



A Bibliometric Analysis on Fuel Prices Fluctuations and Tourism under the Era of Sustainable Development

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ABSTRACT

The tourism industry has great potential for growth in any economy. Its excessive input-to-output ratio has a significant favourable effect on the economy. Oil costs are affecting the tourism industry because oil fuel prices are a direct factor influencing the tourist industry both demand and supply. There has been demonstrated how the price of petroleum has affected transportation, aviation, and tourism has varied. So, for this purpose, the paper uses a bibliometric analysis method based on Scopus statistics, along with R studio productive methods and Vos viewer for visual results to determine the current trends within the along with oil price's consequence on the tourist industry. The findings used Descriptive analyses, thematic maps, and current trends of issues like oil price shocks and tourism operations to predict the frequency of courses. Lastly, by offering new research directions in sustainable tourism, this bibliometric analysis helps us to draw a conclusion to study.

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1. Introduction

The most essential component of the any economic system's is fuel, which incorporates oil (Bashir, 2022; Talha, Sohail, Tariq, & Ahmad, 2021). As per predictions, the oil will be the most common fuel source, contributing for about one-third of all fuel usage. Petroleum isn't just the most widely utilized oil for fuel (Cui et al., 2021) but it is also well known that countries that extract goods are susceptible to changes in oil prices. Similar to how inbound tourism has emerged as one of the most significant change sectors globally (Spenceley & Rylance, 2021). Taking the tourism corporation's oil charge-in-depth nature into perspective (Kisswani & Harraf, 2021) In light of this, governments and corporations are becoming progressively being curious about how tourism affects the economy at all levels—national, governmental, and local level (Parvin, 2022) As per data from UNWTO and (Prince, 2022), worldwide tourism exports hit US\$ 1.5 billion in 2014. The data shows that 1,184 million tourists came worldwide in 2015, with 608 million of all those being from Europe, 278 million via Asia and the Pacific 54 million from the Middle East, and 53 million from Africa. In addition, From 2 billion dollars in 1950 to 104 billion dollars in 1980, 419 billion dollars in 1995, and 1245 billion dollars in 2014, revenue from overseas tourists has grown quickly. Similar to this, the travel industry can expand access to global markets and increase foreign direct investment. Which all lead to the expansion of the economy. The connection among both oil tax payments and visitor income continues to be a crucial area of study, especially in light of how hugely dependent countries are on the sale of their oil for export.

Studying the link among both oil prices and tourism is essential since travel demand and supply are directly impacted by the cost of the transportation-related energy. Tourism is significantly impacted by price of oil, and petroleum products directly affect the supply and demand for travel Becken and Kaur (2021) & Farzin (2021). According to (Bhuiyan, Crovella, Paiano, & Alves, 2021; Xuefeng, Razzaq, Gokmenoglu, & Rehman, 2022) the results

demonstrated that both in the short and long timeframes, positive oil price shocks have a greater impact on tourism registrations than financial instability. Theoretically, higher oil prices should have an impact on travel and tourism both directly and indirectly. Because of inflation brought by higher oil costs, these travellers' income would be reduced, which would affect their choice of itinerary, places to visit, and travel budget. Drebee and Razak (2022) Due to the income and price effect, the tourism industry, which is a significant source of export revenue, is put in risk by the expected rise in oil prices. Qin, Chen, and Dong (2021), (Awan, Rahman, Ali, & Zafar, 2023; Chaudhary, Nasir, ur Rahman, & Sheikh, 2023; Dawood, ur Rehman, Majeed, & Idress, 2023; Hafiza et al., 2022; Shahid, Gurmani, Rehman, & Saif, 2023; Shahzadi, Sheikh, Sadiq, & Rahman, 2023; Zahra, Nasir, Rahman, & Idress, 2023).

It is obvious that it is important to consider how variations in oil prices impact tourism. This study looks into the effects of increased oil costs on tourism, both favorable and undesirable. Because oil has replaced other shipping fuel sources, especially in car-based societies, its fluctuating price has had a significant impact on delivery elements that affect the demand for tourism have caught the attention of numerous academics, particularly in the last ten years (Newman & Kenworthy, 2021) (Yang et al., 2021); (Chow, Tsui, & Wu, 2021) Regardless of the potential for oil to serve as a fuel source, price of oil may continue to have an effect on transportation and land use costs for several years to come. Because oil is a major source of fuel for all methods of travel, housing, and other tourist industry activities, the petroleum price has a substantial impact on the tourism industry. Oil has replaced earlier petroleum products, and its fluctuating price has had a big impact on transport, especially in civilizations that depend largely on automobiles(Becker, Pfeifer, & Schweikert, 2021; Hafiza et al., 2022; Rehman, Ali, Idrees, Ali, & Zulfiqar, 2022; Shahid et al., 2023; Zulfiqar et al., 2022).

