




# Tourism Economic Impact Assessment

## Literature Review Using Bibliometric Tools

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**Abstract:** The abundance of diverse and varied tourism economic impact studies can be overwhelming for new researchers in this field. The extensive and heterogeneous nature of these studies often creates confusion regarding the specific study topic, the relevant location, and the appropriate assessment models to employ. This paper employs the systematic literature method, co-occurrence network analysis of author keywords, and crosstable analysis to review 70 articles in the Scopus database from 1988 to April 2021. The result shows that tourism economic impact assessment topics can be grouped into tourism demand and factors affecting tourism demand. Locations of studies consist of nations, regions, cities, towns, and communities. Primary assessment models are Input-Output, CGE, TSA, and SAM; the CGE model and SAM have been applied in nations and regions; TSA has been applied to nations. The Input-Output model can be effectively utilised at different levels, including national, regional, and local scales, encompassing countries, regions, and towns. This study offers a comprehensive panorama of study topics, locations, and appropriate measurement models for economic impact assessment, enabling scholars to delve into further research with a clear understanding and direction.

## 1. INTRODUCTION

Assessing the tourism economic value is conducive to illustrating the relationship between different financial segments and depicting the approximate necessary economic changes subject to the existing or possible available actions. In addition, positive tourism economic benefits are essential to boost tourism planning and tourism devilmint in the region ([Hussain, Kumar et al., 2017a](#)). In all countries worldwide, many millions of jobs and businesses are created by a prosperous tourism industry ([Wikantiyoso, Cahyaningsih et al., 2021](#)). Moreover, tourism plays a significant role in preserving natural and cultural heritage, guaranteeing its enjoyment by future generations. Therefore, it is essential to review the economic impact of tourism to strengthen the understanding that tourism is a



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significant contributor to economic development. Furthermore, there are many emerging trends, new investments, and new policies to boost economic development in the tourism industry. Efforts to develop different visitor-oriented facilities need public investment or support, and local economic advantages are regularly cited as a justification for public investment in such facilities ([Kumar and Hussain, 2014](#)).

Since society recognised the significance of the tourism industry, scholars pay great attention to the economic impact resulting in the vastness and heterogeneity of the achievements in the domain ([Comerio and Strozzi, 2019](#)). Some studies focus on the contribution to different nations or regions, for instance, tourism impact on Yugoslav ([Mikić, 1988](#)), Edinburgh ([Parlett, Fletcher et al., 1995](#)), the third world ([Leo Theuns, 2002](#)), and Tanzania ([Sharma and Olsen, 2005](#)). Many studies concentrate on the contribution of different tourism industry sectors, including the mega-event ([Humphreys and Prokopowicz, 2007](#); [Lee, C. K. and Taylor, 2005](#)), the event ([Dwyer, Forsyth et al., 2006](#); [Lee, M. J., 2007](#); [Warnick, Bojanic et al., 2017](#)), World Heritage Sites ([Hosseini, Stefaniec et al., 2021](#)), Agritourism ([Das and Rainey, 2010](#)), and cruise tourism ([Gouveia and Eusébio, 2019](#)). Factors impacting tourism development also have been estimated, such as investment ([Babeshko and Orlova, 2018](#)) and policy ([Zhang, 2021](#)). Furthermore, the studies vary on methods such as Input-Output analysis, Social Account Matrix, Tourism satellite Account, Money Generation Model, etc. ([Kumar, Hussain et al., 2015](#)).

However, few studies profoundly illustrate the methods for economic impact assessment resulting in the methods being overused and decreasing the reliability of the studies ([Liu and Jiang, 2017](#)). In addition, there are criticisms of economic impact studies, where researchers have mentioned economic impact benefits for the host communities. Still, others have evaluated the economic impacts on the host region, area or country. The vastness and heterogeneity of the studies confuse newcomers to the field on the study topic, location, and methods. Besides, the differences between methods in nature, structure, result-driven, data demand, and complexity lead the confusion that most of the time, it is not sure that the model is appropriate ([Comerio and Strozzi, 2019](#)).

Hence, this study aims to review the tourism economic impact assessment worldwide, describe the status of studies of the domain, and summarise the knowledge concerning the research objects, research scope, and the assessment models employed in works conducted to date. This study has three objectives.

- (1) Summarise the existing assessment of tourism's economic impact worldwide;
- (2) Categorise the research study topic and location;
- (3) Identify the matched relationship between assessment models and the research location of the previous study.

This study may provide a panorama of the economic impact studies and illuminate the study scope and objects. It is conducive for newcomers to this field to apply appropriate methods in further research.

## 2. LITERATURE REVIEW

The achievement of tourism economic impact is excellent, with a long history; since the 1960s, it has gained the attention of several researchers

([Yu and Turco, 2000](#)). From the temporal evolution facet, economic impact studies can be described in three phases.

