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Fresh insights into tourism-led economic growth nexus: a systematic literature network analysis approach

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ABSTRACT

Using over 200 empirical studies curated from web of science (WoS) and Scopus databases, the current study employed systematic literature network (i.e. systematic review and bibliometric) analysis to document the evolution of tourism-led economic growth literature. Specifically, the study answered four key research questions validating the most influential contributors, key themes in tourism-growth nexus, intellectual networks and critical signposts for future research engagements. Beyond its contribution in answering the aforementioned questions, this study also offered crucial recommendations to policymakers for generating alternative path(s) to economic growth.

Introduction

In retrospect, tourism was considered a nonproductive sector because it involves leisure activities (Vanhove, 2018), however, in recent times, it has become one of the most researched topics especially in economic studies because it, directly and indirectly, contributes to the economy (Eluwole, Saint Akadiri, et al., 2020; Matthew et al., 2021). Tourism reduces unemployment, alleviates poverty, encourages the efficient use of domestic resources and international trade, thereby leading to infrastructure, economic, and social developments (Tang & Tan, 2018). Before the pandemic, the industry accounted for 334 million (10.6% of all jobs and US$9.2 trillion, which is 10.4% of the world Gross Domestic Product (GDP) (World Travel and Tourism Council (WTTC), 2021).

According to the WTTC statistics, the tourism sector will have a direct contribution of U$ 3367 billion and U$ 10.740 billion total contributions to global GDP in 2021 and is projected to increase to

U$ 5562 billion and U$ 18,031 billion, respectively, by 2029 (Statista, 2021). While 62 million jobs were lost during the pandemic, it is expected that before the end of 2022, the job losses could be recovered which is a positive indication for the industry. While tourism has a lot of benefits to the host communities, it has been established that it plays a major role in environmental degradation (Alola et al., 2020; Alola et al., 2021; Lasisi et al., 2020). Furthermore, the socio-cultural impacts of tourism have also been well documented in literature. For instance, Zhuang et al. (2019) claimed that tourism development changes the social character of the destination. More specifically, the acculturation and development process of tourism weakens the traditional values and local culture of the indigenes (Eluwole, Lasisi, et al., 2020). Loss of authenticity, commodification of tourism products, demonstration effect, and decline in morality of the host nations are among some of the identified negative socio-cultural impacts of tourism.

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Nevertheless, tourism is a great contributor to destination's economy. Brida, Cortes-Jimenez, et al. (2016) regarded international tourism as a nonstandard export type because it is "a source of receipt and consumption *in situ*" (p. 395). Exports, as suggested by the new growth theory have a significant contribution to economic growth by improving the efficient allocation of production factors and expansion of their volume (Soyer et al., 2020). Given that tourism activities are difficult to measure, economic literature often emphasizes manufactured and primary product exports, thereby overlooking the economic sector. This led to the export-led growth hypothesis (ELGH), which posits that economic growth can be achieved, by not only increasing capital and labor within the economy but also by increasing export.

The tourism-led growth hypothesis (TLGH) as economy-led tourism hypothesis (ELTH) was theoretically developed from the ELGH (Brida et al., 2015) and has analyzed the possible progressive short and long-run relationship between tourism and economic growth. The debate is whether tourism causes economic expansion or economic growth encourages tourism growth or if the two variables have a bidirectional relationship. This hypothesis has been empirically tested using various econometric techniques as will be shown in the following sections. In addition, studies have shown that earnings from foreign exchange in tourism activities can be used to import capital and then be used to produce goods and services locally, resulting in economic growth (Comerio & Strozzi, 2019; McKinnon, 1964).

Based on this concept, the tourism-capital good import-growth (TKIG) hypothesis was introduced by Nowak et al. (2007). The TKIG hypothesis postulated that tourism export leads to the import of capital goods, which promotes economic growth. Several studies have been done to understand the TKIG hypothesis in different countries such as Tunisia (Cortes-Jimenez et al., 2011), Spain (Nowak et al., 2007), and Croatia (Hajdinjak, 2014); however, findings are mixed. It was observed that studies done on the TKIG hypothesis are limited when compared with the TLGH and the few studies only considered single countries. For this reason, the TKIG hypothesis was not considered in our study.

Considering the heterogeneity and vastness of the relationship between tourism and economic growth, as well as the proliferation of studies examining whether economic growth is driven by tourism, the

TLGH is now considered a major research area in tourism economics. With almost two decades of publishing in this field, it permits an in-depth evaluation of insights gained from the TLGH, as regards the choice of methodology, results from analysis while also considering geographical differences. Therefore, the foremost objective of this study is to carry out an extensive investigation of 218 peer-reviewed articles, within the time span from 1989 to 2021.

To achieve the research objective, a dynamic literature review method called the "Systematic Literature Network Analysis" (SNLA) was applied. This method was introduced by Colicchia and Strozzi (2012) and merges the bibliographic network analysis and the systematic literature review. This innovative approach has been used in other studies (e.g. Comerio & Strozzi, 2019; Khitous et al., 2020) and this methodology has been proven to be a good resource for identifying trends in research as well as evolutionary trajectories. This is because the approach provides an outlook of most researched areas of study, helps in targeting explicit subject areas, and linking or adopting those themes. To this end, the current study seeks to answer the following research questions. Research question (RQ1): Who are the key contributors in shaping the research on TLGH? RQ2: Which are the influential studies and themes in the tourism-led growth research domain? RQ3: What is the intellectual structure of tourism-led growth research, and how has the research domain evolved over the years, and what are the recent trends in this research domain. RQ4: What are the important future research scopes that may be recommended to researchers in the research domain for future considerations?

In answering the aforementioned research questions, this study, therefore, contributes to the TLGH literature in several ways. Firstly, it gives a profound insight into the variables that is been used to understand the TLGH as this is essential in the interpretation of the TLGH. Secondly, the econometric approaches that have been used to test the relationship between tourism and economic growth were also reviewed, the erudition of some recently applied tests, and the most frequently used methods. Thirdly, an overview of the conceptual framework that underpins the TLGH is provided, which is rarely found in empirically published papers, and it is intended to serve as a reference for individuals unfamiliar with the concept. Lastly, to the best of our knowledge, only a research paper (Comerio & Strozzi, 2019) has used the SLNA approach to evaluate

the tourism and growth hypothesis and their study included published articles from 1999 till 2018. Our study is more robust, in that our study includes articles from 1989 until 2021.

Database, keywords and inclusion/exclusion criteria

To enhance the quality of data collection and to provide transparent procedure for replication of the study, we followed Aguinis et al. (2018) recommended approach for evidence-based transparent systematic process. Specifically, we adopted the six-step process to data retrieval (Aguinis & Glavas, 2012).

Step 1: Goal setting and Scoping of the Review

To start with, we specify the goal and scope of the review, that is, to outline the synopsis and trajectory of the theme under consideration i.e. the TLGH. The review included empirical studies on the TLGH across the globe consisting of both country-specific studies, cross-country-based studies, and panel studies. Thus, all studies in tourism and economic literature were included to allow for substantive and comprehensive scope. Because tourism impacts several aspects of the destinations, we limit our scope to studies that investigated the tourism-growth nexus. In a nutshell, included studies focused on TLGH, tourism-capital good import-growth hypothesis, and economy-led tourism hypothesis.

Step 2-Journal Selection Procedure

As shown in Figure 1, we used two databases (Scopus and Web of Science) for the selection of documents included in the review. Both databases are reliable and provide central access to all publications in social science citation collections in WoS, business, management, and accounting in Scopus. Journals that are not in these collections were excluded. Strozzi et al. (2017) considers WoS as the most commonly used citation databases. According to Comerio and Strozzi (2019), the Scopus database is more advantageous in that its coverage is almost 60% larger than the WoS database. A search string for appropriate terms (("tourism-led growth hypothesis" OR "Economic-led tourism" OR "tourism-capital good import-growth" OR "Tourism economics") AND ("Tourism growth" OR "Economic Growth")) was used to search the title, keywords or abstracts. The preliminary result yielded 668 documents. Then, the search term was limited to documents written in English resulting in 661 documents.

Step 3 and 4 -Document Selection Procedure

To identify the documents for inclusion, the researchers manually read the title and abstract of the identified documents through the search of the databases to determine the status of "yes," "no" and maybe" for the articles. To minimize error and omission, the evaluation was done separately and the result was compared and used to determine the final documents included. Document categorization was based on the research objective of the study, if it focusses on tourism-economy growth nexus. Documents with focus on "energy" or "ecology" were excluded. The intercoder agreement resulting from comparing the individual coder's excel file shows about 89% agreement in documents selected.

Step 5 and 6 – Recommendation Selection Procedure

The final documents recommended for inclusion were decided through inter-coder agreement after all the coders have read the 230 documents. All 206 documents were included in the final list (Appendix A1).

Systematic literature review analysis

There are two phases in the SLNA: the systematic literature review (SLR) and the bibliometric network analysis (BNA). There are three main stages in the SLR phase: defining the scope of analysis; locating language, type of documents, time, and keywords of studies; and selection and evaluation of study to separate the most relevant studies. In the BNA phase, studies screened from the Scopus database were used. In this study, we carried out the keyword network analysis and citation network analysis (CNA); incorporating them by combining those with supplementary investigations of the most frequently cited texts.

As discussed earlier, there is need for continuous effort to seek new perspectives, tools, and approaches to have a better understanding and to acquire new knowledge to understand the tourism disciple because of its dynamics as an industry and activity (Gani & Clemes, 2017). Tourism, from a macroeconomics viewpoint, contributes to economic developments and destination competitiveness at local, national, and international levels. As mentioned earlier, tourism has both positive and negative impacts on the host counties; and most developing and less-developing countries are beginning to increase the specific weight of
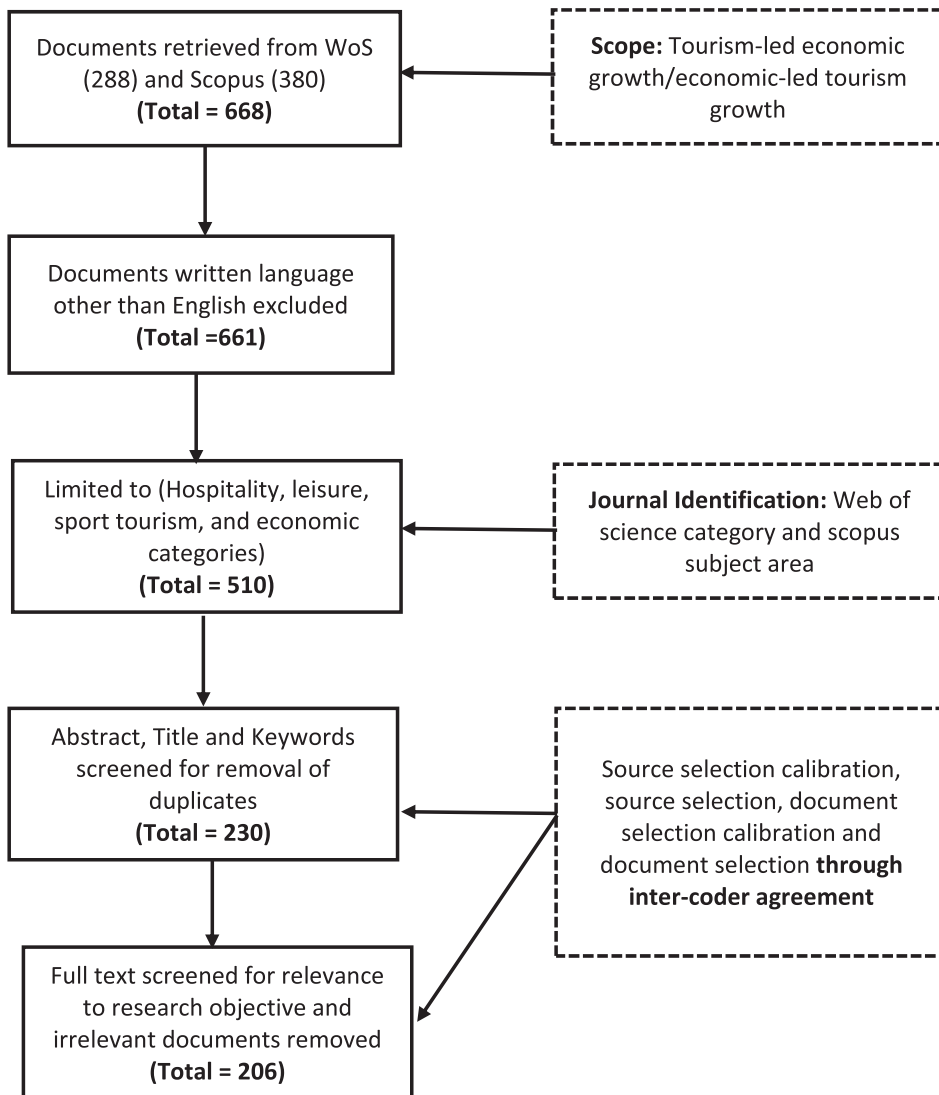
Figure 1. Data retrieval procedure (Aguinis et al. (2018).

tourism in their GDP. A SLR will provide a snapshot of the most advanced areas of tourist research, assisting researchers to focus on specific topics and enabling them to link or adopt to those themes.

Categories of empirical studies on TLGH

The current study classifies the extant TLGH literature into four (4) categories based on the direction of causality between tourism and economic growth (GDP) for the first three classes. The first group is known as the tourism-induced growth hypotheses literature, where

the tourism sector is seen as a key driver for economic growth. This group can also be called one-way causality running from tourism to economic growth (Balsalobre-Lorente et al., 2021; Banday & Ismail, 2017; Fauzel et al., 2017). The second group is the direct mirror image of the first called the growth-induced tourism hypothesis. In this case, economic growth is seen as the catalyst for tourism development (Teng et al., 2021). The third divide is the neutrality hypothesis where both tourism and economic growth do not induce each other. The plausible explanation for this could be tourism sector hold less to drive such economy or vice versa (Oh, 2005; Ozturk & Al-

Kuwari, 2021). The final fourth group stems from studies that augment the TLGH with other macroeconomic indicators like energy consumption, budget deficit, and labor among authors. These classifications were used to discuss the trajectory of the body of knowledge on the theme i.e. TLGH as well as pointing out a vacuum with little or no documentation in the literature which can be conducted by future scholars (Lee & Chang, 2008; Xia et al., 2022).

