating and moderating impact on the environment, culture, and Malaysian economy. The implications of this study suggest that fostering a healthy environment, preserving cultural heritage, and promoting sports tourism can contribute positively to the country's economy. The study provides practical recommendations for Malaysia to develop their sports tourism industry, such as building state-of-the-art sports facilities and hosting international sports events to attract more tourists and generate more revenue.

The findings have important implications for the corporate world, economic strategists, and managers in the tourist industry. This current study model aims to offer a strategy for the country's economy about the effect of environment, culture, sports tourism, and destination image on the deployment of a Malaysian economic development strategy. Currently, tourism sectors and business managers primarily emphasize the sports tourism economy. They apply the most up-to-date proposed eco-tourism model to underdeveloped nations' tourism industry to reduce polluting emissions, contaminants, and fossil fuel-based resources and save energy and water consumption. They concentrate on lowering the costs of raw materials for various stakeholder

groups, including the general public. It is accomplished by lowering the environmental influences that could harm society. The conclusions of this research provide senior management, Recruiters, and government officials with useful information that helps enhance the nation's economy. The findings also indicate that eco-tourism, cultural tourism, and sports tourism contribute considerably to economic growth. As a result, senior management and government authorities should emphasize the environment, local culture, and sports tourism when determining how to measure economic growth.

6. Limitations and future study

Even though the present study has a wide range of ramifications and contributions, there are certain shortcomings that future work may address. The present study used a cross-sectional technique. It did not consider the likelihood that factors such as the environment, culture, destination image, and the role of sports tourism in the country's economy may fluctuate over time. Therefore, other researchers might employ a study model similar to the one used to determine whether or not the findings are similar. This survey collected employee data and future research may involve tourists or managers evaluating sports tourism. In addition, the data was obtained from Malaysia's Ministry of Tourism, Arts, and Culture, which is located in Kuala Lumpur. Throughout the present research, the country of the economy was examined *via* the lenses of environment, culture, sports tourism, and the destination image. It is possible that in the future, tourists' cultural background, the satisfaction level felt by tourists, and green innovation will all be utilized to determine a country's economic growth. In a potential future line of research, the concept of 'destination image' may mediate the connection between environment, culture, and economy. According to Kim et al. (2014), the destination image strengthens the association with a country's environment and economic well-being. In conclusion, this research on the context of Malaysia may contribute to a distinct culture, pointing to the need for further comparisons between developed and developing nations. Future studies could use longitudinal designs to investigate the long-term impact of sports tourism, environment, and culture on the economy. Additionally, including tourists' perceptions of sports tourism could further validate the study's findings. Furthermore, a comparison with official data from Malaysia's Ministry of Economy would provide a more comprehensive picture of the relationship between environment, culture, sports tourism, destination image and the country's economy.

Disclosure statement

No potential conflict of interest was reported by the authors.

References

- Abidin, M. R. Z., Ishak, F. A. C., Ismail, I. A., & Juhari, N. H. (2020). Modern Malaysian Cuisine: Identity, culture, or modern-day fad? *International Journal of Gastronomy and Food Science*, 21, 100220. <https://doi.org/10.1016/j.ijgfs.2020.100220>