## **2.1 The introduction phase (1988-1995)**

In this period, statistical data was scarce, and the general impact was assessed mainly using the I-O model. ([Mikić, 1988](#)) established the tourism balance table and measured tourism's impact on international trade in Yugoslav by the IMF model. It is argued that estimating tourism value was difficult in the earlier period due to the limited statistical data, and international comparison of tourism's economic impact is impossible. A Linear Programming Approach was presented by ([Kottke, 1988](#)), and the potential economic impact of tourism growth was assessed in the community of New London County. Nevertheless, it cannot be generalised because this study was limited in scope. Later, although the application at a municipality level was contentious, the method of the Input-Output model was utilised in the tourism domain with the popularity of the economic impact analysis. ([Parlett, Fletcher et al., 1995](#)) applied the mini Input-Output model in Edinburgh's old town and addressed the issues in question.

## **2.2 The development phase (1998-2010)**

In this period, new methodologies were proposed, and the contribution of different tourism branches was assessed. Tourism economic impact assessment studies become rich with new tourism trends. ([Dwyer and Forsyth, 1998](#)) put forward a new frame to measure cruise tourism's economic impact in Australia. The United States Department of Agriculture Forest Service first developed a new IMPLAN model that can examine direct, indirect, and induced economic effects. ([Yu and Turco, 2000](#)) employed it to conduct the spatial distribution of tourist expenditures for the Albuquerque International Balloon Festival on output, income, and employment. An integrated model of Ricardo–Viner–Jones (RVJ) and Heckscher–Nowak Ohlin (HNO) was utilised to assess the effects of tourism due to the structural adjustment of agriculture and non-traded goods sectors. It was suggested that a general equilibrium analysis of tourism was critical to check tourism's positive or negative impact. Subsequently, ([Dwyer, Forsyth et al., 2006](#)) adopted a computable general equilibrium (CGE) approach to study tourism economic impact generated by an event. In tourism economic impact assessment, the mega event is a study hotspot. Based on the survey data distinguishing the events tourists from non-event tourists, an Input-Output analysis was employed by [Lee, C. K. and Taylor \(2005\)](#) to estimate the economic impact of the 2002 FIFA World Cup. [Kim, Y., Kim et al.\(2008\)](#) described the negative and positive impacts of the HampYeong Butterfly Festival. ([Baumann, Engelhardt et al., 2010](#)) estimated the effect of the presidential inauguration on employment and showed no significant impact. ([Young, Young et al., 2010](#)) estimated the causal aggregate effects of a cultural event in four market towns by a causal chain model. Agritourism got the attention of scholars, and Input-Output analysis was also the prevailing method. Agritourism's impact on employment, tax revenue, income, and sales in the Arkansas Delta Byways was conducted by ([Das and Rainey, 2010](#)) using the Input-Output framework.

### 2.3 The flourishing phase (2011 to now)

In this period, more dynamic assessment methods were proposed and more precise international data collection methods were required. Most tourism economic impact studies can not track the changes over time. Consequently, methods that can trace dynamic tourism's economic impact were developed. ([Seetana, 2011](#)) employed the Generalised Methods of Moment (GMM) to address the dynamic issues in revealing the potential financial contribution of tourism of 19 islands with the method of conventional augmented Solow Growth Model. It was proven that the bi-causal relationship between tourists and growth and tourism played a critical role in economic growth. The economic impact generated by the Grand Pre Historic Site, which was in the process of applying the United Nations Educational, Scientific, and Cultural Organization (UNESCO) World Heritage Site (WHS), was assessed with regression analysis and input-out analysis by ([VanBlarcom and Kayahan, 2011](#)). The integrated method of liner model and Social Account Matrix (SAM) was employed by ([Campoy-Munoz, Alejandro Cardenete et al., 2017](#)), revealing the economic impact of the Mosque-Cathedral of Cordoba on production and employment to the host economy. New methods are emerging with the development of cultural tourism. The novel super-efficiency parallel framework that consists of resource-oriented and facility-oriented efficiency was proven to be an excellent way to assess the impact of cultural tourism by ([Hosseini, Stefaniec et al., 2021](#)) and the positive impacts on tourism demand of World Heritage Sites (WHS) brand in developing countries were uncovered. The CGE model can unfold the equilibrium relationship between tourism and other sectors. Hence, the tourism economic impact incurred by changes in factors related to the tourism industry was estimated by some scholars using the CGE model. For instance, the tourism impact owing to the rising oil price of 18 tourism market segments in New Zealand was depicted by [Becken and Lennox \(2012\)](#) by a two-stage CGE model. The welfare impact of the Beijing Olympics on residents was assessed by [Li \(2012\)](#) with the CGE model. Many environmental services are non-market products and benefit from resources consists market and non-market value. In estimating the value of rural tourism activity, TCM (Travel Cost Method) is the most popular method compared to other methods ([Afandi, Samdin et al., 2013](#)). Several methods were applied by [Gouveia and Eusébio \(2019\)](#) to measure the direct impact of cruise tourism in a port on Madeira Island. Though integrating TSA and sports tourism events into a SAM model, [Pedauga, Pardo-Fanjul et al., \(2020\)](#) employed a Hypothetical Extraction Method (HEM) to describe the relevant relationship between sports events and other sectors and the economic impact of sport tourism was precisely obtained. In addition, [Kim, S., \(2021\)](#) employed Economic Modeling Specialist International (EMSI) to assess the economic impact on Grenada County, Mississippi, and the fiscal impact of sport tourism in the US, including direct, indirect, and induced impact on value-added, employment, and revenue.