Position of knowledge

The present study advances with a more in-depth x-ray and review of the current state of knowledge on the TLGH on the four (4) divide in terms of causality namely, tourism-induce, growth-induce, neutrality hypotheses, and the augmented TLGH. These study reviews are discussed carefully in the next section. However, a summary of the selected studies on the four dividers are presented in the appendix section (i.e. the systematic review) with the authors' study area, variables studied method applied and year of study as well as key study finding.

Studies on the tourism-led growth hypotheses

The extant literature on TLGH has been ongoing for decades after the seminal study of Balaguer and Canta-vella-Jorda (2002), which investigated the connection between economic growth and tourism development in the Spanish economy. The study adopted the use of quarterly frequency data from 1975 to 1997. The variable used for the investigation was tourism earrings as a measure for tourism, the real effective exchange rate was used to account for the countries competitive and parity variable between origin and destination countries and gross domestic product used to measure economic growth. Using Johansen multivariate analysis, the study traces the long-run equilibrium relationship between the outlined variables and thus giving credence to the TLGH for the Spanish economy. Similarly, Dritsakis (2004) explored the TLGH for the case of Greece. The study of Dritsakis (2004) validated the TLGH, where tourism is seen as a key indicator that engenders economic growth.

The TLGH has evolved in the last decades with the four divides as previously highlighted. For instance, there exist a strand of literature that affirms the TLGH these studies either figured out empirically that tourism-induced economic growth is one-way or vice versa see (Adedoyin et al., 2021; Al-Najjar, 2014; Aslan, 2014; Balsalobre-Lorente et al., 2021;

Banday & Ismail, 2017; Fauzel et al., 2017; Gwenhure & Odhiambo, 2017; Tang & Ozturk, 2017; Tang & Tan, 2017; Xia et al., 2022) these studies gives credence to the pivotal role of tourism to economic growth and by extension economic development. On the other hand, there exist empirical studies that fail to find support for the TLGH also known in the extant literature as neutrality hypothesis among which are seen (Ekeocha et al., 2021; Oh, 2005; Ozturk & Al-Kuwari, 2021). Finally, there also exists a strand of literature that deviates from the aforementioned group, theses studies augment that conventional bi-variate tourism and economic growth model with other macroeconomic indicators most studies investigated in the systematic review added real exchange rate or effective exchange rate. The intuition of this the mentioned most studies included of real or effect exchange rate to account for competitiveness among both origin and destination countries to account for currency parities. While other studies added export, energy, capital stock exchange, higher education, gross capital formation, labor). For instance, Brida et al. (2011) empirically explored the pivotal role of international tourism on economic growth and its ripple effect for the case of Brazil over 1965–2007. The study conforms to the long-run equilibrium relationship between tourism earning, real exchange rate, and economic growth over investigated period. Additionally, for a small isolated Island like Cyprus, Katircioglu (2009) examined the nexus between tourism, international trade, and real income using the ARDL Bounds test and Granger causality analysis. The study led support to the TLGH. The results from the Granger causality reconnect the TLGH where real income growth (GDP) and international trade disaggregated into export and import spurs influx tourism in Cyprus. Furthermore, for country-specific study Habibi et al. (2018) study found a positive relationship between economic growth and tourism. The study adopts the use of a growth decomposition method (GDM) between 2005 and 2014. The study disaggregated economic growth into the diverse sector and found a positive synergy between tourism and economic growth over the study period. More recently, (2021) explore the TLGH, however, the study deviates from the conventional economic growth (GDP) real effective exchange rate measure for currency parity and tourism measures of (international tourism receipt, tourism arrival or tourism expenditure) rather the study measure tourism with air transport.

Balsalobre-Lorente et al. (2021) empirically explored the asymmetric impact of air transport, globalization, and renewable energy on the Spanish economy between 1970 and 2015 using Shin et al. (2014) methodology. The study led support to the TLGH over the investigated period as a measure of tourism (air transport) exerts a positive effect on economic growth.

The TLGH literature has well-documented studies that cut across various dimensions of the hypotheses previously outlined. The trajectory of study has also evolved from country-specific studies to cross-country and panels of countries. For instance, Lee and Chang (2008) explored the validity of TLGH in both OECD and non-OECD countries. The study adopted the use of panel cointegration and panel casualty analysis to explore the relationship between tourism and economic growth for both blocs. The study's empirical findings show a one-way causality running from tourism to economic growth. This validates the TLGH for OECD while a feedback nexus is confirmed for the case of the non-OECD bloc. This result is confirmed by Mitra (2019) who revisited empirically the nexus between tourism development and economic growth for 158 countries as a two-way causality relationship is seen between tourism and economic growth. Additionally, Saint Akadiri et al. (2019) investigated the TLGH for a panel of selected Mediterranean small island countries using Johansen Fisher co-integration test and panel fixed-effect regression with Driscoll–Kraay standard errors to explore the TLGH between 1995 and 2013. Although the study explains more about the TLGH existing on the small island but also that international tourism arrival also increases pollution in the bloc. This is evident from the augmented carbon-income function that incorporates energy consumption and tourism. More recently, the wave of globalization has outlined the need for mobility, either for leisure, health, or business vacation. In the light of the above, Xia et al. (2022) examined the validity of the TLGH for 34 European countries using annual frequency data from 1995 to 2015. The study uses recent econometrics tools like common correlated effects augmented mean group and groped-mean. All estimators are in harmony with the validity of the TLGH for the 34 EU countries examined. More insights are elucidated in the systematic review appended in the appendix section of this empirical study.

Bibliometric analysis

To identify the general informative overview of the research field of TLGH, the current study employed bibliometric analysis as a quantitative tool providing a precise summary of trends, performances, and intellectual structures within the research field. To achieve the bibliometric analysis of the selected data of this study, we used Biblioshiny by Bibliometrix – an R package (Aria & Cuccurullo, 2017; Ramos-Rodriguez et al., 2021). The result presented in this section detailed the main data information, most published authors, most impactful authors, most frequently used authors keyword and keyword plus, most relevant sources, and most cited publications.

Customary to empirical studies, we followed the existing layout in extant literature by first presenting the full descriptive characteristics of the data information (Balcilar et al., 2021). This data description is documented in Table 1. Specifically, the data employed for the bibliometric assessment of the thematic evolution and authors' contributions to TLGH economic research spanned from 1989 to 2021. Based on the inclusion criteria highlighted in the method section, a total of two and six (206) peer-reviewed documents were analyzed. Of these 206, 195 (94.7%) are empirical articles while 11 (5.3%) are review articles. Four hundred and twenty-six authors with a total of 549 appearances contributed to the documents under review. Of these 426, 35 (8.2%) published single-authored documents while an overwhelming majority 391 (91.8%) contributed to the publication of multi-authored documents, providing an initial indication of a high collaborating network among researchers in the field.

Further, with respect to authors' collaboration, a more thorough description shows a collaboration index of 2.34 and 2.67 co-authors per document. In other words, the lead authors in the field collaborated with at least 2.34 other authors on a yearly basis while co-authors contributed to at least 2.67 documents yearly. Consequently, these collaborative efforts are reflected in the annual publication growth of the TLGH research domain with an average year from the publication being 4.5, average publication per document being 32.08, average citation per year per publication being 4.47, and total cited references of 9093.

Table 2 presents the top 10-most relevant authors based on the number of published documents. The contributions of the most relevant authors were reported both as a general term and also as a fractionalized quota. In both categories, Tang C.F. of Centre for Policy Research and International Studies, Universiti Sains Malaysia ranked first with 15 publications

Table 1. Data information.

Main Information		Authors Information	
Timespan	1989:2021	Authors	426
Sources (Journals, Books, etc)	90	Author Appearances	549
Documents	206	Authors of single-authored documents	35
Average years from publication	4.5	Authors of multi-authored documents	391
Average citations per document	32.08		
Average citations per year per doc	4.472		
References	9093		
Document Types		**Authors Collaboration**	
Article	195	Single-authored documents	35
Review	11	Documents per Author	0.484
Author's Keyword (DE)	532	Authors per Document	2.07
Keywords Plus (ID)	442	Co-Authors per Documents	2.67
		Collaboration Index	2.34

and a fractionalized value of 8.17. Brida, J.G., of Facultad de Ciencias Económicas y de Administración, Universidad de la República, Uruguay with 8 published documents ranked second and Risso, W.A. of Instituto de Economía (IECON), Universidad de la Republica, Montevideo, Uruguay also ranked second in the fractionalized category with 2.62 fractionalized articles. Both Brida, J.G and Risso, W.A. ranked third as they switched the positions in both categories. Adedoyin F.F., Bekun F.V., Abosedra S, and Tan EC completed the top 5 ranked contributors to the field.

Beyond authors' contribution based on a number of publications, we examined authors' impact using the h_index, g_index, m_index, and TC (Donthu et al., 2020). H_index (**h**) is the h number of TLG documents cited at least h number of times in the data in review. With an h_index of 13, Tang CF is the most impactful researcher in the field. Brida JG (8), Risso WA (6), represents the second and third most impactful scholars respectively. With h_index of 13, Abosedra S, Balsalobre-Lorente D, Tan EC, and Zaman K., all tied for the fourth most impactful scholar in the field.

Table 2. Top 10-most relevant authors based on # of documents.

Authors	# of Articles	Authors	# of Articles Fractionalized
Tang CF	15	Tang CF	8.17
Brida JG	8	Risso WA	2.62
Risso WA	6	Brida JG	2.53
Adedoyin FF	5	Abosedra S	2.00
Bekun FV	5	Tan EC	2.00
Zaman K	5	Zhang J	1.83
Abosedra S	4	Hatemi-J A	1.70
Akadiri SS	4	Cheng L	1.50
Balsalobre-Lorente D	4	Fonseca N	1.50
Driha OM	4	Bekun FV	1.42

Akadiri AC, Akadiri SS, and Cheng L with h_index of 3 completed the top-ranked scholars of TLG studies.

While h_index is a widely accepted metric of measuring researchers' impact, some scholars have argued that alone it cannot reflect the exhaustive measures required to reach such an important conclusion (Stallings et al., 2013). As such, g_index (**g**) – which is the g number of highly cited TLG articles, cited at least g^2 times in the data in review, and m_index (**m**) – which is the ratio of total publications to a number of active years of publication, were used to supplement the result of the h_index. As reported in Table 2, Tang CF, Brida JG, and Risso WA remained the topmost impactful researcher of TLG with g_index of 14, 8, and 8 respectively. However, when m_index which accounts for the years of activity of the researcher was used, Balsalobre-Lorente D ranked first with a score of 2, while Driha OM and Fonseca N tied for second with the score of 1.5. This result suggested that new breeds of researchers are emerging in the field. A full list of scholars in all categories of indexing is reported in Tables 3 and 4.

The dominance of Tang CF, Brida JG, and Risso WA continued in terms of TC with 893, 627, and 350 total citations, respectively. Tan EC with 344 total citations and Hatemi-J A with 343 total citations completed the top 5 ranked authors in this category.

With respect to authors' keyword and keyword Plus ID, Table 5 presents the result of the most frequently used words. As reported, "economic growth" with 82 counts represents the most-frequently-used authors' keyword in the field. Unsurprisingly, the same word "economic growth" with 83 counts equally doubles as the most frequently used keyword-Plus ID. Expectedly, "tourism," "tourism-led growth hypothesis," "granger causality," and "tourism-led growth" round up the list of the top 5

Table 3. Authors impact based on h-index, g-index, m-index and TC.

Element	h_index	Element	g_index	Element	m_index	Element	TC
Tang CF	13	Tang CF	14	Balsalobre-Lorente D	2	Tang CF	893
Brida JG	8	Brida JG	8	Driha OM	1.5	Brida JG	627
Risso WA	6	Risso WA	6	Fonseca N	1.5	Risso WA	350
Abosedra S	4	Zaman K	5	Tang CF	1.083	Tan EC	344
Balsalobre-Lorente D	4	Abosedra S	4	Cheng L	1	Hatemi-J A	343
Tan EC	4	Balsalobre-Lorente D	4	Zaman K	0.8	Abosedra S	235
Zaman K	4	Tan EC	4	Akadiri SS	0.75	Shahbaz M	186
Akadiri AC	3	Akadiri SS	4	Akadiri AC	0.75	Kumar RR	167
Akadiri SS	3	Zhang J	4	Zhang J	0.6	Lanzilotta B	147
Cheng L	3	Akadiri AC	3	Kumar RR	0.6	Akadiri SS	124

Table 4. Authors impact using combined matrix.

Element	h_index	g_index	m_index	TC	NP	PY_start
Tang CF	13	14	1.083	893	14	2010
Brida JG	8	8	0.571	627	8	2008
Risso WA	6	6	0.429	350	6	2008
Tan EC	4	4	0.444	344	4	2013
Abosedra S	4	4	0.5	235	4	2014
Zaman K	4	5	0.8	118	5	2017
Balsalobre-Lorente D	4	4	2	65	4	2020
Hatemi-J A	3	3	0.176	343	3	2005
Shahbaz M	3	3	0.5	186	3	2016
Kumar RR	3	3	0.6	167	3	2017

Note: TC means Total Citations, NP means Number of Publications, PY_Start means Year of first publication.

most popular words in the field. Likewise, "tourism development," "tourism economies," "granger causality test," and "tourism" are the most popular keywords Plus.

Furthermore, considering the sources with most publications in the field of TLG, "Tourism Economic"

Table 5. Top 10-most frequently used authors keyword and keyword-plus.

Authors keywords (DE)	Occurrences	Keyword plus (ID)	Occurrences
Economic Growth	82	Economic Growth	83
Tourism	63	Tourism Development	59
Tourism-Led Growth Hypothesis	34	Tourism Economics	56
Granger Causality	30	Granger Causality Test	37
Tourism-Led Growth	26	Tourism	31
Cointegration	24	Cointegration Analysis	27
Tourism Development	22	Tourism Market	25
Causality	19	Economic Development	19
Malaysia	9	International Tourism	19
Growth	7	Carbon Dioxide	17

led the way with 26 (12.6%) publications followed by "Current Issues in Tourism" with 16 (7.8%) published articles. "Tourism Management" and "International Journal of Tourism Research" ranked third with 8 publications each. "Asia Pacific Journal of Tourism Research," "Environmental science and Pollution Research," "Journal of Environmental Management and Tourism," "Journal of Travel Research," "Anatolia," and "European Journal of Tourism Research" completed the list of top journals publishing research articles in the field. Together, the top 10 journals published 91 articles representing 44.2% of the total publications in the field for the period under review (see Table 6).