- Adam, A., Sam, T. H., Latif, K., Yusof, Y., Khan, Z., Ali Memon, D., ... Abdul Kadir, A. Z. (2022). Review on advanced CNC controller for manufacturing in industry 4.0. In *Enabling industry 4.0 through advances in manufacturing and materials: Selected articles from iM3F 2021* (pp. 261–269). Springer Nature Singapore.
- Adedoyin, F. F., Gumede, M. I., Bekun, F. V., Etokakpan, M. U., & Balsalobre-Lorente, D. (2020). Modelling coal rent, economic growth and CO₂ emissions: Does regulatory quality matter in BRICS economies? *The Science of the Total Environment*, 710, 136284. <https://doi.org/10.1016/j.scitotenv.2019.136284>
- Ahmad, A. H., Ibrahim, A., Ahmad, Z. H., & Masri, R. (2019). The predictors of sports tourism involvement in Malaysia: An extreme sport overview. *Humanities & Social Sciences Reviews*, 7(2), 449–453. <https://doi.org/10.18510/hssr.2019.7252>
- Alberti, F. G., & Giusti, J. D. (2012). Cultural heritage, tourism and regional competitiveness: The Motor Valley cluster. *City, Culture and Society*, 3(4), 261–273. <https://doi.org/10.1016/j.ccs.2012.11.003>
- Andereck, K. L., & Nyaupane, G. P. (2011). Exploring the nature of tourism and quality of life perceptions among residents. *Journal of Travel Research*, 50(3), 248–260. <https://doi.org/10.1177/0047287510362918>
- Angus, I., & Jhally, S. (2022). *Cultural politics in contemporary America*. Taylor & Francis.
- Arnegger, J., & Herz, M. (2016). Economic and destination image impacts of mega-events in emerging tourist destinations. *Journal of Destination Marketing & Management*, 5(2), 76–85. <https://doi.org/10.1016/j.jdmm.2015.11.007>
- Atalan, A. (2020). Is the lockdown important to prevent the COVID-19 pandemic? Effects on psychology, environment and economy-perspective. *Annals of Medicine and Surgery* (2012), 56, 38–42. <https://doi.org/10.1016/j.amsu.2020.06.010>
- Aye, G. C., & Edoja, P. E. (2017). Effect of economic growth on CO₂ emission in developing countries: Evidence from a dynamic panel threshold model. *Cogent Economics & Finance*, 5(1), 1379239. <https://doi.org/10.1080/23322039.2017.1379239>
- Azam, M. (2019). Relationship between energy, investment, human capital, environment, and economic growth in four BRICS countries. *Environmental Science and Pollution Research International*, 26(33), 34388–34400. <https://doi.org/10.1007/s11356-019-06533-9>
- Baade, R. A., & Matheson, V. A. (2016). Going for the gold: The economics of the Olympics. *Journal of Economic Perspectives*, 30(2), 201–218. <https://doi.org/10.1257/jep.30.2.201>
- Bonzanigo, L., Giupponi, C., & Balbi, S. (2016). Sustainable tourism planning and climate change adaptation in the Alps: A case study of winter tourism in mountain communities in the Dolomites. *Journal of Sustainable Tourism*, 24(4), 637–652. <https://doi.org/10.1080/09669582.2015.1122013>
- Canteiro, M., Córdova-Tapia, F., & Brazeiro, A. (2018). Tourism impact assessment: A tool to evaluate the environmental impacts of touristic activities in Natural Protected Areas. *Tourism Management Perspectives*, 28, 220–227. <https://doi.org/10.1016/j.tmp.2018.09.007>
- Castiglione, C., Infante, D., & Smirnova, J. (2015). Environment and economic growth: Is the rule of law the go-between? The case of high-income countries. *Energy, Sustainability and Society*, 5(1), 1–7. <https://doi.org/10.1186/s13705-015-0054-8>
- Cham, T. H., Lim, Y. M., Sia, B. C., Cheah, J. H., & Ting, H. (2021). Medical tourism destination image and its relationship with the intention to revisit: A study of Chinese medical tourists in Malaysia. *Journal of China Tourism Research*, 17(2), 163–191. <https://doi.org/10.1080/19388160.2020.1734514>
- Chang, A., El-Rayes, N., & Shi, J. (2022). Blockchain technology for supply chain management: A comprehensive review. *FinTech*, 1(2), 191–205. <https://doi.org/10.3390/fintech1020015>
- Chang, M. X., Choong, Y. O., & Ng, L. P. (2020). Local residents' support for sport tourism development: The moderating effect of tourism dependency. *Journal of Sport & Tourism*, 24(3), 215–234. <https://doi.org/10.1080/14775085.2020.1833747>
- Chang, M. X., Choong, Y. O., Ng, L. P., & Seow, A. N. (2022). The importance of support for sport tourism development among local residents: The mediating role of the perceived