The attention to tourism events' economic impact is constant, and study perspectives are enriched. [Lu, Zhu et al. \(2020\)](#) argued that events should be treated as policy and can be investigated as a system in which the difference in difference (DID) model was appropriate to examine its impact on the host city. Furthermore, the Shift-Share Analysis method, first put forward by [Nuryasman, Nuringsih et al. \(2020\)](#), was proven to be an appropriate method to conduct the economic impact composed of actual growth, region mix effect, and competitive effect in the case of Kulon Progo Yogyakarta where

tourism was presented positive impact to the local economy. [Kalvet, Olesk et al. \(2020\)](#) suggested that data is essential in policy planning, implementation, and assessment of tourism, and novel data collection methods can be utilised in future research.

### 3. METHODOLOGY

A systematic literature review (SLR) method and co-occurrence analysis are employed in this study.

SLR is conducive to summarising articles concerning specific topics ([Dok-Yen, Duah et al., 2023](#)). In addition, this study employs a systematic review since it helps to unfold the current status of the relevant articles and can provide a guideline to enhance the quality of future studies ([Rasoolimanesh, Wang et al., 2021](#)). Thus, a systematic review of tourism economic impact is utilised to identify the relevant papers on the economic impact assessment perspectives and tourism economic impact assessment models.

This paper adopts the Scopus database because it contains high-quality and reliable literature reviewed rigorously ([Mongeon and Paul-Hus, 2016](#)). Compared with Web of Science (WoS), Scopus has more coverage, around 60% and embodies more numbers of articles ([Zhao and Strotmann, 2015](#)).

Papers containing “tourism economy impact or effect evaluation or assessment” in the title, abstract or keywords are selected. Relevant hospitality and tourism journal papers published until April 2021 are categorised by “relevance” and viewed. In light of the prior study, only full-length papers in the English language are considered ([Mohammed, Denizci Guillet et al., 2015](#)). One hundred eighty-four tourism economic impact articles published until April 2021 are retrieved. By assessing the titles and abstracts of the publications identified, complete papers were obtained if the abstracts were deemed relevant based on the inclusion and exclusion criteria to ensure this current paper is reliable ([Kitchenham, 2007](#)), as shown in *Table 1*. Finally, 70 articles are downloaded for review.

*Table 1.* Inclusion and exclusion criteria

Inclusion criteria	Exclusion criteria
English language	Non-English Language
Studies that consider the assessment of tourism’s economic impact	No assessment model is quoted in the result section
Published during 1988 -2021 April	Not enough information to identify the methodologies used in the study
	Not an original research article (i.e., review articles, systematic review articles, and editorials)

*Table 2* shows that the article titled critical reflections on the economic impact assessment of a mega-event: the case of 2002 FIFA World Cup [Lee, C. K. and Taylor \(2005\)](#) has been cited 291 times. Assessing the dynamic economic impact of tourism on island economies [Seetanah \(2011\)](#) has been cited 254 times. The article “Economic significance of cruise tourism [Dwyer and Forsyth \(1998\)](#) has been cited 183 times. The ten most cited articles were published before 2007, indicating the importance of the articles in the domain as citations are commonly used as a proxy of relevance ([Strozzi, Colicchia et al., 2017](#)).