Concerning the most cited articles, Balaguer and Cantavella-Jorda's (2002) study titled "Tourism as a Long-Run Economic Growth Factor: The Spanish Case" published in Applied Economics with 123 (LC) and 698 (GC) is the most influential study in the field. The second most influential study in the field with 82 (LC) and 317 (GC) was published in Applied Economies Letter is Gunduz and Hatemi-J's (2005) study titled "Is the tourism-led growth hypothesis valid for Turkey?" It is also worth noting that although Brida, Cortes-Jimenez, et al.'s (2016) study published in Current Issues in Tourism is ranked third based on LC and GC as reported in Table 7, the number of

Table 6. Top Journals with most publications.

Sources	Articles	% of Publication
Tourism Economics	26	12.62136
Current Issues in Tourism	16	7.76699
International Journal of Tourism Research	8	3.883495
Tourism Management	8	3.883495
Asia Pacific Journal of Tourism Research	7	3.398058
Environmental Science and Pollution Research	6	2.912621
Journal of Environmental Management and Tourism	6	2.912621
Journal of Travel Research	6	2.912621
Anatolia	4	1.941748
European Journal of Tourism Research	4	1.941748

cited per year of the article made it the most referenced paper in the field since its publication. Close following Brida in that category is Shahzad et al.'s (2017) work published in Tourism Management which ranked 9th in the overall LC and GC but second in number of citations per year.

Having fully reported the detailed descriptions of published references in the field, the next bibliometric analysis was conducted in the network analysis of the data through intellectual structurals and collaboration maps. First, we examined the annual scientific production and average article citations per year. As shown in Figure 2(a,b), respectively, the research interest in the TLG started in 2002 and has been growing since its inception. Although the growth of research in the field has not been steady, an upward trend in research interest and contribution is noticeable with most publications recorded in 2021. Given that the pioneer study was in 2002, it was unsurprising to see an offshoot of citations per year corresponding to 2002 while the other years have reflected the same growth pattern identified in the annual scientific production.

In Figure 3(a), we provided the graph of the most relevant authors and the number of their contributed articles to the field. Corroborating the findings in the descriptive aspect of the study, Tang CF with 15 published articles is the most relevant researcher in the TLG field. Following Tang is Brida JG with 8 published documents and Risso WA with 6 published documents. Adedoyin FF, Bekun FV, Zaman K has all contributed 5 documents each. Other researchers with 4 publications are also listed in the top 10-most relevant authors. Figure 3(b) shows the corresponding author's country with an indication of whether the document is a single country document or multi-country documents. One striking revelation from this finding is that despite the high collaboration index among authors in the research field, most publications in the field are single-country publications. Thus, it can be inferred that the collaborations are most among authors from the same country. Notably, authors from Cyprus and India do not collaborate with authors outside their countries. However, Malaysia with 20 published documents is the most productive country in the field closely by China (18) and Turkey (17) publications.

For the multi-country publications in the field, Figure 4 shows the collaboration network map. Noticeable in the map is a 4-themed clustering showing top collaborating countries and the strength of their collaborations. The first theme is the Malaysia-Pakistan theme represented in red. This theme showed that most collaboration is between Malaysia and Pakistan with Saudi Arabia, Lebanon, and Indonesia completing the theme. The second theme is the Turkey-United Kingdom theme represented in green. In this theme, while Turkey is the most productive country, the strongest collaboration is between the United Kingdom and Spain, Portugal and Nigeria completed this theme. Turkey-United Kingdom theme also represents the only theme collaborating with researchers from Africa. The third theme, the China-USA theme represented in blue is

Table 7. Top articles with most citations.

Document	DOI	Year	LC	GC	LC/GC Ratio (%)	NLC	NGC
BALAGUER J, 2002, APPL ECON	10.1080/00036840110058923	2002	123	698	17.62	1.00	1.00
GUNDUZ L, 2005, APPL ECON LETT	10.1080/13504850500109865	2005	82	317	25.87	2.90	2.09
BRIDA JG, 2016, CURR ISSUES TOUR	10.1080/13683500.2013.868414	2016	51	218	23.39	7.42	5.55
KATIRCIOGLU ST, 2009, TOUR MANAGE	10.1016/j.tourman.2008.04.004	2009	40	348	11.49	2.19	2.54
ONGAN S, 2005, EKON CAS		2005	31	103	30.10	1.10	0.68
TUGCU CT, 2014, TOUR MANAGE	10.1016/j.tourman.2013.12.007	2014	31	149	20.81	4.09	3.11
NOWAK J-J, 2007, TOUR ECON	10.5367/000000007782696113	2007	28	148	18.92	2.00	1.52
LEAN HH, 2010, INT J TOUR RES	10.1002/jtr.759	2010	27	93	29.03	3.10	1.41
SHAHZAD SJH, 2017, TOUR MANAGE	10.1016/j.tourman.2016.12.006	2017	25	114	21.93	6.69	3.91
ADNAN HYE QM, 2013, ASIA PAC J TOUR RES	10.1080/10941665.2012.658412	2013	24	102	23.53	1.91	1.62

LC = Local Citations, GC = Global Citations, NGC = Normalized Global Citations, NLC = Normalized Local Citations.
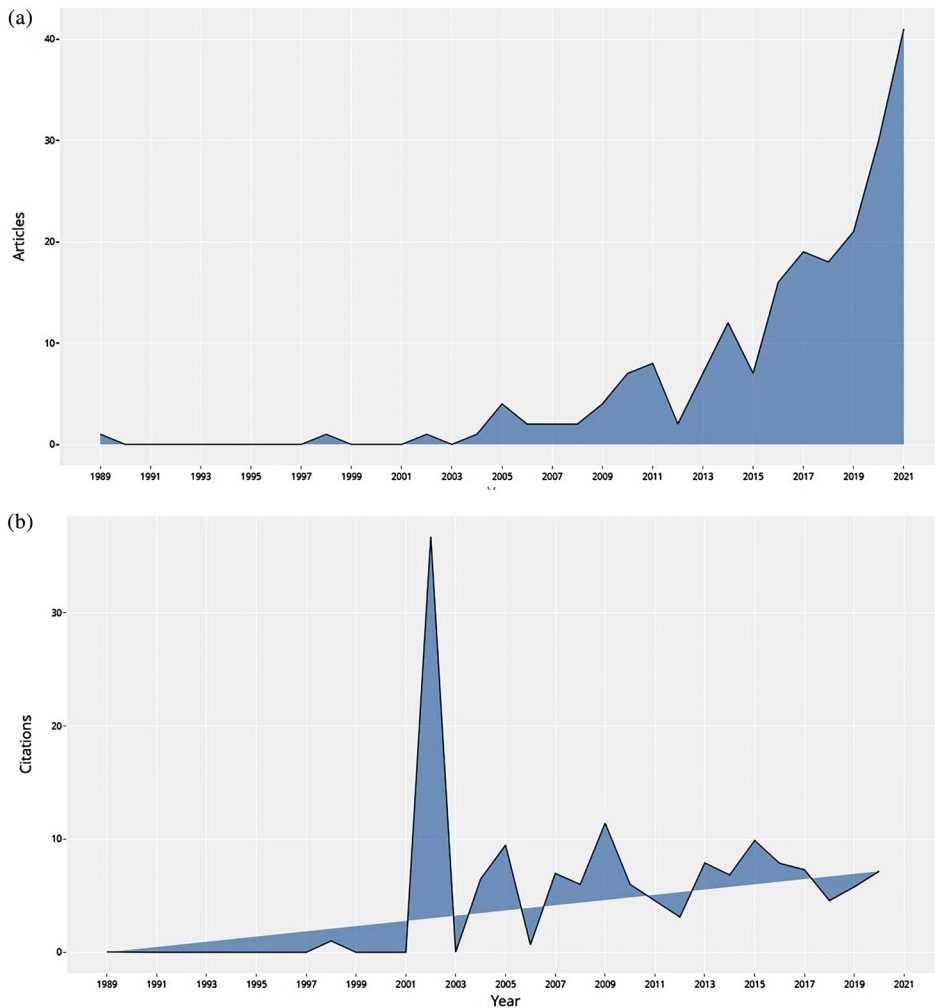
(a)

(b)

Figure 2. (a) Annual scientific production. (b) Average article citation per year.

the third-largest collaborating theme. Hong Kong completes the list of countries in the theme. Also, there is a slight inter-theme collaboration among the first three themes with the United Kingdom connecting the other two themes through Pakistan and China. Lastly, Italy-Uruguay represented the last term showing also the cross-continental collaboration between Europe and North America.

A further look into the collaboration networks using the Author's collaboration network map (Figure 5) shows the authors that formed the country collaboration network shown above. For instance, Tang CF from Malaysia is collaborating with Tan EC, Shahbaz M. from Pakistan is collaborating with Kumar R.R. from the United Kingdom and Australia, Balsalobre-Lorente D., from Spain

collaborating Bekun FV., and Adedoyin FF from Turkey and United Kingdom, respectively.

Furthermore, we performed a co-citation analysis using authors, sources, and articles as references for the co-citations. Figures 6–8 show the network map of the resulting associations and clusters. Evidently, all three co-citation analysis result shows three distinct clusters. However, the finding from the author's co-citation showed that 2 clusters were more pronounced and demonstrated superior co-citation networks. Specifically, the Tang-Brida theme (green-colored) is the strongest network while the Balaguer-Lee theme (blue-colored) followed closely. Source's co-citation and article co-citation results showed a more balanced network which reflects real dominances of journals from both mainstream
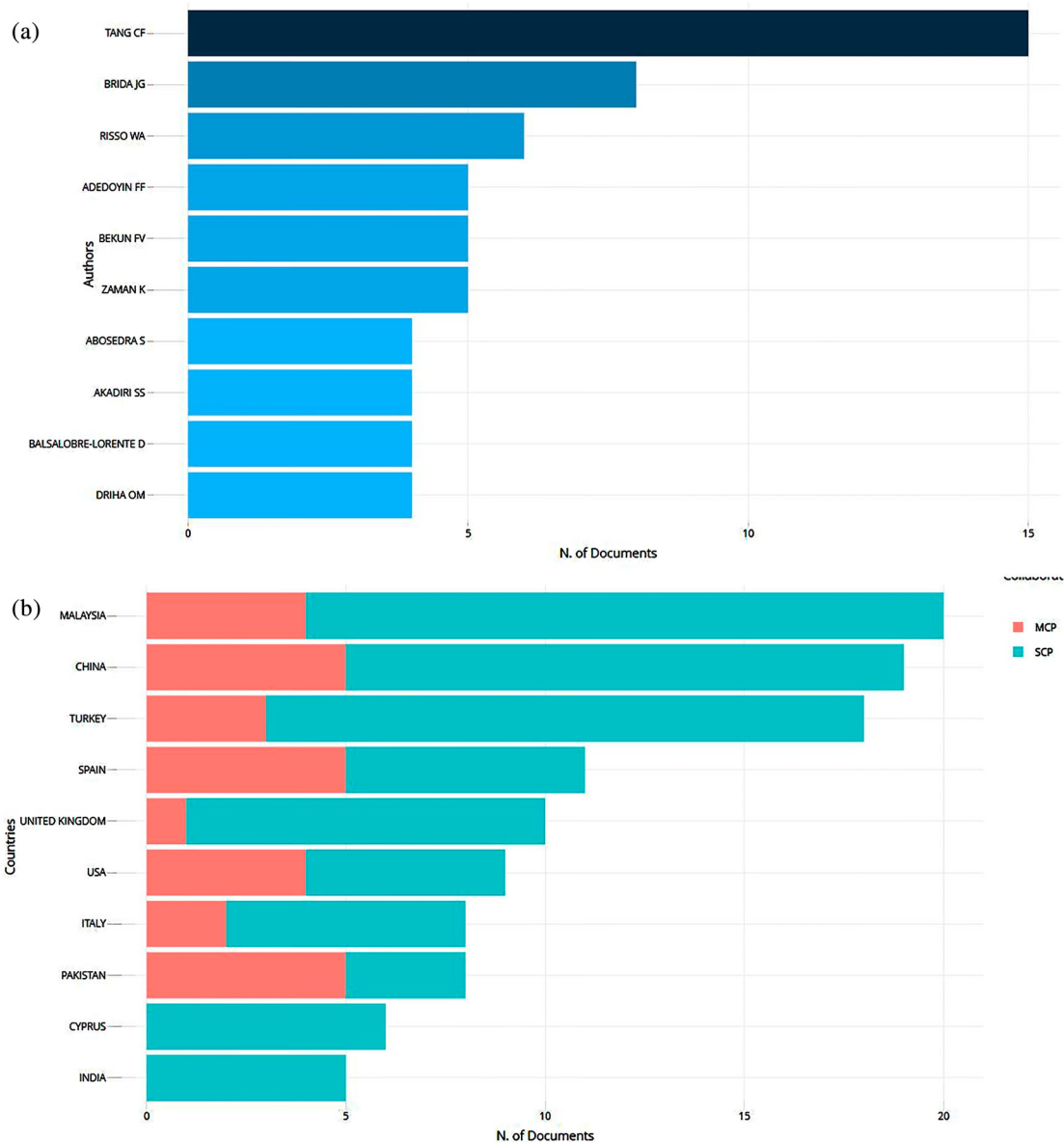
Figure 3. (a) Most relevant authors. (b) Corresponding author's country.

topics of the research field. In sum, Tourism Economies, Current Issues in Tourism, Applied Economies, Applied Economies Letters, Tourism Management, and the International Journal of Tourism research are the dominant journals in the first cluster. Balaguer and Cantavella-Jorda (2002) represent the core of the main cluster based on article co-citations. Gunduz and Hatemi-J (2005) represent the core of the second cluster while Such Devesa et al. (2009) provided the core for the co-citation network for the third cluster.