- impacts of sport tourism. *Leisure Studies*, 41(3), 420–436. <https://doi.org/10.1080/02614367.2021.2011950>
- Cheng, T.-M., Wu, H. C., Wang, J. T.-M., & Wu, M.-R. (2019). Community Participation as a mediating factor on residents' attitudes towards sustainable tourism development and their personal environmentally responsible behaviour. *Current Issues in Tourism*, 22(14), 1764–1782. <https://doi.org/10.1080/13683500.2017.1405383>
- Cheung, S. Y., Roger, K., Jennifer, Y., & Jing, F. A. N. (2017). Destination image and sports tourists' consumption patterns of major sports events. *Journal of Multidisciplinary Research*, 9(3), 5–15.
- Chiu, Y.-T H., Lee, W.-I., & Chen, T.-H. (2014). Environmentally responsible behavior in eco-tourism: Antecedents and implications. *Tourism Management*, 40, 321–329. <https://doi.org/10.1016/j.tourman.2013.06.013>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. (2nd ed.). Routledge.
- Cooper, J. A., & Alderman, D. H. (2020). Cancelling March madness exposes opportunities for a more sustainable sports tourism economy. *Tourism Geographies*, 22(3), 525–535. <https://doi.org/10.1080/14616688.2020.1759135>
- Detho, A. A., Daud, Z., Samo, S. R., Khan, Z., Memon, D. A., & Awang, H. (2020). Physicochemical characteristics of landfill leachate from Simpang Renggam Landfill Site, Johor, Malaysia. *Quaid-e-Awam University Research Journal of Engineering, Science & Technology*, 18(02), 82–88. <https://doi.org/10.52584/QRJ.1802.13>
- Duglio, S., & Beltramo, R. (2017). Estimating the economic impacts of a small-scale sport tourism event: The case of the Italo-Swiss mountain trail CollonTrek. *Sustainability*, 9(3), 343. <https://doi.org/10.3390/su9030343>
- Edwards, M. B. (2015). The role of sport in community capacity building: An examination of sport for development research and practice. *Sport Management Review*, 18(1), 6–19. <https://doi.org/10.1016/j.smr.2013.08.008>
- Ferrari, S., & Guala, C. (2017). Mega-events and their legacy: Image and tourism in Genoa, Turin and Milan. *Leisure Studies*, 36(1), 119–137. <https://doi.org/10.1080/02614367.2015.1037788>
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 18(3), 382–388 <https://doi.org/10.2307/3150980>
- Fourie, J., & Santana-Gallego, M. (2011). The impact of mega-sport events on tourist arrivals. *Tourism Management*, 32(6), 1364–1370. <https://doi.org/10.1016/j.tourman.2011.01.011>
- Frederking, L. C. (2002). Is there an endogenous relationship between culture and economic development? *Journal of Economic Behavior & Organization*, 48(2), 105–126. [https://doi.org/10.1016/S0167-2681\(01\)00228-1](https://doi.org/10.1016/S0167-2681(01)00228-1)
- Funk, D. C., & Bruun, T. J. (2007). The role of socio-psychological and culture-education motives in marketing international sport tourism: A cross-cultural perspective. *Tourism Management*, 28(3), 806–819. <https://doi.org/10.1016/j.tourman.2006.05.011>
- Gannon, M. J., Baxter, I. W. F., Collinson, E., Curran, R., Farrington, T., Glasgow, S., Godsman, E. M., Gori, K., Jack, G. R. A., Lochrie, S., Maxwell-Stuart, R., MacLaren, A. C., MacIntosh, R., O'Gorman, K., Ottaway, L., Perez Vega, R., Taheri, B., Thompson, J., & Yalinay, O. (2017). Travelling for Umrah: Destination attributes, destination image, and post-travel intentions. *The Service Industries Journal*, 37(7–8), 448–465. <https://doi.org/10.1080/02642069.2017.1333601>
- Giampiccoli, A., Lee, S. S., & Nauright, J. (2015). Destination South Africa: Comparing global sports mega-events and recurring localised sports events in South Africa for tourism and economic development. *Current Issues in Tourism*, 18(3), 229–248. <https://doi.org/10.1080/13683500.2013.787050>
- Global Spa & Wellness Summit. (2013). *The global wellness tourism economy*. Global Spa & Wellness Summit Press.
- Glyptou, K. (2021). Destination image co-creation in times of sustained crisis. *Tourism Planning & Development*, 18(2), 166–188. <https://doi.org/10.1080/21568316.2020.1789726>