Table 2. Ten most cited articles

No	Authors	Title	Year	Journal	Citations
1	<a href="#">Lee, C. K. and Taylor (2005)</a>	Critical reflections on the economic impact assessment of a mega-event: The case of the 2002 FIFA World Cup	2005	Tourism Management	291
2	<a href="#">Sectanah (2011)</a>	Assessing the dynamic economic impact of tourism for island economies	2011	Annals of Tourism Research	254
3	<a href="#">Dwyer and Forsyth (1998)</a>	The economic significance of cruise tourism	1998	Annals of Tourism Research	183
4	<a href="#">Dwyer, Forsyth et al. (2006)</a>	Assessing the economic impacts of events: A computable general equilibrium approach	2006	Journal of Travel Research	163
5	<a href="#">Tyrrell and Johnston (2001)</a>	A framework for assessing direct economic impacts of tourist events: Distinguishing origins, destinations, and causes of expenditures	2001	Journal of Travel Research	147
6	<a href="#">Wagner (1997)</a>	Estimating the economic impacts of tourism	1997	Annals of Tourism Research	143
7	<a href="#">Kim, S. S., Wong et al. (2007)</a>	Assessing the economic value of a world heritage site and willingness-to-pay determinants: A case of Changdeok Palace	2007	Tourism Management	128
8	<a href="#">Becken and Lennox (2012)</a>	Implications of a long-term increase in oil prices for tourism	2012	Tourism Management	65
9	<a href="#">Mitchell (2012)</a>	Value chain approaches to assessing the impact of tourism on low-income households in developing countries	2012	Journal of Sustainable Tourism	63
10	<a href="#">Jackson, Houghton et al. (2005)</a>	Innovations in measuring economic impacts of regional festivals: A Do-it-Yourself kit	2005	Journal of Travel Research	61

This paper analyses the number of articles in different years; the results reveal the most achievements in 2018, as shown in *Figure 1*. In 2018, there were nine articles.

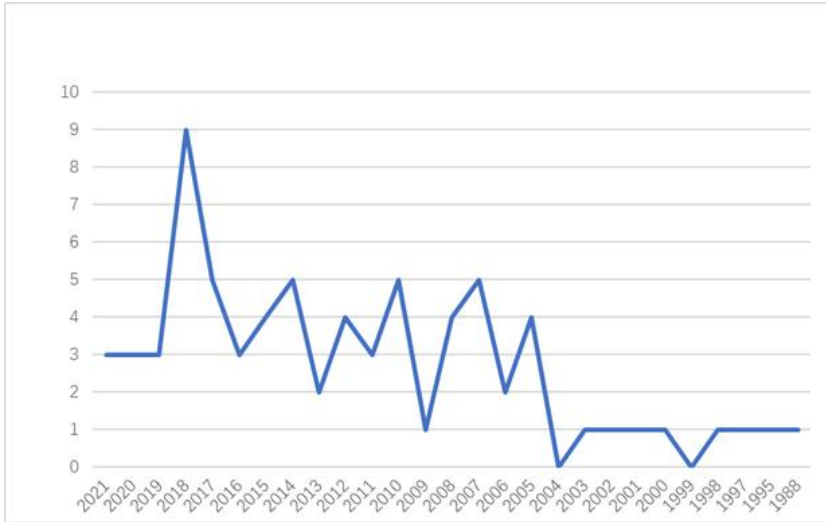


Figure 1. The number of articles in different years

Dwyer has the most achievements in this field among all authors, publishing articles in 1998, 2006 and 2007, respectively. However, there is no leading author in this field because each of the other authors has only one paper, as shown in Figure 2.

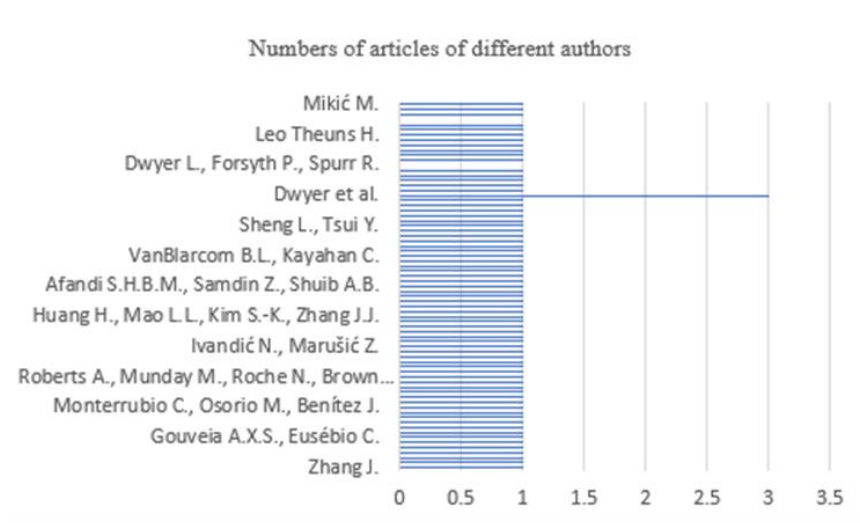


Figure 2. Leading authors

Regarding the source of the articles, there are 43 journals; among them, Tourism Economics boasts the most articles with 9; Tourism Management and Journal of Sustainable Tourism have six articles, respectively, and both Journal of Travel Research and Annals of Tourism Research have five articles. Journal of Destination Marketing and Management, Current Issues in Tourism, and Scandinavian Journal of Hospitality and Tourism have two articles; The left journals have only one paper, as shown in Figure 3.