The result of the keyword plus co-occurrence network plotted in Figure 9 shows "economic growth," "tourism development" and "tourism economies" as the three core keyword plus in the first cluster. These words are the most relevant and frequently used words in the field. More importantly, these words also serve as the main connection to the other two clusters. Figure 10 shows the conceptual structure map. This result shows that TLG researchers have used three main concepts to
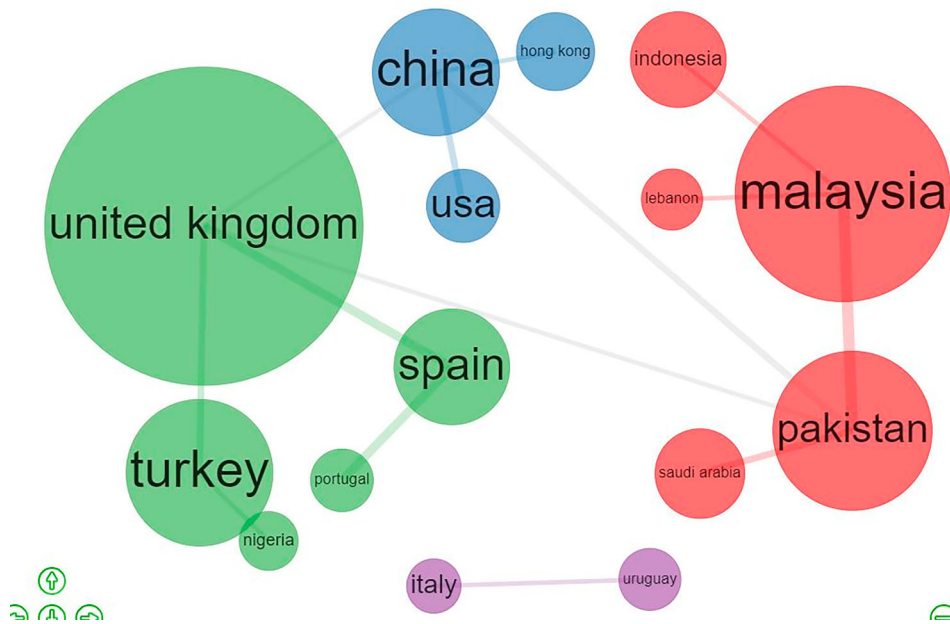
Figure 4. Country's collaboration network map.

operationalize their studies with the first concept accounting for 36.44% of the total variance of the studies in the field. The second concept accounted for 20.28% of the total variance in the research field. The strongest keyword cluster was shown in red demonstrating the strength of linkages among the
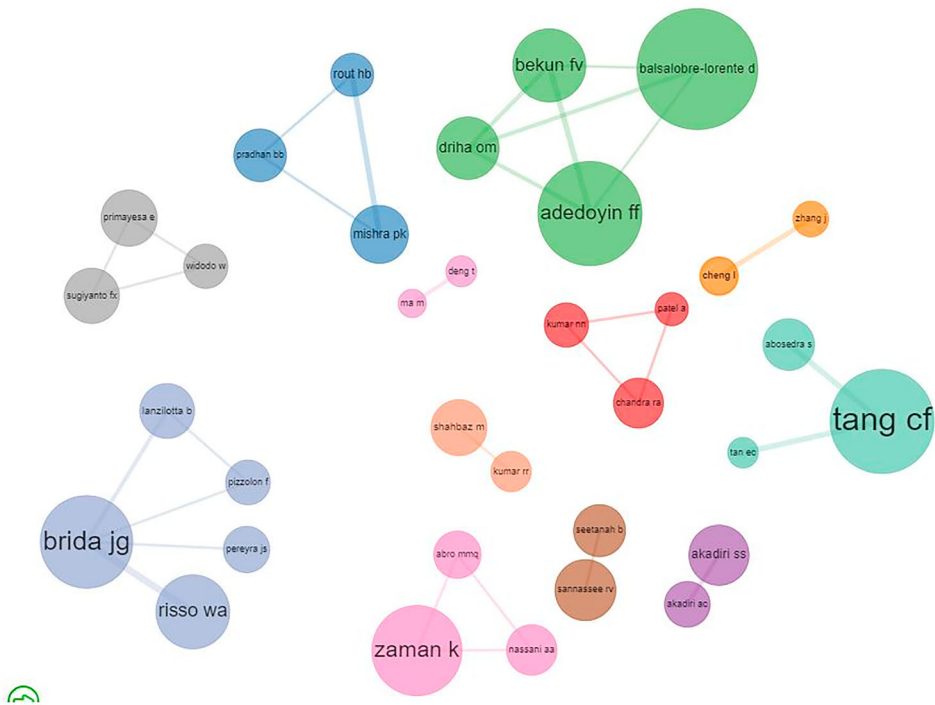

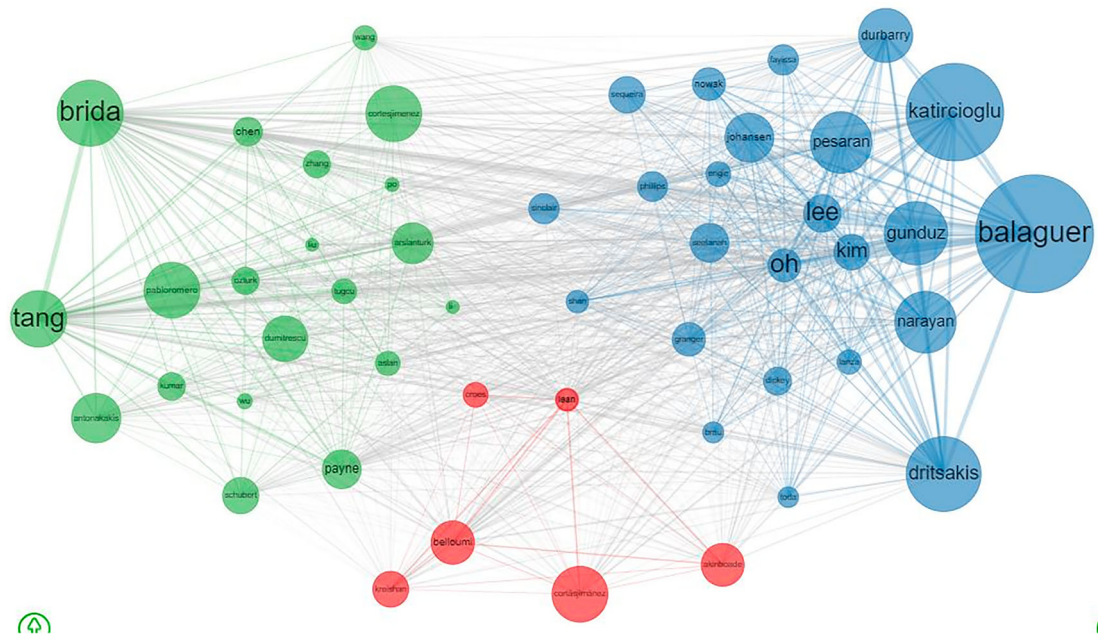**Figure 5.** Author's collaboration network map.
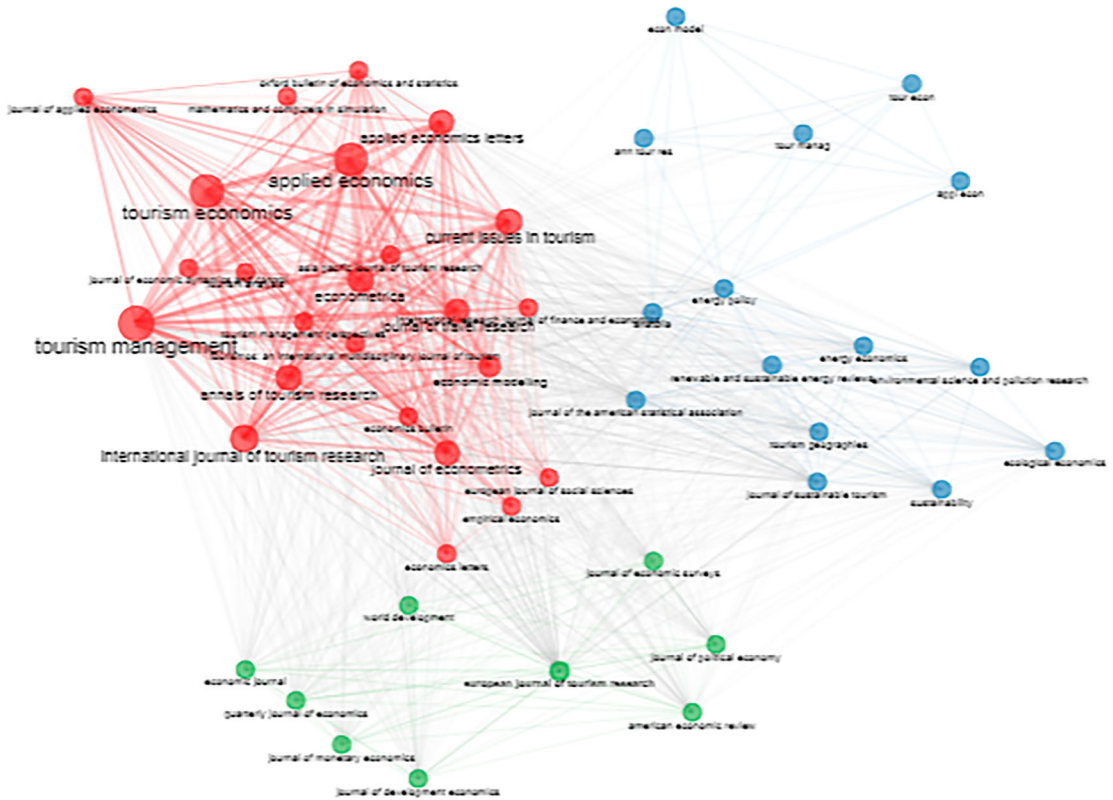
Figure 6. Author's co-citation network map.

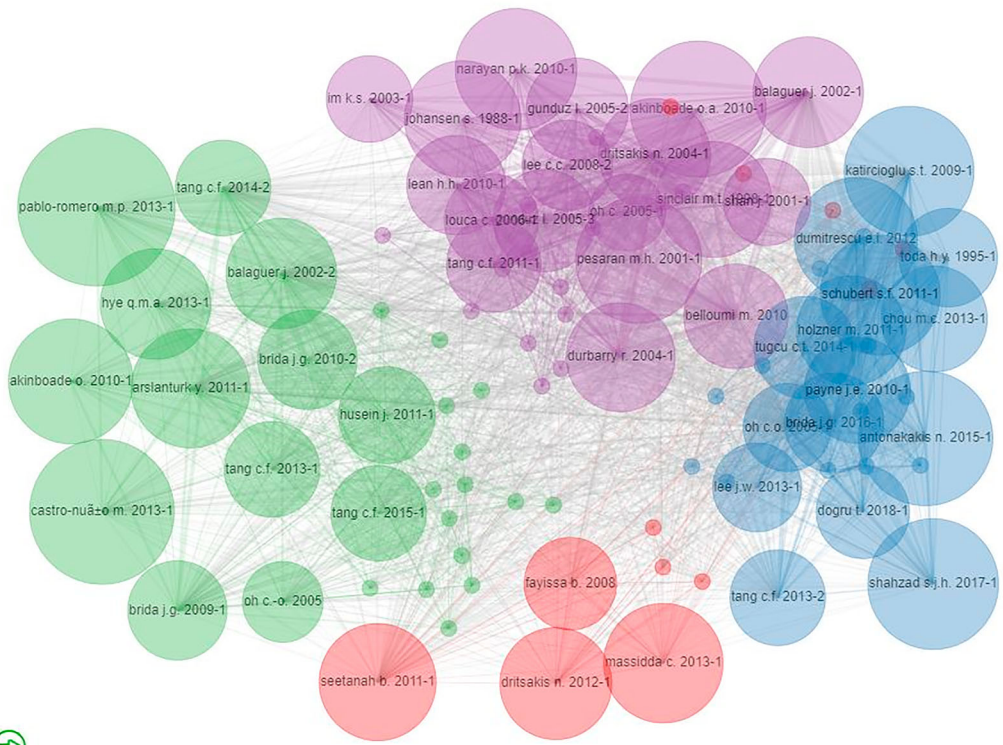**Figure 7.** Source's co-citation network map.

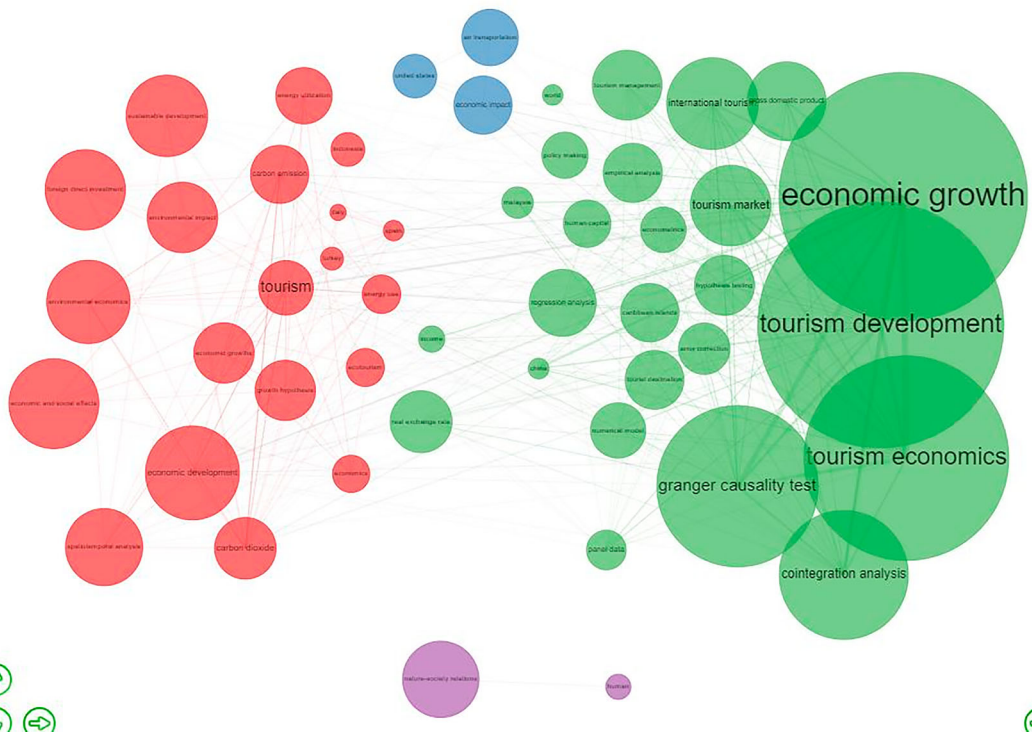**Figure 8.** Article's co-citation network map.