- González-García, R. J., Martínez-Rico, G., Bañuls-Lapuerta, F., & Calabuig, F. (2022). Residents' perception of the impact of sports tourism on sustainable social development. *Sustainability*, 14(3), 1232. <https://doi.org/10.3390/su14031232>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis. Vectors* (p. 816).
- Hair, J., Hult, M., Ringke, M., & Sartetd, M. (2014). A primer on partial least squares structural equation modeling (PLS-SEM). *European Business Review*, 106–221.
- Han, J. H., Nelson, C. M., & Kim, C. (2015). Pro-environmental behavior in sport event tourism: Roles of event attendees and destinations. *Tourism Geographies*, 17(5), 719–737. <https://doi.org/10.1080/14616688.2015.1084037>
- Harman, H. H., & Harman, H. H. (1976). *Modern factor analysis*. University of Chicago press.
- Hasyim, M. (2019). *Foreign tourists' perceptions of toraja as a cultural site in South Sulawesi, Indonesia*.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Herrero-Prieto, L. C., & Gomez-Vega, M. (2017). Cultural resources as a factor in cultural tourism attraction: Technical efficiency estimation of regional destinations in Spain. *Tourism Economics*, 23(2), 260–280. <https://doi.org/10.1177/1354816616656248>
- Howarth, R. B., & Kennedy, K. (2016). Economic growth, inequality, and well-being. *Ecological Economics*, 121, 231–236. <https://doi.org/10.1016/j.ecolecon.2015.10.005>
- Hritz, N., & Ross, C. (2010). The perceived impacts of sport tourism: An urban host community perspective. *Journal of Sport Management*, 24(2), 119–138. <https://doi.org/10.1123/jsm.24.2.119>
- Imran, M., & Jingzu, G. (2022). Green organizational culture, organizational performance, green innovation, environmental performance: A mediation-moderation model. *Journal of Asia-Pacific Business*, 23(2), 161–182. <https://doi.org/10.1080/10599231.2022.2072493>
- Imran, M., Arshad, I., & Ismail, F. (2021). Green organizational culture and organizational performance: The mediating role of green innovation and environmental performance. *Jurnal Pendidikan IPA Indonesia*, 10(4), 515–530. <https://doi.org/10.15294/jpii.v10i4.32386>
- Imran, M., Ismail, F., Arshad, I., Zeb, F., & Zahid, H. (2022). The mediating role of innovation in the relationship between organizational culture and organizational performance in Pakistan's banking sector. *Journal of Public Affairs*, 22(S1), e2717. <https://doi.org/10.1002/pa.2717>
- Jaafar, M., Md Noor, S., Mohamad, D., Jalali, A., & Hashim, J. B. (2020). Motivational factors impacting rural community participation in community-based tourism enterprise in Lenggong Valley, Malaysia. *Asia Pacific Journal of Tourism Research*, 25(7), 799–812. <https://doi.org/10.1080/10941665.2020.1769696>
- Jang, S. Y., Chung, J. Y., & Kim, Y. G. (2015). Effects of environmentally friendly perceptions on customers' intentions to visit environmentally friendly restaurants: An extended theory of planned behavior. *Asia Pacific Journal of Tourism Research*, 20(6), 599–618. <https://doi.org/10.1080/10941665.2014.923923>
- Jordan, P. J., & Troth, A. C. (2020). Common method bias in applied settings: The dilemma of researching in organizations. *Australian Journal of Management*, 45(1), 3–14. <https://doi.org/10.1177/0312896219871976>
- Kanwel, S., Lingqiang, Z., Asif, M., Hwang, J., Hussain, A., & Jameel, A. (2019). The influence of destination image on tourist loyalty and intention to visit: Testing a multiple mediation approach. *Sustainability*, 11(22), 6401. <https://doi.org/10.3390/su11226401>
- Kim, J., Kang, J. H., & Kim, Y.-K. (2014). Impact of mega sport events on destination image and country image. *Sport Marketing Quarterly*, 23(3), 161–176.
- Kong, L. (2000). Introduction: Culture, economy, policy: Trends and developments. *Geoforum*, 31(4), 385–390. [https://doi.org/10.1016/S0016-7185\(00\)00004-X](https://doi.org/10.1016/S0016-7185(00)00004-X)
- Krosnick, J. A. (2018). Questionnaire design. In *The palgrave handbook of survey research* (pp. 439–455).