Figure 6 shows the density visualisation of the keywords. This Figure more clearly illustrates that “tourism” and “economic impact ” are the centrepieces of the two most significant clusters, respectively. In addition, Figure 6 also reveals that the tourism satellite and computable general equilibrium (CGE) are the two prevalent methods in the existing literature.

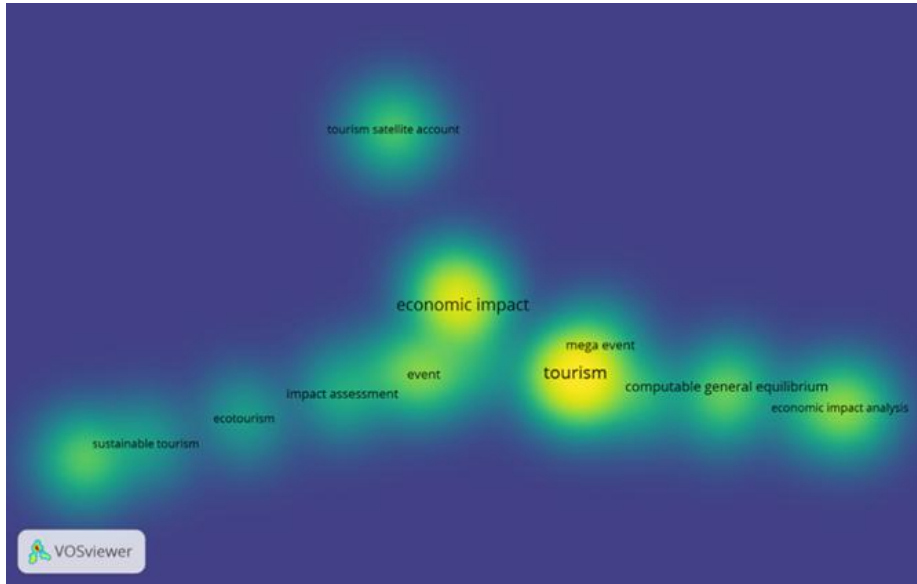


Figure 6. Density visualisation of author keywords

The achievement of economic impact research is rich in different locations, assessment models, and objects, including tourism policies, events, facilities, investment, etc. This review summarises the study objects, scope and assessment models from the 70 articles retrieved from the systematic literature review process.

## 4. RESULTS

### 4.1 Study topics of tourism economic impact assessment

The objects of economic impact assessment are various. However, the study objects can be categorised into two groups: one is tourism demand, and another is factors affecting tourism demand. Tourism demand can be further categorised into macroscopic and microcosmic tourism demand. Factors affecting tourism demand mainly include investment, policies, and other external factors, as shown in Figure 7.

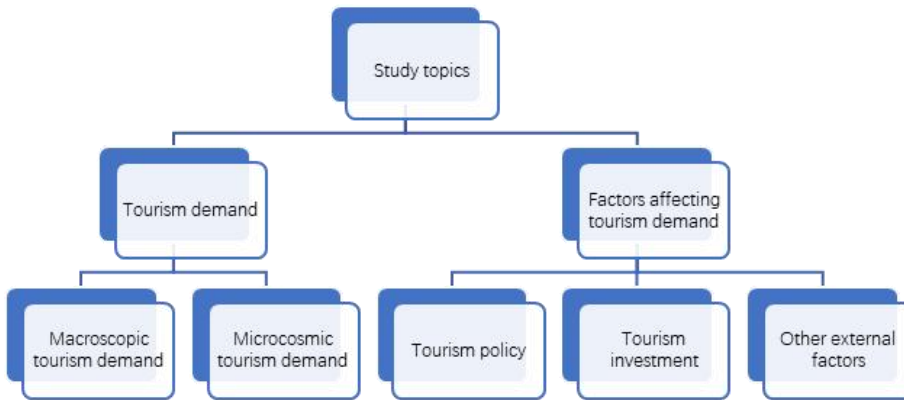


Figure 7. Study objects of economic impact assessment

This study defines the objects of the general tourism contribution to regional development as macroscopical tourism demand and the different kinds of tourism segments as microcosmic tourism demand, which includes event tourism, business tourism, cultural tourism, national park, agritourism, cruise tourism and so on.

#### 4.1.1 Macroscopical tourism economic impact assessment

Among the 70 articles, six concern general tourism’s contribution to local region development, which treats all tourism segments as one tourism industry, as shown in *Table 3*. Among the articles, four articles were published before 2010, implying that in the early stage, scholars paid more attention to the economic contribution of macroscopical tourism to national development, highlighting the function of tourism in national economic development.