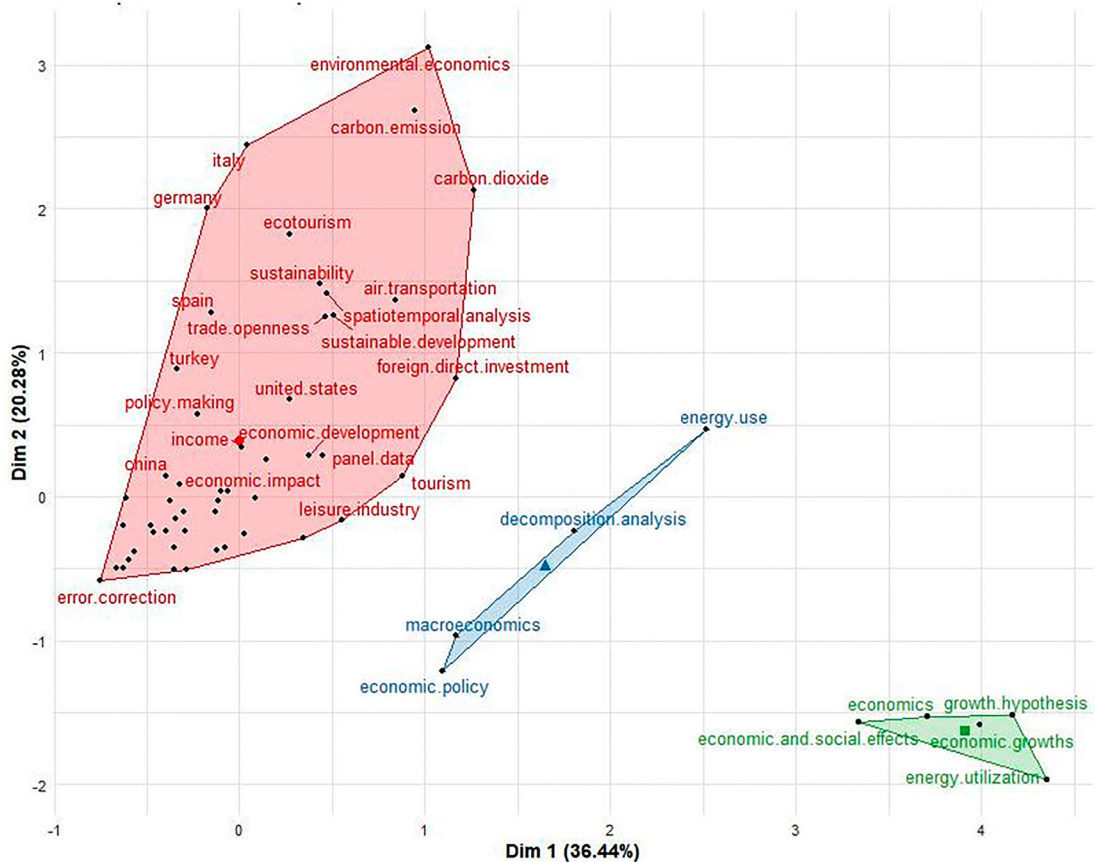**Figure 9.** Keyword plus co-occurrence network.

Figure 10. Conceptual structure map.

keywords. The largest association centers around study context (Spain, China, Turkey, Germany, Italy), study constructs (carbon emission, trade openness, ecotourism, tourism, leisure industry, and foreign direct investment), and the research method (Panel data and numerical model). The second-largest cluster relates to energy utilization, social and economic impacts, and growth hypothesis. The third cluster seemed to focus solely on economic issues such as macroeconomics and economic policy.

Thematic evolution of tourism led growth research

Figure 11 presents the evolution of research themes in the TLG research domain. To achieve this result, we followed the recommendation of Sharafuddin and Madhavan (2020) and applied the index weighted by word occurrences method to analyze our author's keyword data using a minimum weighted index of 0.1

and three-time slices (1989–2016, 2017–2020 and 2021–2021). Since 1989, various keyword such as "economic growth" (1989–2016); "human capital" (2017–2020); and "small island states" (2021) has evolved alongside tourism and economies. To further understand the evolution of the studies over time, the co-word analysis of each time slice period was performed. The resulting thematic structures also known as research themes are formed and explained. The concept of research themes was introduced by Callon et al. (1983) suggesting that based on density and centrality, research contributions can be categorized into four main quadrants. The motor themes which are the most developed and vital research themes are usually typified by high centrality and high density (upper right quadrant); the niche themes which are also highly developed with isolated themes are often associated with weak centrality and high density (upper left quadrant); the marginal themes also known as the emerging themes are
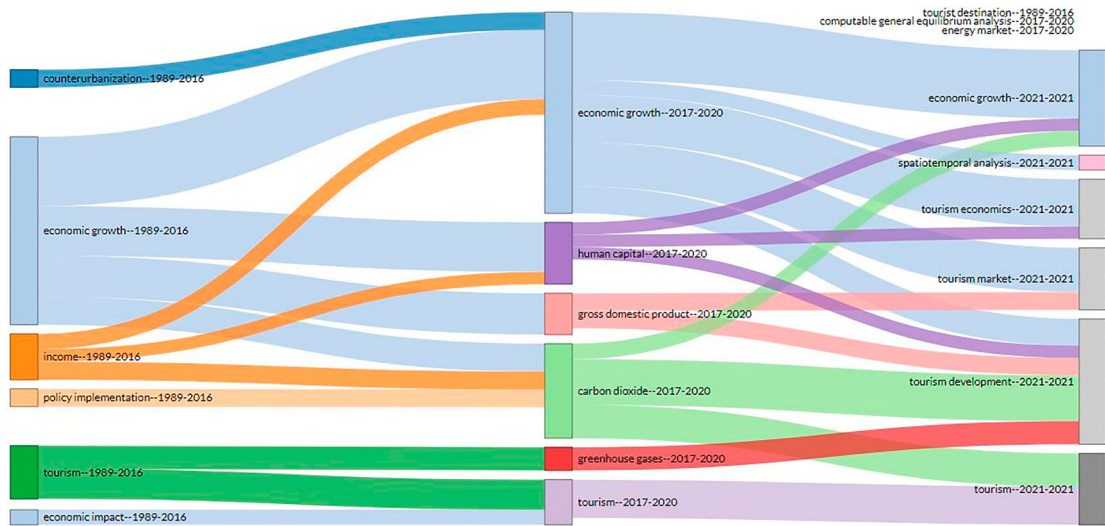
Figure 11. Thematic evolution of TLG studies.

characterized by low centrality and low density (lower left quadrant); while the final quadrant (lower right quadrant) signifies the essential but less developed themes usually characterized by strong centrality but low density (Bastide et al., 1989).

Time Slice 1 (1989–2016)

In Figure 12, we present the result of the first time slice. Several research themes with a number of general keywords were in perusal. Firstly, it is observable that "tourism" is central to the research studies during this time frame. This period birthed the exploration of the intersections between tourism and economic growth. While tourism income and the Caribbean Islands were identified as the motor research for the period, economic growth was less developed. The economic impact was the niche theme while panel data represents the emerging theme. The key study of TLG was published in this

Figure 12. Thematic Evolution during the Time Slice 1989-2016.

time slice amassing significant citations and references across both fields of tourism and economics.

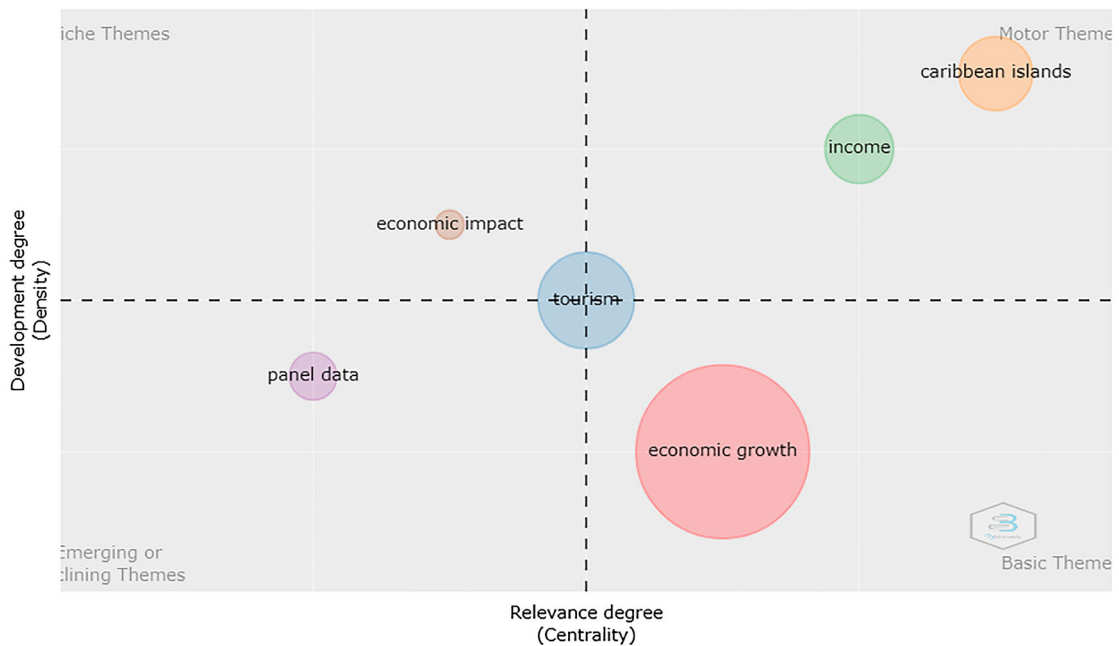*Time Slice 2 (2017–2020)*

Time slice 2 showed more diversified research themes with the emergence of tourism as the most developed motor theme in the time frame. Also with the increasing concerns for climate change and environmental sustainability, it is not surprising that greenhouse emission emerged as a new niche theme alongside carbon dioxide as a relevant but not fully developed concept. Although the relevance of economic growth increased, its development declined however, the developing world which signifies an emerging economy craving for economic growth became the central theme of the time frame (Figure 13).

Time Slice 3 (2021–2021)

While economic growth remained a relevant concept in the field, its development remained unimpressive as it remained rooted in the relevant but under-developed quadrant. Irrespective of that, studies on tourism development increased in relevance and development and new concept such as spatiotemporal analysis emerged as trending issues in the time frame. Tourism economies start to decline while interest in small island states is brooding (see Figure 14).

Concluding remarks and suggestions for future studies

The TLGH is dated back over decades and is still evergreen in the growth literature. The relevance of the TLGH is due to its multifaceted dimension as its cuts across disciplines. The present study explored over 200 empirical studies sourced from reputable database of Web of Science and Scopus. Using Biblioshiny by Bibliometrix – an R package statistical software and systematic review methods to carefully review the TLGH. This study is pertinent to bridge the lack of consensus on the dynamic relationship between tourism and economic growth. From our systematic review of over 200 empirical articles, where 90% of the studies lend credence to the validity of the TLGH. This further demonstrates the pivotal role of tourism in economic growth, especially in the era of work interconnectedness by the wave of globalization. Our study is distinctive from previous studies on the theme by conducting a bibliometric analysis alongside the thematic evolution of the theme from first publication to date. The thematic evolution of the TLGH analysis is a pointer for the trajectory of the study and the future trend direction of the study area. The revelation from the bibliometric analysis is revealing and has far-reaching consequences as it outlined lead
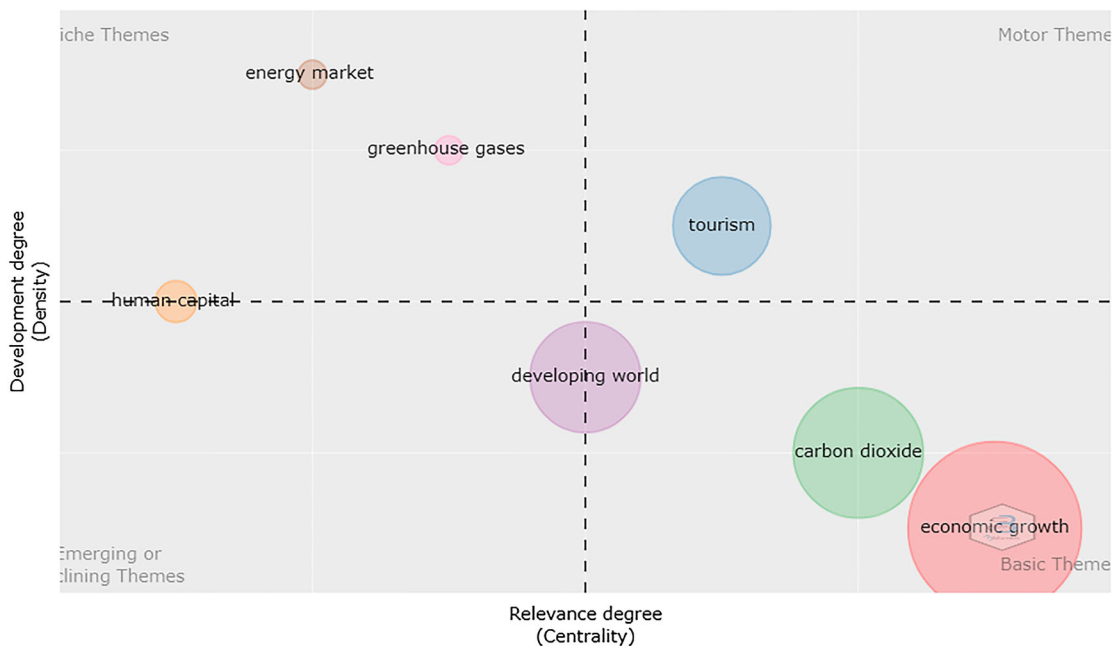

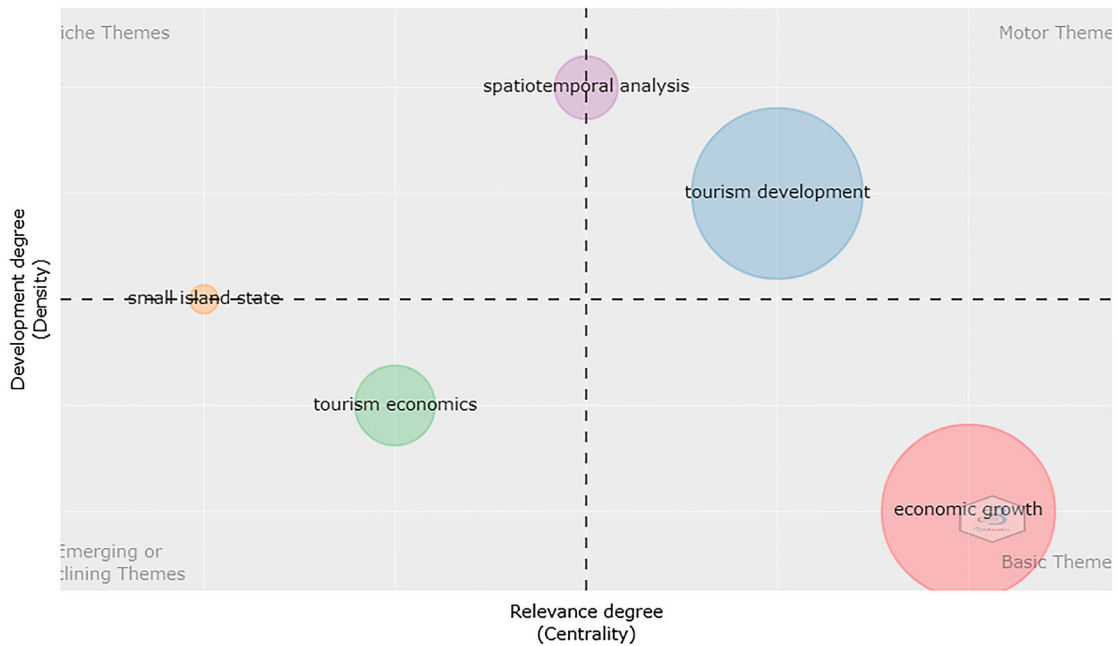**Figure 13.** Thematic Evolution during the Time Slice 2017-2020.