With the abovementioned discussion in light, we conduct research to give the Bibliometric analyses of the information map within the submitted scientific papers in order to emphasize trends in research (Hirsch, Bezdek, & Wendling, 2005). In order to present an important assessment of information related to the interaction between tourist and oil in contrast to the historical trend of increasing oil costs, this study focuses on the underlying dynamics investigations areas of fuel rate shocks and tourism. The study's aim is to evaluate how academics have conceptualized how changes in oil prices affect travel. irrespective of the fact that as oil became a major source of fuel, institutional concern in dependency on it increased. As far as experts can determine, the investigation's objectives will be fulfilled by encompassing a thorough literature analysis and a bibliographic evaluation of the association between the price of oil and tourism. This assessment responds to the following research inquiries:

- Q1: Which is the latest citation and publication trends in literature?
- Q2: Which is the trend for publications in the most major scientific publications?
- Q3: Which are the most prevalent credible academic courses readily accessible?
- Q4: Which are the most prevalent prominent key phrases?
- Q5: Which eminent writers and academia have contributed one of most comes into focus
- Q6: What's the essential theme in research related to oil costs towards sustainable tourism from the past to the present?

2. Existing Review of Literature

The basic connection between shifts in the cost of oil & tourist industry has been focus of the analytical analysis of the literature. Becken (2011a) undertakes a thorough overview of the current literature on "tourists and oil" in a reviewing article. It is anticipated That increase in oil costs will have detrimental income impact, which could lead to a decline in foreign travel and tourism spending. Chatziantoniou, Filis, Eeckels, and Apostolakis (2013) examined the impact of rising prices of oil on visitor origin nations and the costs associated with travel from some countries. Their results indicated that tourism industry is most adversely affected by increased oil prices. The impact of fluctuating fuel prices on tourist industry is only noticed once it exceeds a specific level. The findings showed that shocks in the Fuel pricing had little effect on the tourist industry or those countries economies where the tourism industry is important(Al-Mulali, Gholipour, & Al-hajj, 2020) to the country's economy. After analyzing various scenarios of rising oil prices, their findings show that the transport sectors connected to the tourism sector are so much more likely to be impacted by high oil costs than most other sectors of the economy in Spain. Similar effects on production costs would be seen across a range of companies, including those involved in the travel and tourism sector (Ali, ur Rahman, & Anser, 2020; Katircioglu,

Katircioglu, & Altun, 2018; Rahman, Chaudhry, Meo, Sheikh, & Idrees, 2022; Sarwar, Ali, Bhatti, & ur Rehman, 2021; Shafique; Younas, Idrees, & ur Rahman; Zhu, Fang, Rahman, & Khan, 2023). Due to the direct relation between oil prices and airline expenses, many visitors find it difficult to determine whether to travel, prominently the places to go and how to arrive there. (Aynalem, Birhanu, & Tesefay, 2016) (Becken, 2011b) and (Papatheodorou, Rosselló, & Xiao, 2010) (Meo, Chowdhury, Shaikh, Ali, & Masood Sheikh, 2018), (Bilal, Shah, Rahman, & Jehangir, 2022; Hassan, Sheikh, & Rahman, 2022; Khan & Saif-ur-Rehman; Li et al., 2022; Rahman et al., 2022) for further information. Many scholars are still interested in the factors mentioned, but There hasn't been much research on the tourism sector that specifically examines how the cost of fuel influences travel. It would be useful to know whether higher or lower oil prices have an impact on tourists' purchasing decisions. Some researchers claim that the environment has a significant (Day & Cai, 2012), (Ilyas, Banaras, Javaid, & Rahman, 2023; Khan & Saif-ur-Rehman; Rehman et al., 2022; Usman, Rahman, Shafique, Sadiq, & Idrees, 2023).

For instance, Lennox (2012)) investigated how long-term rises in oil prices affected tourism around the world According to Chatziantoniou et al. (2013) research, countries where the tourism industry is vital to the national economy have little influence from to provide fuel prices increases' impacts on the economic system and tourist industry. Data from a 2013 study by (Logar & Van Den Bergh, 2013) shows About the transportation industries of Spain are more vulnerable to the effects of increased oil prices than other economic sectors. Last The focus of the previous studies by (Ali et al., 2020; Rahman et al., 2022; Rehman et al., 2022), (Degiannakis, Filis, & Arora, 2018) and (Nazlioglu, Gupta, Gormus, & Soytaş, 2020) was simply content analysis. The following aspects of the present study set it apart from earlier research. This is the first study to examine how fluctuations in the price of oil affect travel using bibliometric analysis. To our knowledge, no bibliometric study has specifically examined how the price of oil influences the travel and tourist industry. The current research will employ the use of bibliometric analysis to review and evaluate the scientific literature. We examine publications, journals, organizations, source kinds, document types, citation counts, and countries in respect to publishing year in order to achieve this. We also critically evaluate to provide study suggestions and research gap for future investigations

2.1. The Current Study Aims and Methods of Analysis

The ongoing study motive is to provide a thorough analysis for the existing research about oil prices and tourism. To identify important organisations, nations, writers, and scientific literature, we adopt "biblioshiny" (also known as "bibliometrics 3.0"). The purpose of this article is to recognize key re-search areas by using co-occurrence and co-citation analytics in scientific mapper approaches. We can conduct a complete analytical study and identify holes in the literature by using these methodological approach.