Table 3. Articles on macroscopical tourism economic impact assessment

Authors	Title
<a href="#">Mitchell (2012)</a>	Value chain approaches to assessing the impact of tourism on low-income households in developing countries.
<a href="#">Fairley, Tyler et al. (2011)</a>	Assessing the dynamic economic impact of tourism for island economies
<a href="#">Lee, C. K. and Taylor (2005)</a>	Tourism satellite accounts: Implementation in Tanzania
<a href="#">Jackson, Houghton et al. (2005)</a>	Tourism, increasing returns and welfare
<a href="#">Wagner (1997)</a>	Estimating the economic impacts of tourism
<a href="#">Parlett, Fletcher et al. (1995)</a>	The impact of tourism on the Old Town of Edinburgh

#### 4.1.2 Microcosmic tourism economic impact assessment

There are event tourism, business tourism, culture tourism, national park, agritourism, and cruise tourism in the microcosmic tourism economic impact assessment category with a total of 41 articles. Among them, 19 articles focus on events and 22 on other topics such as cruise tourism, agritourism, world heritage tourism, etc., as shown in *Table 4*. Events are a research hotpot, coinciding with the above author's keywords analysis.

Table 4. Microcosmic tourism economic impact assessment topics

Topic	Number	Topic	Number
World Heritage Sites	4	Visiting friends and relatives (VFR) tourism	1
Cruise tourism	2	Agritourism	1
Sport tourism	1	International tourism	2
Ecotourism	5	Enclave tourism	1
Business tourism	1	Volunteer tourism	2
Event	19	National park	2
Total			41

#### 4.1.3 Factors affecting tourism demand

Some articles assess the factors affecting tourism demand and estimate their economic impact. From the 70 articles, tourism policy and investment are the main factors influencing the tourism demand. The articles are shown in Table 5. Other studies discuss terrorism and oil prices influencing tourism contribution, providing a new direction for the research domain.

Table 5 Tourism economic impact assessment on factors affecting tourism demand

Topic	Authors	Title
Policy	<a href="#">Gouveia and Eusébio (2019)</a>	Assessing the tourism-traffic paradox in mountain destinations. A stated preference survey on the Dolomites' passes (Italy)
Policy	<a href="#">Voloshenko, Ponomarev et al. (2019)</a>	Modelling of regulatory factor and managerial impact assessment in the regional economy sectors: a case study of the Kaliningrad region (Russia)
Policy	<a href="#">Hosseini, Stefaniec et al. (2021)</a>	Impacts of the emissions policies on tourism: An important but neglected aspect of sustainable tourism
Investment	<a href="#">Babeshko and Orlova (2018)</a>	Assessment of the impact of investment in tourism on the volume of tourist flow
Investment	<a href="#">Banerjee, Cicowiez et al. (2015)</a>	A quantitative framework for assessing public investment in tourism - An Application to Haiti
Investment	<a href="#">Baumann, Engelhardt et al. (2010)</a>	Foreign investment in tourism: The case of Macao as a small tourism economy
Terrorism	<a href="#">Sloboda (2003)</a>	Assessing the effects of terrorism on tourism by use of time series methods
Oil prices	<a href="#">Li (2012)</a>	Implications of a long-term increase in oil prices for tourism

#### 4.2 Study locations

The research scope has five levels: nation, region, city, county, and community. Most articles assessed the economic impact on the national or regional level, with fifty-nine articles accounting for 84.28% and a few articles on the city level and below, with eight articles accounting for 15.72%, as shown in Figure 8. The achievements on the city level and below are few due to the statistics' scarce data, and the primary data collection is high cost. Articles focusing on the county level usually use qualitative methods to discuss the social and economic impact on the community ([Dikgang and Muchapondwa, 2014](#); [Frent and Frechtling, 2015](#)).