Figure 14. Thematic Evolution during the Time Slice 2021-2021.

scholars on the theme and all indices across various indicators namely (h-index, m-index, and g-index).

The key findings from the bibliometric analysis show that over the 200 articles explored 195 which accounts for (94.7%) are empirical studies while 11 accounted for (5.3%) are review articles. Four hundred and twenty-six with a total of 549 appearances contributed to the documents under review. Of these 426, 35 (8.2%) published single-authored documents while an overwhelming majority 391 (91.8%) contributed to the publication of multi-authored documents, providing an initial indication of a high collaborating network among researchers in the field. Furthermore, we identified that Tang C.F. of Centre for Policy Research and International Studies, Universiti Sains Malaysia ranked first with 15 publications and a fractionalized value of 8.17. Brida, J.G., of Facultad de Ciencias Económicas y de Administración, Universidad de la República, Uruguay with 8 published documents ranked second.

Theoretical implications

The present study finding is built on the TLGH. The study finding contributes to the tourism and growth literature on the following fronts. First, our study explores the validity of TLGH using literature and bibliography analysis. Both approaches provide validity for the TLGH with studies such as (Balaguer & Cantavella-Jorda, 2002; Balsalobre-Lorente et al., 2021; Banday & Ismail, 2017; Fauzel et al., 2017) while a handful fail to find validity for the TLGH (Ekeocha et al., 2021; Oh, 2005). The present study contributes to the extant literature by providing a comprehensive compilation on the tourism-economic growth literature and its implication on other covariates. Second, this study outlines the direct and indirect spillover effect of other variables as outlined in our systemic review on the tourism-economic literature and by extension advances the extant literature by contributing to other growth models. Finally, policymakers can glean insight from the tourism-led growth theory for economic growth.

Practical implications

This study outcome presents several policy inferences such as the need for government administrators of serval blocs or county can leverage on the TLGH for alternative growth path as tourism development has been seen as booster of economic growth. This can be achieved by the development of tourism sector via development of infrastructural- recreation centers that promote tourism and tourist. This position corroborates with the World Tourism

Organization (UNWTO) report of 2019 asserted that tourism creates job opportunity, stimulate other sectors directly or indirectly and over the last decades the industry has witnessed consistent sustained growth (UNWTO, 2019). Furthermore, from a practical policy implications perspective.

On a national basis and even global scale, the tourism-economic growth argument draws attention to the tourism sector as catalyst for other sectors like energy sector, services, and manufacturing sector of any economy and its job generation potentials especially for tourism destinations and tourism-dependent countries. Additionally, the exchange earning advantages in the tourism values chain is value added. These insights are inductive to national practitioners. On the part of government administrators, they are encouraged to foster regulations and strategies that enhance the growth of tourism industry to glean its inherent benefits as highlighted by this detailed literature survey study.

Limitations and suggestions for future study

The present study focused on literature and bibliometric analysis of the TLGH on a global perspective and its implications. The current study leverages on articles from WOS and Scopus database as scope of the study. Thus, our study is limited to the highlighted databases. Although the tourism literature has well-documented studies on across-country specific cases, panel of countries basis and even country-specific cases, there still exist a need for future studies to revisit the theme using disaggregated data and the adoption of new and robust econometrics techniques and structural modeling in conducting future studies especially accounting for the structural break(s) in the data structure which will affect the results. To this end, we urge future studies to be conducted that account for the TLGH pre and post COVID-19 era to either refute or validate the theme. That is, considering the divergent results from country-specific study cases to panel and more there is still a need to revisit the subject given the highlighted dynamism especially for top tourism destinations or tourism-dependent island. This is necessary to explore if the positive/negative effect of tourism development has spillover effect directly or otherwise to another sector. Exploration into these areas will be a value add for future studies and advance the frontier of knowledge on the theme.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendix

Table A1. Systematic literature review.

Authors	Time Span	Country	Variables	Methodology	Key Findings
Fauzel and Tandrayen-Ragoobur (2021)	1980–2018	Mauritius	TOU, GDP, CPI, CO2, SEC, LIFE	Co-integration, VECM	Bi-causality and feedback effects in tourism-economic growth model
Haini (2020)	1999–2017	10 ASEAN countries	GDP, CPL, TOUR, IP, HCI, OPN	Fixed effect, Quantile regression	TOUR and IP is positive and significant to growth, the effect of tourism is less pronounced for less developed economies
Osinubi et al. (2021)	1995–2018	Nigeria and Turkey	GDP, TOA, TOE, TOR, TAI	Symmetric and non-symmetric causality	Neutrality and TLGH exist in Turkey but only neutrality hypothesis in Nigeria
Xia et al. (2022)	1995–2015	34 European countries	GDP, CAP, LBR, TFEC, TDI	CCE, AMG, FMOLS	TLGH validated
Belgodere et al. (2021)	1995–2013	137 developing countries	TF, POP, GDP	Fixed effects, panel regression	TLGH and inclusive institutions enhance TLGH
Kožić et al. (2021)	1996–2015	162 countries	GDP, TOUR, INV, LAB, TE	System GMM	The level of political freedom significantly impacts TLGH
Baidoo et al. (2010)	2000–2016	40 Sub-Saharan Africa countries	GDP, TD, FDI, FD, ER, IQ, IR, NR	Fixed effects. SGMM	TLGH in all samples but elastic in coastal and landlocked countries
Teng et al. (2021)	2006–2017	30 mainland Chinese provinces	TD, GDP, CO2	Causality, VAR	Economic-driven tourism growth hypothesis
Harb and Bassil (2021)	2000–2017	27 EU countries	GDP, POP, GFC, EDU, TOUR	GMM	TLGH validated
Adedoyin et al. (2021)	2002–2017	18 Tourism-dependent economies and 33 High earners from tourism	GDPC, TOUR, TO, LF, GFCF, INFRA, ROL, GOV, COC, RQI, VOA, POL, IQI	GMM, Dumitrescu-Hurlin panel causality test	TLGH, TO boosts economic growth
Ekeocha et al. (2021)	2009–2018	41 African countries	GDP, INFR, TOUR, TOR, PR, CLI	SGMM, Panel Granger causality	No TLGH; moderating effect of temperature in the tourism-growth relationship is negative
Majeed and Mazhar (2021)	1971–2017	155 countries: (29 LICs, 75 MICs, and 50 UICs)	GDP, TOR, TO, CPI, GFCG, GC	OLS, Random and Fixed effects, panel granger causality, SGMM	Tourism leads to higher economic growth but uncertainty reduces the growth effects for LICs and MICs but is insignificant in UICs
Kumar et al. (2021)	1995–2018	Tonga	GDPPC, TOUR	Cointegration, Beta-MIDAS regression, and mixed frequency VAR model	TLGH validated
Khan, Kadir, et al. (2021)	1995–2018	Saudi Arabia	GDPPC, CI, TOUR, TO	ARDL cointegration test, Wald Granger causality	TLGH validated
Pérez-Rodríguez et al. (2021)	1990–2018	Austria, Germany, Italy, Netherlands, Portugal, Spain, and the UK	TOA, TOR, GDP	Fractional cointegration tests	Unstable TLGH
Comerio and Pacicco (2021)	2007–2014	8 Japanese regions	GPP, TOUR	Granger causality test, Bayesian VAR model	TLGH in 4 out of 8 regions
Balsalobre-Lorente et al. (2021)	1970–2015	Spain	GDP, ATP, RNW, URB, SG	N-ARDL	TLGH validated
Ozturk and Al-Kuwari (2021)	1995–2019	Qatar	GDP, TOUR	ARDL, ECM	No TLGH

Table A1. Continued.

Authors	Time Span	Country	Variables	Methodology	Key Findings
Tang and Matahir (2021)	2002–2014	Malaysia	EDUTOUR, GDP	SVAR	TLGH validated
Belek et al. (2021)	1995–2017	14 Mediterranean countries	GDP, TOR	Hidden panel cointegration test, Asymmetric panel causality test	TLGH validated
Aslan et al. (2021)	1995–2014	17 Mediterranean countries	GDP, TD, EC, CO2, GCF	Panel quantile regression and Dumitrescu-Hurlin panel causality test	TLGH validated in low growth levels
Menegaki and Tiwari (2020)	1995–2015	Top 10 Tourism destination countries	GDPPC, TD, FDI	TY-based granger causality test	TLGH validated for United States, Italy, UK, and Russia
Pata (2021)	1995–2017	G-10 countries	TOUR, GDP	Asymmetric panel causality	TLGH validated in Canada, the UK, and the US
Camacho and Romeu (2021)	1996–2015	145 countries	GDPPC, TOUR	STET	TLGH was not validated in the short run but ELTGH validated
Výrostová et al. (2021)	2005–2015	Carpathian Euro region	GDPPC, TOUR	Fixed effects	TLGH validated
Khan, Bibi, et al. (2022)	1990–2016	Pakistan	OWB, POP, PS, TOUR, GDP	ARDL, Bound test, ECM	TLGH validated, POP and PS exhibited a negative relationship with OWB
Chiu (2021)	1996–2014	The United States and China	GDP, TOUR, ER	VAR, CBT, Johansen and GH cointegration test, Granger causality test	ELGH validated but TLGH is not validated in both countries
Kyara et al. (2021)	1989–2018	Tanzania	GDP, TOUR, ER	IRFA, Granger causality, and Wald test	TLGH validated
Mishra et al. (2021)	2000–2018	India	GDPPC, TOE, BSCNX, ECFRX, GVEFX, CRCTX, RGQTX	FMOLS, ARDL	TLGH validated but BSCNX, ECFRX, and RGQTX have positive influences, and GVEFX and CRCTX have negative impacts on the economic growth
Ozcan et al. (2021)	1995–2014	16 Mediterranean countries	CO2, GDP, TOR, EU	Panel causality	TLGH validated and TOUR is a catalyst for EC and GDP
Lolos et al. (2021)	1977–2020	Greece	GDP, TOUR	Asymmetric ECM, linear quantile regression	TLGH validated
Lee (2021)	1993–2017	China	GDP, ITOU, DTOU, HC	Cointegration	TLGH validated HC have a positive impact on GDP
Shirkhani et al. (2021)	1977–2016	North Cyprus	Real GDP, FCF, SR, LABR, TLOAN	Cointegration, ECM, ARDL, Granger causality	TLGH validated and unidirectional causality from TLOAN to GDP.
Cheng and Zhang (2020a)	2008–2017	China	TD, GDP	CCDM, cointegration, Granger causality test	TLGH validated
Tecel et al. (2020)	1995–2016	14 Mediterranean countries	GDP, FDI, TOR, DC	PMG-ARDL, Dumitrescu-Hurlin panel causality test	TLGH and FDILGH validated
Akadiri et al. (2020)	1985–2017	Turkey	GDP, GPR, TOUR	TY Causality	ELGH validated and unidirectional relationship running from GPR to GDP
Pérez-Rodrígue et al. (2020)	1995–2019	14 EU countries	GDP, TOUR	Panel cointegration test, DOLS	TLGH validated mainly for North EU countries
Shahzad and Ferrer (2020)	Jan. 1997 – Oct. 2016	US	TOUR, GDP, MSCIW, GEPU, TBR, TWER, OIL, FSI, VIX	VMD, DYM	ELGH validated

(*Continued*)

Table A1. Continued.

Authors	Time Span	Country	Variables	Methodology	Key Findings
Anser et al. (2020)	1995–2018	130 countries	EF, INTOUR, PDEN, TOP, GDPPC	ABD-GMM	TLGH and ELGH not validated
Fonseca and Sánchez Rivero (2020)	2002–2017	Literature	TOUR, GDP	Meta-regression analysis	TLGH is likelier higher in the countries' degree of population size and tourism specialization
Cheng and Zhang (2020b)	2008–2016	Wenchuan County, China	ERI TOUR, TR, TRANSP, TO	Quantile regression, TOPSIS method	TLGH validated and ERI has an upward trend
Suryandaru (2020)	1974–2017	Indonesia	GDP, TOUR	ARDL cointegration, VECM Granger causality	ELGH validated
Fonseca and Sánchez-Rivero (2020a)	2002 -2016	Literature review (51 Studies and 42 countries)	TOUR, GDP	Meta-regression analysis	Geographical dimensions play a role in validating the TLGH
Lee et al. (2020)	1996–2015	Malaysia	GDP, TOUR, COC, RQI, INFRA, ROL, GOV, VOA, POL, IQI	VECM, Granger causality	TLGH validated and IQ play important role in GDP and TOUR
Fonseca and Sánchez-Rivero (2020b)	2005–2016	Literature review (36 studies and 35 countries)	TOUR, GDP,	Meta-regression analysis	Methodological choices, countries' demographic, touristic and economic profile determines the outcome of the results
Aliyev and Ahmadova (2020)	1997–2018	Georgia	GDP, TOUR, ER	ARDL Bounds Testing	ELGH is not validated and TLGH is validated on short-run
Balsalobre-Lorente et al. (2020)	1994–2014	Selected OECD counties	GDP, TOE, CO2, GLOB, EU	Cointegration, GMM	N-shaped TLGH validated and GLOB does not promote economic growth
Adedoyin et al. (2020)	1981–2017	USA	ICTs, FDI, CR, ATP, GDP	FMOLS, DOLS, CCR	TLGH validated, CR enhances economic growth
Pan and Dossou (2020)	1995–2015	Republic of Benin	TOR, GDPPC, ER	VECM, Johansen cointegration test, CUSUM test, ARDL-ECM	TLGH validated
Gokmenoglu and Eren (2020)	1960–2015	Turkey	EU, GDP, TO, URBPOP, TOUR	Cointegration and causality test	TOUR is a contributor to EU
Balsalobre-Lorente and Leitão (2020)	1995–2014	EU-28	TO, TOUR, RE, GDP, CO2	FMOLD, DOLS, Fixed effects	TLGH validated and TO, TOUR, RE encourage economic growth
Spinthiropoulos et al. (2020)	1963–2016	Greece	GDP, GDP$_{agrt}$, GDP$_{tor}$	ARDL bound testing	TLGH validated
Nunkoo et al. (2020)	1994–2017	113 Studies	GDP, Tourism	Meta-regression analysis	TLGH validated but estimates are sensitive to the period, estimation characteristics, and country data
Neuts (2020)	1995–2015	89 German cities	Real GDP, TOUR, TN, RLBT, RIT, TI	Pedroni panel cointegration tests, Granger causality test	TLGH validated
Eyuboglu and Eyuboglu (2020)	1995–2016	9 Emerging countries	TOUR, GDP	Kónya Panel causality test	Positive shocks of TOUR to GDP in Turkey and Argentina
Mishra et al. (2020)	2000–2018	India	GDP, TOE, FDITS, FDINTS, EFI,ER	FMOLS, ARDL	TLGH validated
Dibeh et al. (2020)	2011–2016	Lebanon	GDP, TOUR, REF, LEB, SYR	VAR, Granger causality	TLGH and GLTH validated
Jeyacheya and Hampton (2020)	2006–2015	4 Developing economies in South-East Asia		Semi-structured and in-depth interview	TLG widens inequalities

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Table A1. Continued.