- Kumar, S., & Dhir, A. (2020). Associations between travel and tourism competitiveness and culture. *Journal of Destination Marketing & Management*, 18, 100501. <https://doi.org/10.1016/j.jdmm.2020.100501>
- Lim, J. P., & Ibrahim, H. B. M. (2020). An exploratory study into the motivations of green volunteers at the 29th Southeast Asian Games. *Asia-Pacific Journal of Innovation in Hospitality and Tourism*, 9(1), 73–101.
- Line, N. D., & Hanks, L. (2016). The effects of environmental and luxury beliefs on intention to patronize green hotels: The moderating effect of destination image. *Journal of Sustainable Tourism*, 24(6), 904–925. <https://doi.org/10.1080/09669582.2015.1091467>
- Lo, M.-C., Ramayah, T., & Hui, H. L. H. (2014). Rural communities perceptions and attitudes towards environment tourism development. *Journal of Sustainable Development*, 7(4), 84. <https://doi.org/10.5539/jsd.v7n4p84>
- Lorente, D. B., & Álvarez-Herranz, A. (2016). Economic growth and energy regulation in the environmental Kuznets curve. *Environmental Science and Pollution Research International*, 23(16), 16478–16494. <https://doi.org/10.1007/s11356-016-6773-3>
- Loureiro, S. M. C. (2014). The role of the rural tourism experience economy in place attachment and behavioral intentions. *International Journal of Hospitality Management*, 40, 1–9. <https://doi.org/10.1016/j.ijhm.2014.02.010>
- Mair, J., & Smith, A. (2022). Events and sustainability: Why making events more sustainable is not enough. In *Events and sustainability* (pp. 1–17). Routledge.
- Malchrowicz-Moško, E., & Poczta, J. (2018). A small-scale event and a big impact—Is this relationship possible in the world of sport? The meaning of heritage sporting events for sustainable development of tourism—Experiences from Poland. *Sustainability*, 10(11), 4289. <https://doi.org/10.3390/su10114289>
- Mamirkulova, G., Mi, J., Abbas, J., Mahmood, S., Mubeen, R., & Ziapour, A. (2020). New Silk Road infrastructure opportunities in developing tourism environment for residents better quality of life. *Global Ecology and Conservation*, 24, e01194. <https://doi.org/10.1016/j.gecco.2020.e01194>
- Mapjabil, J., Ismail, S. C., Ab Rahman, B., Masron, T., Ismail, R., & Zainol, R. M. (2015). Homestays-Community programme or alternative accommodation? A re-evaluation of concept and execution. *Geografia*, 11(12), 1–8.
- Marumo, K., Lubbe, S., & Pelsler, T. (2015). *Sport tourism as a developmental initiative in the economy of Mafikeng*.
- Megeirhi, H. A., Woosnam, K. M., Ribeiro, M. A., Ramkissoon, H., & Denley, T. J. (2020). Employing a value-belief-norm framework to gauge Carthage residents' intentions to support sustainable cultural heritage tourism. *Journal of Sustainable Tourism*, 28(9), 1351–1370. <https://doi.org/10.1080/09669582.2020.1738444>
- Memon, M. A., Cheah, J.-H., Ramayah, T., Ting, H., & Chuah, F. (2018). Mediation analysis issues and recommendations. *Journal of Applied Structural Equation Modeling*, 2(1), i–ix. [https://doi.org/10.47263/JASEM.2\(1\)01](https://doi.org/10.47263/JASEM.2(1)01)
- Misener, L., & Mason, D. S. (2006). Creating community networks: Can sporting events offer meaningful sources of social capital? *Managing Leisure*, 11(1), 39–56. <https://doi.org/10.1080/13606710500445676>
- Mohamad, M., Abdullah, A. R., & Mokhlis, S. (2012). Tourists' evaluations of destination image and future behavioral intention: The case of Malaysia. *J. Mgmt. & Sustainability*, 2, 181.
- Moon, H., & Han, H. (2019). Tourist experience quality and loyalty to an island destination: The moderating impact of destination image. *Journal of Travel & Tourism Marketing*, 36(1), 43–59. <https://doi.org/10.1080/10548408.2018.1494083>
- Ong, M. H. A., & Puteh, F. (2017). Quantitative data analysis: Choosing between SPSS, PLS, and AMOS in social science research. *International Interdisciplinary Journal of Scientific Research*, 3(1), 14–25.
- Organ, D. W., & Ryan, K. (1995). A meta-analytic review of attitudinal and dispositional predictors of organizational citizenship behavior. *Personnel Psychology*, 48(4), 775–802. <https://doi.org/10.1111/j.1744-6570.1995.tb01781.x>