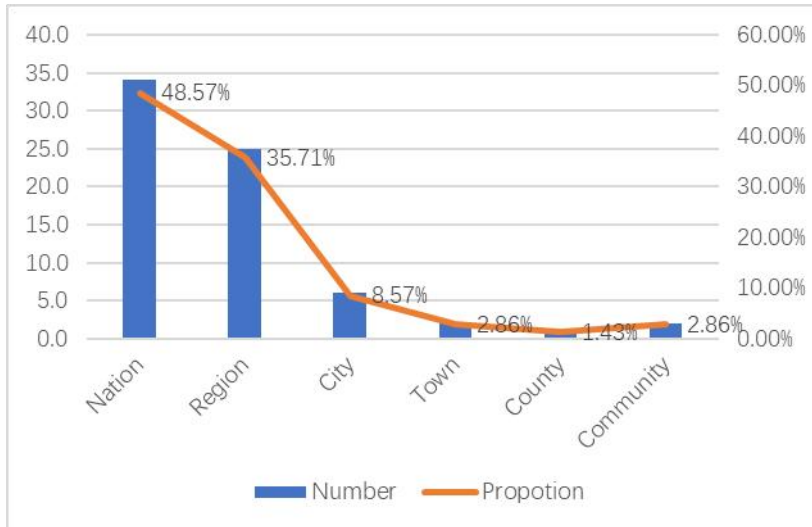


Figure 8. The study scope of tourism economic impact assessment

### 4.3 Economic impact assessment models

Although the achievement of tourism’s economic impact is rich, there is still no consensus conclusion in the academic circle on how much economic increment is brought by tourism development, which industries are involved in the economic impact of tourism, and how to measure the economic impact of tourism (Liu and Jiang, 2017). There are several ways to measure the economic effects of tourism, including multiplier analysis, cost-benefit analysis, and black or grey turnover (Cooper, Fletcher et al., 1998). (Holloway, 1998) introduced four ways of estimating the economic impacts of tourism, including the effect on income, employment, the area’s balance of payments, and the effect on investment and development.

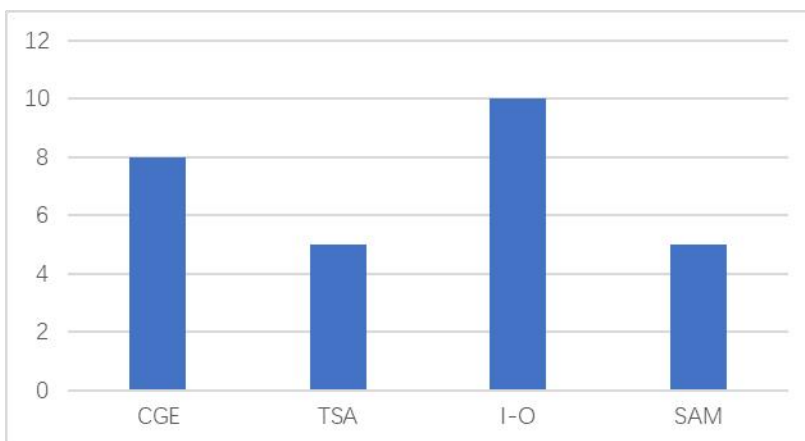


Figure 9. Number of articles using four main models

However, based on the statistical analysis of the assessment model, this review finds that the primary assessment models are (Computable General Equilibrium) CGE, (Input-Output) I-O model, (Tourism Satellite Account )

TSA, and (Social Accounting Matrix) SAM. In detail, eight articles use CGE, ten employ the I-O model, five adopt TSA, and five apply SAM. The other models include the parallel model (Zhang, 2021), EMSI (Kim, S., 2021), value chain (Voloshenko, Ponomarev et al., 2019), three-bottom line (Seetanah, 2011), GMM (Fairley, Tyler et al., 2011), and H-O model (Baumann, Engelhardt et al., 2010). The most prevailing model is the I-O model. It can be clearly shown in Figure 9.

This review identifies the five research scope and their matched models through crosstable analysis by Spss 26.0. Based on the crosstable analysis, the CGE model can be used at the national and regional levels for tourism economic contribution assessment; the I-O model can be used at national, regional, and town levels. TSA has been only used at the national level, and SAM has been applied at the national and regional levels. For the city level, the shift-share method is applied. Apart from the I-O model, the causal chain can be used at the town level (Parlett, Fletcher et al., 1995). No model can be used to assess tourism's economic impact on the community. In other words, the four main models are mainly used at the macro level. There is no common sense about which model is appropriate for the micro level, including city, town, and community. The result is shown in Table 6.

Table 6. Crosstable analysis of study scope and the matched assessment models

Model	Nation	Region	City	Town	County	Community	Total
CGE	6	2	0	0	0	0	8
I-O	5	4	0	1	0	0	10
TSA	5	0	0	0	0	0	5
SAM	2	3	0	0	0	0	5
EMSI	0	0	0	0	1	0	1
Causal chain	0	0	0	1	0	0	1
Shift share	0	0	1	0	0	0	1

## 5. DISCUSSION AND CONCLUSION

Studies on tourism economic contribution assessment are vast. This review employs a systematic literature review method to retrieve the articles from the database of Scopus and applies a quantitative bibliometric analysis by algorithms and software tools. The integrated result of the analysis is conducive to capturing the panorama of the research status of the research domain. Furthermore, the author's keyword analysis by Vos view demonstrated usefulness in locating and analysing the studies' network. It reveals the studies' central theme, network relation of studies on hot topics, methods, and the arising new topic in the field, revealing the research trend of this domain. In addition, this literature applies the SPSS26.0 to analyse the study topics and locations deeply and statistically. Lastly, this study conducts the crosstable analysis to group the study and unfolds the relationship between the study location and matched assessment models.