Authors	Time Span	Country	Variables	Methodology	Key Findings
Summers et al. (2019)	76 respondents	Australia		Interview	TLGH validated
Etokakpan et al. (2019)	1995–2015	4 Agricultural producing economies	GDP, AVA, ER, TOR	CSD, cointegration, DH Granger causality test	TLGH and ALGH validated
Thushara et al. (2019)	1984–2016	Sri Lanka	TOUR	SARIMA, ADF	TLGH validated
Mitra (2019)	2001–2017	158 countries	TOR, TOE, GDP, TOUR	Dumitrescu and Hurlin causality test, CSD	TLGH validated
Shehzad et al. (2019)	1995–2017	China	TOA, GDP, ICT, POP	ARDL cointegration, Johansen cointegration test	TLGH validated, ICT has a positive effect on tourism development
Jiao et al. (2019)	2004–2015	China	GDP, TDI, K, HC, GADD, STR, TIE	Moran index, spatial model	TLGH validated, no significant tourism spatial spillover effect in the full national sample
Khoshnevis Yazdi (2019)	1984–2014	Iran	GDP, TOR, GFCF, K, HHC	Structural break test, ARDL, Granger causality, VECM	TLGH validated, unidirectional causality from ITOUR to economic growth
Balli et al. (2019)	1995–2014	15 Mediterranean countries	TOR, TOA, TCTGDP, EMP, CO2	Cointegration tests, Granger causality	TLGH validated for Spain, Italy, and Spain
Mazzola et al. (2019)	2000–2015	13 Island economies	GDP, POP, HK, PUBLPEC, TOURDEM, TOURSUP, ACCESS	Fixed and Random effects, GMM	TLGH validated
Primayesa et al. (2019)	1995–2015	Indonesia	GDP, TOE	TY causality test, cointegration test	TLGH validated
Zhang and Cheng (2019)	2008–2016	36 Wenchuan earthquake-affected counties, China	GDP, TOA, TOR, ACCESS, CAP, STR	Fixed effects, Threshold effects	TLGH validated for disaster-affected destination
Songling et al. (2019)	1994–2015	Beijing, China	GDP, TOUR	ECM, VAR	TLGH validated, unidirectional relationship from tourism to economic growth
Aistov and Nikolaeva (2019)	1995–2017	116 countries	GDP, TOUR	Granger causality, ARDL	TLGH validated
Midoun and Nardjess (2019)	1996–2016	Morocco, Tunisia, Algeria	GDP, INTOUR, ER, HC	Fixed and Random effects	TLGH validated
Lin et al. (2019)	1978–2013	29 Provinces in China	TOR, GDP	ARDL, TY Granger causality	TLGH validated for 10 regions, ELTGH 8 regions
Gunter et al. (2018)	1995–2012	Central American and Caribbean region	ESI, TTCI, EPI, ANS	Panel regression model	TLGH validated
Hatemi-J et al. (2018)	1995–2014	G-7 countries	GDP, TOUR	Symmetric and asymmetric causality test	TLGH validated for Japan, Italy, and Germany while positive shocks are more important in US and YS
Solarin (2018)	1980–2011	Mauritius	TOUR, real GDP, real ER	Causality test, cointegration tests	TLGH validated for 6 out of 10 major tourism market
Lawal et al. (2018)	2000–2016	Nigeria	GDP, TD, AGRIC	ARDL	TLGH and ALGH validated
Mishra and Pradhan (2019)	1995–2016	India	Real GDPPC, TOE, BSCNX, ECFRX, GVEFX, CRCTX, RGQTX,	Cointegration, Dynamic FMOLS	TLGH validated in the long-run and ELGH validated in the short-run
Gül and Özer (2018)	2003–2014	Turkey	GDP, Real ER, real TOR	Granger causality	TLGH validated in the short-run
Liu and Song (2018)	1974–2016	Hong Kong	TOUR, GDP	Mixed frequency VAR model and Granger causality test	TLGH validated in the short-run but ELGH validated in both long-and short-run

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Table A1. Continued.

Authors	Time Span	Country	Variables	Methodology	Key Findings
Yu-Chi (2018)	1958–2017	Taiwan	TOUR, TOE, real GDP	Johansen cointegration and Modified Wald causality tests	TLGH validated
Kyophilavong et al. (2018)	1992–2014	Laos	TD and GDP	ARDL and Granger causality test	No long-run relationship between TD and economic growth, unidirectional causality from economic growth to tourism
Bădulescu et al. (2018)	1995–2015	Central and Eastern European countries	TOUR, GDP, TOR	ARDL, bounds F-statistics, ECM Granger causality	The long-term relationship between TOUR and GDPPC for countries[a]
Yalçinkaya et al. (2018)	1996–2016	20 HIE Countries from Tourism	Real GDPPC, real FCI, TOR, EL. TFP	Cross-sectional dependence	Unilateral causality from TOR to economic growth, TLGH validated
Sharma and Punjab (2018)	1991–2017	India	TOR, GDP	Johansen cointegration and Granger causality tests	TLGH validated, unidirectional causality from TOR to economic growth
Tang and Tan (2018)	1995–2013	167 countries	GDP, Tourism, Export	GMM approach	TLGH validated but the effect varies based on institutional qualities and levels of income
Fauzel et al. (2017)	1984–2014	small island developing state	GDP, FDI, HC, EF	VECM	TLGH validated, FDI-tourism Growth
Tang et al. (2017)	1974–2013	Malaysia	GDP, tourism export, capital stock, palm export	Toda and Yamamoto and VAR	ELGH validated
Banday and Ismail (2017)	1995–2013	BRICS	GDP, TOR, CO2	ARDL	TLGH validated and tourism-induced pollution hypothesis
Qureshi et al. (2017)	1995–2015	80 international tourist destination cities	GDP, CO2, FDI, TOUR	GMM	TLGH, EKC validated
Zaman et al. (2017)	1995–2013	Transition economies	GDP, FDI, EC, tourism, CO2	Variance decomposition, panel analysis	TLGH, FDI-led growth, energy-led emissions
Hsu et al. (2017)	1994–2013	China	GDP, TOUR, export	VAR, cointegration analysis	ELGH, TLGH validated
Perles-Ribes et al. (2017)	1957–2014	Spain	Tourism demand, GDP, Job creation, Price competitiveness	ARDL, Toda-Yamamoto procedure	TLGH validated
Tang and Ozturk (2017)	1982–2011	Egypt	GDP, TOUR	Generalized variance decomposition analysis	TLGH validated
Stauvermann and Kumar (2017)	1995–2016	Developing countries	GDP, TOUR, HC, AGRIC	Overlapping Generations (OLG) approach	TLGH validated
Mahadevan et al. (2017)	–	Tourism sector	TOUR, poverty and income inequality	dynamic general equilibrium analysis	An increase in Indonesia's domestic and foreign tourism led to a reduction in poverty and an increase in income inequality in both rural and urban regions
Primayesa et al. (2017)	1984–2014	Indonesia	GDP, TR, RER	VECM and Granger analysis	TLGH validated
Lee Harris and Dieringer (2017)		Florida	GDP, TR, Tax	REMI model	TLGH validated
Shahbaz et al. (2017)	1975–2013	Malaysia	TOR, K, TO, FD	Bayer and Hank cointegration, Granger causality	TLGH validated

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Table A1. Continued.

Authors	Time Span	Country	Variables	Methodology	Key Findings
Tang and Tan (2017)	1995–2010	84 countries	TOUR, GDP	Rolling-window analysis	TLGH in the long run only
Chiu and Yeh (2017)	1995–2008	Developing countries	TOUR, GDP, TO, ER	Threshold regression	TLGH validated
Gwenhure and Odhiambo (2017)	1975–2010	International Literature review	TOUR, GDP	Systemic review	TLGH validated for most countries reviewed
Chen et al. (2017)	2005–2013	14 municipalities in China	GDP, TOUR	Cointegration and Causality analysis	TLGH validated
Salifou and Haq (2017)	1990–2010	West Africa states	GDP, capital formation, TOE, FDI, and economic globalization index	FMOLS and DOLS	TLGH validated
Rahman et al. (2017)	1995–2015	Pakistan	GDP, TOUR, TOE	VECM, Granger causality	TLGH validated
Pratoomchat (2020)	1988–2011	ASEAN countries	GDP, tourism, FDI	Panel regression-ARDL	TLGH validated
Shahzad et al. (2017)	1990–2015	top 10 tourist destination	GDP, TOA	Quantile-on-quantile method	TLGH validated
Liu et al. (2017)	1998–2013	China	tourism income, GDP, TO	Spatial panel regressions	TLGH validated
Nassani et al. (2017)	1995–2014	China	GDPPC,GFCF, TOA	GMM regression	TLGH validated and tourism induced military expenditures
Deng and Ma (2016)	2000–2012	China	GDP, Tourism, industrialization, inflation, openness	OLS, convergence regression	TLGH validated
Tang and Abosedra (2016a)	2000–2012	Morocco and Tunisia	GDP, tourism, industrial value-added	Panel regression	TLGH validated
Liu et al. (2016)	1990–2010	Taiwan	TOUR, GDP, K	ECM, Granger causality, Feder's theoretical growth model	TLGH validated
Tang et al. (2016)	1971–2012	India	TOUR, GDP, and EC	Cointegration and generalized variance decomposition	Tourism is a vital driver for growth
Brida, Lanzilotta, et al. (2016)	1990–2011	MERCOSUR countries	TOE, GDP	TAR and M-TAR model	"Nonlinearity relationship between tourism and economic growth for Argentina and Brazil,"
Zhang and Gao (2016)	1995–2011	China	TOUR, GDP, CO2, and EC	Pedroni cointegration and FMOLS	The Tourism-induced EKC hypothesis does not exist in central China and is merely weakly supported in eastern and western China
Brida, Cortes-Jimenez, et al. (2016)	2002–2010		TOR, TOE, TOA, GDP	Systemic review	TLGH across countries and panel
Alhowaish (2016)	1995–2012	GCC countries	real TOR and real GDP	Panel Granger causality analysis	Contribution of tourism to economic growth in GCC countries as a whole
Zdravko and Jasmina (2019)	1995–2009	Selected countries	Labor, K, TOUR, aggregate output	Pooled POLS, Fixed-effects, and Random-effects models	Tourism leads to profit-led growth in economies
Carr and Liu (2016)	Questionnaire	Tourism-dependent economy	TOUR, GDP	Q-methodology development	TLGH validated
Hatemi-J (2016)	1995–2014	United Arab Emirate	TOUR, GDP	Bootstrapped causality tests	TLGH validated
Du et al. (2016)	1995–2011	109 countries	TOUR, GDP, EXR	OLS regression	TLGH validated

Table A1. Continued.

Authors	Time Span	Country	Variables	Methodology	Key Findings
Tang and Abosedra (2016b)	1995–2011	Lebanon	TOUR, real output, and the real ER	Bootstrap simulations and recursive causality	TLGH validated
Palamalai (2016)	1995–2014	India	tourism expansion, URB, and GDP	Granger causality analysis	Tourism expansion and economic growth are independent of each other
Obi et al. (2016)	1995–2015	Ghana	GDP growth rate, real effective ER, inbound TOR and ITOUR	VAR, cointegration analysis, VECM Granger causality test	TLGH validated
Mérida and Golpe (2016)	1980–2013	Spain	GDP, the number of nights spent in Spanish tourist accommodations, and REER	Co-movement analysis and Granger causality test	Bidirectional Granger causality relation between GDP and Tourism
Brida et al. (2015)	1990–2011	MERCOSUR	GDP, TOUR, TOE	Non-parametric cointegration and Granger causality test	TLGH validated
Tang and Tan (2015a)	1975–2011	Malaysia	Real gross national product, real TOR, PS, real gross national savings	Cointegration analysis, VECM Granger causality test	TLGH validated
Jaforullah (2015)	1972–2012	New Zealand	TOUR, GDP, and ER	Cointegration analysis, VECM Granger causality test	TLGH validated
de Vita et al. (2015)	1960–2009	Turkey	CO2, GDP, EC, and Tourism Development	Maki Cointegration Test	EKC hypothesis is valid
Bassil et al. (2015)	1995–2013	Lebanon	GDP, TOA	VECM Granger causality test	TLGH validated
Ertugrul and Mangir (2015)	1998–2011	Turkey	GDP, TOA, and REER	VECM Granger causality test, ARDL cointegration method	TLGH validated
Tang and Tan (2015b)	1991–2014	Malaysia	GDP, TOA, EXP	TY, Granger causality, the rolling window	TLGH validated
Al-Najjar (2014)	2005–2010	five Middle Eastern countries	GDP, TOA, EXP	2SLS	TLGH validated
Al-Mulali et al. (2014)	1985–2012	Middle East countries	GDP, TR, RER, Total trade	Panel analysis, cointegration, VECM	An increase in economic growth, total trade, and the depreciation of the local currency are pivotal to tourism development
Trang et al. (2014)	1992–2011	Vietnam	GDP, TR, ER	ECM, Granger causality	TLGH validated
Deng, Ma, and Shao (2014)	1987–2010	China	GDP, TOR, government expenditure	Threshold Regression	TLGH validated
Pan et al. (2014)	1995–2010	15 OECD countries	GDP, TOR, HC	Panel Smooth Transition Regression Models	A tradeoff between export policies and tourism policies to increase economic growth
Tang and Abosedra (2014a)	1995–2010	Lebanon	GDP, TOR	ARDL, ECM	TLGH validated for Lebanon
Tang and Abosedra (2014b)	2001–2009	MENA countries	GDP, TOUR, PS, EC	GMM	Energy-induced growth and TLGH validated

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Table A1. Continued.