- Panayotou, T. (2016). Economic growth and the environment. *The Environment in Anthropology*, 24, 140–148.
- Perić, M. (2018). Estimating the perceived socio-economic impacts of hosting large-scale sport tourism events. *Social Sciences*, 7(10), 176. <https://doi.org/10.3390/socsci7100176>
- Petronela, T. (2016). The importance of the intangible cultural heritage in the economy. *Procedia Economics and Finance*, 39, 731–736. [https://doi.org/10.1016/S2212-5671\(16\)30271-4](https://doi.org/10.1016/S2212-5671(16)30271-4)
- Petrović, M. D., Vujko, A., Gajić, T., Vuković, D. B., Radovanović, M., Jovanović, J. M., & Vuković, N. (2017). Tourism as an approach to sustainable rural development in post-socialist countries: A comparative study of Serbia and Slovenia. *Sustainability*, 10(2), 54. <https://doi.org/10.3390/su10010054>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *The Journal of Applied Psychology*, 88(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Pomeranz, K., & Topik, S. (2014). *The world that trade created: Society, culture and the world economy, 1400 to the present*. Routledge.
- Rahman, M. M. (2017). Do population density, economic growth, energy use and exports adversely affect environmental quality in Asian populous countries? *Renewable and Sustainable Energy Reviews*, 77, 506–514. <https://doi.org/10.1016/j.rser.2017.04.041>
- Raihan, A., & Tuspekova, A. (2022). Toward a sustainable environment: Nexus between economic growth, renewable energy use, forested area, and carbon emissions in Malaysia. *Resources, Conservation & Recycling Advances*, 15, 200096. <https://doi.org/10.1016/j.rcradv.2022.200096>
- Ringle, C. M., Sarstedt, M., & Straub, D. W. (2012). Editor's comments: A critical look at the use of PLS-SEM in "MIS Quarterly". *MIS Quarterly*, 36(1), iii–xiv. <https://doi.org/10.2307/41410402>
- Rizky, R. M., Kusdi, R., & Yusri, A. (2017). The impact of e-WOM on destination image, attitude toward destination and travel intention. *Russian Journal of Agricultural and Socio-Economic Sciences*, 61(1), 94–104.
- Robertson, S. L., & Dale, R. (2015). Towards a 'critical cultural political economy' account of the globalising of education. *Globalisation, Societies and Education*, 13(1), 149–170. <https://doi.org/10.1080/14767724.2014.967502>
- Roche, S., Spake, D. F., & Joseph, M. (2013). A model of sporting event tourism as economic development. *Sport, Business and Management: An International Journal*, 3(2), 147–157. <https://doi.org/10.1108/20426781311325078>
- Romão, J., Guerreiro, J., & Rodrigues, P. (2013). Regional tourism development: Culture, nature, life cycle and attractiveness. *Current Issues in Tourism*, 16(6), 517–534. <https://doi.org/10.1080/13683500.2012.699950>
- Scheyvens, R., & van der Watt, H. (2021). Tourism, empowerment and sustainable development: A new framework for analysis. *Sustainability*, 13(22), 12606. <https://doi.org/10.3390/su132212606>
- Selya, A. S., Rose, J. S., Dierker, L. C., Hedeker, D., & Mermelstein, R. J. (2012). A practical guide to calculating Cohen's f^2 , a measure of local effect size, from PROC MIXED. *Frontiers in Psychology*, 3, 111. <https://doi.org/10.3389/fpsyg.2012.00111>
- Siyabulela, N. (2016). Using sport tourism events as a catalyst for tourism development in the Eastern Cape Province. *South Africa. African Journal of Hospitality, Tourism and Leisure*, 5(3), 1–12.
- Song, Y., Yang, T., & Zhang, M. (2019). Research on the impact of environmental regulation on enterprise technology innovation—An empirical analysis based on Chinese provincial panel data. *Environmental Science and Pollution Research International*, 26(21), 21835–21848. <https://doi.org/10.1007/s11356-019-05532-0>
- Stylidis, D., Biran, A., Sit, J., & Szivas, E. M. (2014). Residents' support for tourism development: The role of residents' place image and perceived tourism impacts. *Tourism Management*, 45, 260–274. <https://doi.org/10.1016/j.tourman.2014.05.006>
- Tehseen, S., & Anderson, A. R. (2020). Cultures and entrepreneurial competencies; ethnic propensities and performance in Malaysia. *Journal of Entrepreneurship in Emerging Economies*, 12(5), 643–666. <https://doi.org/10.1108/JEEE-10-2019-0156>