The current paper reinforces the concept that the tourism industry has a remarkable impact on the local economy. The impact can be categorised as direct, indirect, and induced. The direct impact is the expenditure of tourists spending to all the products from the tourism industry, such as hospitality and scenic areas; the indirect impact results from the money spent by

tourism corporations for serving the tourists, and the induced impact is generated by the expenditure spent by employees working in the tourism corporations after they gain the salary. Tourism's economic impact can be helpful for governments to make the investment and planning. For corporations, it is conducive to making marketing programs.

In the analysis of the co-occurrence of author keywords, there are 6 clusters, indicating six themes. The big circles in every cluster include tourism, economic impact, computable general equilibrium (CGE), tourism satellite account (TSA), event, sustainable tourism, and ecotourism, implying the hot topics and the prevailing model utilised in the studies of the field. In the co-occurrence of keywords analysis, a strong relationship between CGE and economic impact is presented, revealing that CGE is one of the constantly used methods. Further, research trends include the event, sustainable tourism, and ecotourism.

Based on the statistical analysis of the study topics, this study finds that both the tourism demand and the factors affecting tourism demand have been assessed the economic impact. In the previous study, the tourism demand comprises overall tourism demand, events, ecotourism, agritourism, cruise tourism, national parks, and culture tourism. The factors influencing tourism demand include investment and policies, which consists of all techniques that have commonly entered the field of applied economic policy analysis in tourism.

The values of the tourism economy can be measured mainly by the Input-Output, CGE, TSA and SAM. All models are based on the total equilibrium theory and industrial relevance theory. Different model has different strength and weakness. The input-out model is comprehensive and widely used, but it is a linear and static model with substantial restrictions that real economic changes cannot meet ([Kumar and Hussain, 2014](#)). The CGE model is dynamic, more advanced than the Input-Output model, and can trace the time path of economic impact. However, the model is hard to analyse due to its more flexible and complicated relationships ([Hussain, Kumar et al., 2017a](#)). Not every nation has TSA and SAM, so the achievement of the TSA and SAM is not as much as the I-O model.

Regarding the nature of the models, this study may conclude that there are only two models: one is the Input-Output model, and another is a computable general equilibrium (CGE) model because apart from CGE, most of the models are established on the Input-Output model. In addition, the data for CGE compromises TSA and SAM. In other words, CGE is established based on TSA and SAM; CGE is more advanced than the TSA, SAM and Input-Output model because only CGE can trace the tourism impact change over time.

As for the research location, the scope varied from the national level to the community level. Most studies focus on the national and regional levels and few articles on the city and below levels. Regarding the research location and the matched assessment models, compared with CGE, TSA, and SAM, the I-O model has more application scopes, including nation, region, and town levels. CGE and SAM models can be used at the national and regional levels, but the TSA only be applied at the national level in this review of the 70 articles. In addition, the application of dynamic models is now insufficient; hence, the industry and research cycle require methods to assess the dynamic impact for future research. Meanwhile, future research should pay more attention to different kinds of tourism segment economic impact rather than an event and proposing a new frame based on the existing

methods to analyse small-scope tourism economic impact will be of great significance.

Although the positive economic impact of tourism was discussed widely, the positive impact of tourism on the economy cannot happen in all regions. For instance, the direct economic impact generated by the increased tourist expenditure could not cover the cost of the Union of European Football Associations (UEFA) 2012 Football Championship ([Humphreys and Prokopowicz, 2007](#)). Therefore, besides the economic contribution of tourism, more attention can be paid to the negative impact of the tourism economy, and more scientific countermeasures on tourism research can be utilised in the application of tourism development in future studies.

In conclusion, there are some limitations to this study. Articles from the systematic literature review phase are retrieved from Scopus that include only a fraction of scientific publications; however, compared with the Web of Science (WoS), Scopus has more coverage, around 60% and embodies more numbers of articles ([Zhao and Strotmann, 2015](#)). Another criticism is that the articles for this review are from 1988 to April 2021; articles published after April 2021 are not included in this review, but it will not affect the findings of this review because papers published in a short time can not get many cited chances to change the research findings of this review. Despite the stated limitations, this review could present an overview of studies on tourism's economic impact assessment for newcomers to this field, supporting them in finding appropriate assessment models to apply in suitable locations and topics. Finally, the methodology presented in this review combines a systematic literature review, author keywords co-occurrence network analysis, and crosstable analysis may provide a valuable way to conduct a literature review to find agendas for future research in tourism and other fields.

## AUTHOR CONTRIBUTIONS

Writing—original draft preparation, Z.H.; editing, proofreading and supervision, J.K. and S.K. All authors have read and agreed to the published version of the manuscript.

## ETHICS DECLARATION

The authors declare that they have no conflicts of interest regarding the publication of the paper.

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