Authors	Time Span	Country	Variables	Methodology	Key Findings
Tugcu (2014)	1998–2011	Mediterranean Region	GDP, ITOUR, TOE	Panel regression and Dumitrescu and Hurlin causality	Causality between tourism and economic growth validated
Aslan (2014)	1995–2010	Mediterranean countries	GDP, ITOUR	Panel cointegration and Granger causality	TLGH validated
Deng, Ma, and Cao (2014)	1987–2010	China's 30 provinces	GDP, TOUR, FDI, inflation, EDU	OLS	TLGH validated
Brida and Giuliani (2013)	1980–2009	Tirol—Südtirol—Trentino Europaregion	GDP, TOUR	VECM, Granger causality	TLGH validated
Di Liberto (2013)	1980–2005	panel of 72 countries	GDP, TOUR, HC	GMM	TLGH validated
Tang and Tan (2013)	1995–2000	Malaysia (12 tourism markets)	GDP, TOUR	Bayer and Hank cointegration, Granger causality	TLGH validated
Sahli and Carey (2013)		Review	TOA, EXP, GDP	Causality analysis	TLGH validated
Bouzahzah and El Menyari (2013)	1980–2010	Morocco and Tunisia	TOR, REER, GDP	Cointegration and Granger causality analysis	Causality running from economic growth to international tourism receipts
Surugiu and Surugiu (2013)	1988–2009	Romanian	GDP, ITOUR, REER	VECM and Granger analysis	Support the TLGH
Tang (2013)	1974–2009	Malaysia	GDP, REER, TOR	Bounds test and Granger causality	No Granger causality seen between tourism receipts and GDP
Raza and Jawaid (2013)	1980–2010	Pakistan	TOUR, GDP and terrorism	Johansen and Jeuuselius, ARDL and DOLS	TLGH validated for Pakistan
Brida et al. (2013)	1990–2011	4 countries of MERCOSUR	GDP, TOUR	VECM, Granger causality	TLGH validated
Adnan Hye and Khan (2013)	1971–2008	Pakistan	GDP, real TOUR	Johansen & Juselius cointegration, ARDL, and rolling windows	TLGH validated
Jackman (2012)	1975–2010	Barbados	TOR, REER, GDP	TY, Granger causality	Causality running from tourism to economic growth
Lee (2012)	1980–2007	Singapore	GDP, TOUR, EXP, IMP	TY, Granger causality	Validation for growth-led tourism, tourism-led imports, and export-led tourism hypotheses
Pentelow and Scott (2011)	2005–2020	Caribbean tourism industry	GDP, carbon price, flight price, location of the airport, TOA	Input-output analysis	Caribbean region of the International Air Passenger Adaptation Levy proposal is unlikely to significantly affect tourism arrivals in a negative way
Pepur et al. (2011)	Questionnaire in 2010	698 tourist questionnaire in 2010	Interdependence and relationship quality	Non-parametric Chi-square test	Significance relationship between interdependence and the quality dimensions considered relationship quality dimensions
Tang (2011)	1995–2009	Malaysia	GDP, TOA	ECM, Granger causality	Diverse result for the bloc, both TLGH and growth led tourism hypothesis
Husein and Kara (2011)	1964–2006	Turkey	GDP, TOR, REER	Johansen multivariate cointegration	A one-way causal relationship between tourism receipts and RER to GDP

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Table A1. Continued.

Authors	Time Span	Country	Variables	Methodology	Key Findings
				analysis and Granger causality	
Brida et al. (2011)	1965–2007	Brazil	GDP, TOR, REER	TY, Johansen multivariate cointegration analysis	Both TOR and REER increase GDP
Shah (2011)	489 hotels	Caribbean hotel	The number of rooms and age, foreign owners, larger hotels, etc.	OLS	Neither do caveats aimed at luxury tourists affect corporate environmental responsibility
Katircioğlu (2011)	1960–2007	Singapore	GDP, ITOUR	VECM, Granger causality	TLGH validated
Odhiambo (2011)	1990–2008	Tanzania	TOUR, GDP, REER	ARDL, Granger causality	Feedback causality between tourism and economic growth
Lorde et al. (2011)	1974–2004	Barbados	TOA, GDP	cointegration, causality testing, and innovation accounting	TLGH validated
Katircioğlu (2010)	1977–2007	North Cyprus	TOUR, GDP, REER, Higher education	ECM and Granger causality	Confirmed tourism-induced growth and higher education-induced growth hypotheses
Lean and Tang (2010)	1989–2009	Malaysia	TOA, GDP	TYDL causality	TLGH validated
Singh et al. (2010)	1995–2010	Bahamas, Barbados, and Jamaica	GDP, TOUR	VAR, cointegration	No support for TLGH
Katircioğlu (2010)	1960–2007	Singapore	GDP, ITOUR, RER	Cointegration, error correction models, and Granger causality	TLGH validated for Singaporean economy
Payne and Mervar (2010)	2000–2008	Croatia	GDP, REER, ITOUR	TY causality analysis	Causality was seen from GDP to ITOUR
Brida et al. (2010)	1987–2006	Uruguay	GDP, REER, TOE	cointegration and Granger causality analysis	A positive relationship between tourism and economic growth
Brida and Risso (2010)	1980–2006	South Tyrol	GDP, ITOUR, relative prices	Johansen cointegration and Granger causality analysis	TLGH validated
Malik et al. (2010)	1972–2007	Pakistan	GDP, TOUR, current account deficit	co-integration, ECM, and Causal Analysis	One-way causality tourists to GDP
Ozturk and Acaravci (2009)	1987–2007	Turkey	GDP and ITOUR	ARDL,VEC tests	TLGH not validated
Katircioglu (2009)	1960–2006	Turkey	GDP, REER, TOUR	Johansen cointegration and Granger causality analysis	TLGH not validated
Katircioglu (2009)	1960–2006	Malta	GDP, ITOUR, GDP	Johansen cointegration and Granger causality analysis	Feedback causality between tourism and economic growth
Brida et al. (2008)	1994–2007	Colombia	GDP, REER, TOUR	Pairwise Granger causality analysis	TOE to GDP
Warnock-Smith and Morrell (2008)	1995–2003	US-Caribbean markets	Air transport, GDP	O–D passenger model	Air transport increase the tourism sector
Sanchez Carrera et al. (2008)	1980–2007	Mexico	GDP, REER, TOUR	VAR, VECM, and Granger causality	TLGH validated
Nowak et al. (2007)	1975–2001	Spain	GDP, TOUR, IMP	Cointegration, VECM, and Granger causality	Mechanism of international transmission of economic growth

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Table A1. Continued.

Authors	Time Span	Country	Variables	Methodology	Key Findings
Aguero et al. (2013)	1960–2012	Tourism dependent economy	GDP, REER, TOUR	Cointegration, VECM, and Granger causality	TLGH validated
Gökovali and Bahar (2006)	1987–2002	Mediterranean countries	GDP, capital formation, labor, TOUR	Fixed and random effect	TLGH validated
Gooroochurn and Milner (2005)	1997–2003	Mauritius	revenue, tax, TOUR, other sectors from tourism	The computable general equilibrium model	Tax in tourism sectors efficient raising tax revenue
Gunduz and Hatemi-J (2005)	1963–2002	Turkey	GDP, REER, TOUR	leveraged bootstrap causality tests	TLGH validated
Uyarra et al. (2005)	questionnaire in 2005	Bonaire and Barbados	GDP, TOUR, climate change	WTP model analysis	Climate change has significant impact on tourism revisit in the region
Demiroz and Ongan (2005)	1980–2004	Turkey	GDP, TOUR	Johansen and VECM	Two-way causality between tourism and economic growth
Klein et al. (2004)	1975–2003	Coastal counties	GDP, relative size travel and tourism sector	GIS model	Tourism is not responsive to distance
Balaguer and Cantavella-Jorda (2002)	1975–1997	Spain	GDP, TOR	Johansen and Granger causality	TLGH validated
Koch et al. (1998)	1998	South Africa	GDP, TOA	Systemic review	Inflation effect tourism-dependency in Barbados
Coppin (1993)	1960–1977	Barbados	GDP, IR and TOUR	Systemic review	Tourism is vital to economic prosperity
Domingo (1989)	1960–1970	U.S. Virgin Islands	GDP, TOUR	GDP, tourism, employment	TLGH validated

Note: TOUR, TOA, GDP, CPI, CO2, SEC, LIFE, ASEAN, CPL, IP, HCI, OPN, TOA, TOE, TOR, TAI, CAP, LBR, TFEC, TDI, CCE, AMG, FMOLS, TF, POP,INV, LAB, TE, GMM, TD, FDI, FD, ER, IQ, IR, NR, SGMM, GFC, EDU, TAE, GFCF, INFRA, ROL, GOV, COC, RQI,VOA, POL, IQI, PR, CLI, GC, LIC, MIC, UIC, GDPPC, MIDAS, VAR, CI, ARDL, GPP, ATP, RNW, URB,SG, ECM, EDUTOUR, SVAR, EC, GCF, STET, OWB, POP,PS, CBT, GH, IRFA, BSCNX, ECFRX, GVEFX, CRCTX, RGQTX, EU, ITOU, DTOU, HC, SR, LABR, TLOAN, CCDM, FDILGH, TLGH, DC, TY, GPR, DOLS, ELTGH, MSCIW, GEPU, TBR, TWER, OIL, FSI, VIX, VMD, DYM, ABD-GMM, PDEN, TOP, EF, TOPSIS, ERI TR, TRANSP, GLOB, ICTs, CCR, AGRT, TN, RLBT, RIT, TI, FDITS, FDINTS, EFI, REF, LEB, SYR, CEE, SEE, ALGH, AVA, CSD, SARIMA, K, GADD, STR, TIE, HHC, TCTGDP, EMP, HK, PUBLPEC, TOURDEM, TOURSUP, ACCESS, ESI, TTCI, EPI, ANS, AGRIC, TOURINC, HIE, FCI, EL. TFP, REER: Tourism, Tourist Arrivals, Gross Domestic Product, Inflation, Carbon Emissions, Secondary Enrolment Ratio, Life Expectancy, Association Of South-East Asian Nations, Capital Per Labor, Internet Penetration, Human Capital Index, Ratio Of Expert And Import To GDP, Tourism Arrivals, Tourism Expenditure, Tourism Receipt, Tourism Activity Index, Capital Investments, Total Force, Total Final Energy Consumption, Tourism Development Indicators, Common Correlated Effect, Augmented Mean Group, Fully Modified Ordinary Least Square, Tourism Flow, Population, Capital Stock, Labor Stock, Total Export, Generalized Method of Moments, Tourism Development, Foreign Direct Investment, Financial Development, Exchange Rate, Institutional Quality, Inflation Rate, Natural Rate System GMM, Gross Fixed Capital, Education level, gross fixed capital formation, rule of law index, government effectiveness index, control of corruption, regulatory quality index, voice and accountability index, political index, institutional quality index, Political Risk, Climate, Government Consumption, Low-income countries, Middle-income countries, Upper-income countries, GDP per capita, Mixed Data Sampling, Vector Autoregression, Carbon Intensity, Autoregressive Distributed Lag, Gross Prefectural Production, Air Transport Passengers, Renewable Energy Use. Urbanization Process, Social Globalization, Error Correction Model, Educational Tourism, Structural VAR, Energy Consumption, Gross Capital Formation, Symbolic transfer entropy test, Overall well-being, Population Growth, Political Stability, Chow breakpoint test, Gregory-Hansen, Impulse Response Function Approach, Business Confidence Index, Economic Freedom Index, Government Effectiveness Index, Corruption Control, Regulatory Quality, Energy Use, International Tourism, Domestic Tourism, Human Capital, Secondary-level Enrolment, summation of exogenous rates of growth in the labour force, technological progress and depreciation rate, Loan to Tourism, Coupling Coordination Degree Model FDI Led Growth Hypothesis, Tourism-Led Growth Hypothesis, Domestic Credit, Toda and Yamamoto, Geopolitical Risk, Dynamic OLS, Economic-Led Tourism Growth Hypothesis, (Morgan Stanley Capital International) world stock market index, global economic policy uncertainty, Treasury Bill Rate, trade-weighted US exchange rate, Oil Price, financial stress index, Volatility index, variational mode decomposition, Diebold-Yilmaz model, Arellano-Bond differenced GMM, Inbound Tourism, Global Trade, Population Tourism, Ecological Footprint, (Technique for Order Preference by Similarity to an Ideal Solution, Resilience of the industrial-economic system, Resilience of the socio-economic system, Economic Resilience Index, Ratio of total tourism income to GDP, Transportation, Globalization, Information and Communication Technologies, Canomical Cointegration Regression, Agriculture, Tourist Nights, Real Local Business Tax, Real Income Tax, Tourism Intensity, FDI inflow to hotel and Tourism, FDI equity flows, Number of Syrian Refugees, Casualties in Lebanon, Casualties in Syria, Central and Eastern Europe, South Eastern Europe, Agricultural-led Growth Hypothesis, Agricultural Value Added, Cross Sectional Dependency, seasonal autoregressive integrated moving average, Physical Capital, Effective Depreciation Rate, Industrial Structure, Economic Openness, Household Consumption, Total Contribution to GDP, Employment, Education attainment, Index of Sectorial Specialization, Tourism Demand, Tourism Supply, Accessibility, Environmental Sustainability Index, Travel & Tourism Competitiveness Index, Adjusted Net Savings, Agricultural Output, Highest Income Earning Countries, Fixed Capital Investment, Employed Labor Force, Total Factor Productivity, Real Exchange Rate
[a]Romania, Slovenia, Bulgaria, Czech Republic, Croatia, Slovakia, Estonia, and Lithuania