- Tichaawa, T. M., & Bob, U. (2015). Leveraging mega-events beyond the host nation: A case study of the 2010 FIFA World Cup African Legacy Programme in Cameroon and Nigeria. *Leisure Studies*, 34(6), 742–757. <https://doi.org/10.1080/02614367.2015.1035312>
- Timothy, D. J. (2014). Contemporary cultural heritage and tourism: Development issues and emerging trends. *Public Archaeology*, 13(1-3), 30–47. <https://doi.org/10.1179/1465518714Z.00000000052>
- Ulucak, R. D. (2020). How do environmental technologies affect green growth? Evidence from BRICS economies. *The Science of the Total Environment*, 712, 136504., <https://doi.org/10.1016/j.scitotenv.2020.136504>
- Vuong, Q. H. (2016). Global mindset as the integration of emerging socio-cultural values through mindsponge processes: A transition economy perspective 1. In *Global mindsets* (pp. 109–126). Routledge.
- Watanabe, Y., Gilbert, C., Aman, M. S., & Zhang, J. J. (2018). Attracting international spectators to a sport event held in Asia: The case of Formula One Petronas Malaysia Grand Prix. *International Journal of Sports Marketing and Sponsorship*, 19(2), 194–216. <https://doi.org/10.1108/IJSMS-08-2017-0077>
- Wiramihardja, K., N'dary, V., Al Mamun, A., Munikrishnan, U. T., Yang, Q., Salamah, A. A., & Hayat, N. (2022). Sustainable economic development through entrepreneurship: A study on attitude, opportunity recognition, and entrepreneurial intention among university students in Malaysia. *Frontiers in Psychology*, 13, 866753–866753. <https://doi.org/10.3389/fpsyg.2022.866753>
- Wu, L. (2019). Research on the promoting effect of ice-snow tourism on regional economic development. *The Frontiers of Society, Science and Technology*, 1(5), 117–120. <https://doi.org/10.25236/FSSST.19010520>
- Xu, M., & Hu, W.-Q. (2020). A research on coordination between economy, society and environment in China: A case study of Jiangsu. *Journal of Cleaner Production*, 258, 120641. <https://doi.org/10.1016/j.jclepro.2020.120641>
- Xu, X., Imran, M., Ayaz, M., & Lohana, S. (2022). The mediating role of green technology innovation with corporate social responsibility, firm financial, and environmental performance: The case of chinese manufacturing industries. *Sustainability*, 14(24), 16951. <https://doi.org/10.3390/su142416951>
- Yang, Q., Hayat, N., Al Mamun, A., Makhbul, Z. K. M., & Zainol, N. R. (2022). Sustainable customer retention through social media marketing activities using hybrid SEM-neural network approach. *PloS One*, 17(3), e0264899. <https://doi.org/10.1371/journal.pone.0264899>
- Zhou, X. (2015). *Expectations of sport event tourism experiences*.
- Zouni, G., Markogiannaki, P., & Georgaki, I. (2021). A strategic tourism marketing framework for sports mega events: The case of Athens Classic (Authentic) Marathon. *Tourism Economics*, 27(3), 466–481. <https://doi.org/10.1177/1354816619898074>