3. Theoretical Concept & Theory

Bibliometric theory is used on this study, according to Bibliometric theory a subset of systematic literature reviews known as "bibliometric research" employs statistical and quantitative techniques on bibliographic data, including clustering algorithms, optimization techniques, descriptive statistics evaluation, and science based mapping (Mukherjee, Lim, Kumar, & Donthu, 2022).

4. The Pattern of the Methodology Work

By quantitatively analysing literature survey, detecting the quantity of studies published, and evaluating the consequence those papers have on citation, bibliometric methodologies are used to evaluate the economy's effective growth. This kind of investigation might be beneficial to researchers who want to examine how the economy has been affected by scientific advances. A bibliometric analysis may uncover new modes of exploration and publishing techniques. The study of citation and contents for scholarly journals, literature, and scholars is known as "bibliometrics."

4.1. Arrangement of Data

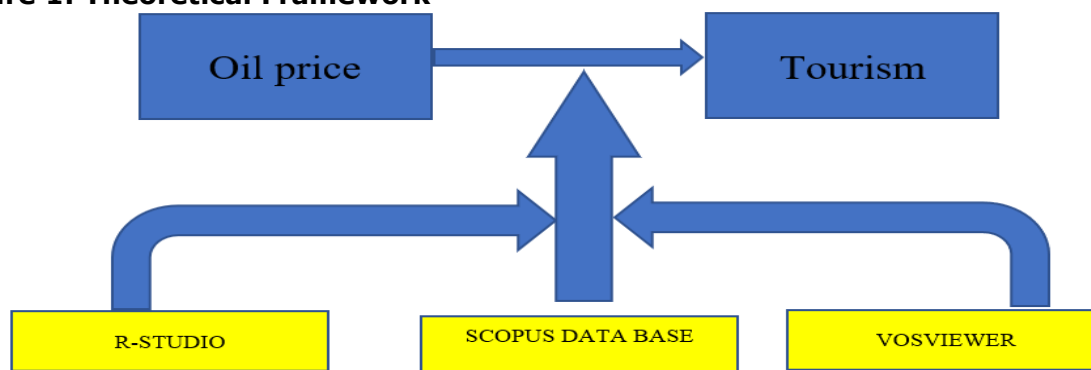
This study has made use of the renowned scientific search site Scopus to give reviewers a thorough picture of the global research output in a range of subjects, including management, financial, commerce, and more particularly the area of social sciences. So According to (Albort-Morant & Ribeiro-Soriano, 2016) the bibliometric investigations make it easier to discover,

organise, and analyse enormous amounts of data, which enables one to evaluate the study's history and anticipate its future (Donthu, Kumar, Mukherjee, Pandey, & Lim, 2021). So at the end, this method has become popular recently among numerous journals that summaries their articles. Since Google Scholar, Scopus, and Scopus are able to compile large amounts of statistical data, users can obtain bibliographic information from these databases (Persson, Danell, & Schneider, 2009)The Scopus database's main advantage is how fully it includes social sciences research, as well (AlRyalat, Malkawi, & Momani, 2019)). SO for this study, 28 authors' data were selected using the Scopus support database's search engine. This article examines tourist research conducted between 2012 and December 2021. It was decided to use it in order to provide original data for this investigation. When using Scopus to hunt for publications on that subject, the terms "Oil Prices" AND "TOURISM" were both present in the title search. The search period spans the years 2012 to December 2021. The remaining documents were all research papers, resulting in a total of 7 articles for bibliometric analysis. because there is very less work existing work on it so only 7 articles are available. Writers, language, journals, nations, and information topics served as the study's bibliometric variables. to examine the evolution and trends in tourist research of consideration of the increase in publications in recent years and periods are being kept purposefully smaller than they were in the prior 10 years.

4.2. The Mapping Tool of Bibliometric Analyses

The scientific map in this study is explored using the VOS viewer system, with an emphasis on the map's schematic diagram. Science mapping is more inventive than other database counting approaches since it allows for improved assessment and predicts the bibliometric data thru bibliographic couplings (Glänzel & Czerwon, 1996; Martyn, 1964) We devise a conceptual framework for those it mixes co-occurrence analysis method with a dynamic and multi matrix "maps" in order to analyse the concentration and centralization of the analysis tool.

Figure 1: Theoretical Framework



5. Research Design

In order to analyse the research on oil prices and tourism and identify the major trends in the industry, a quantitative process helps to ensure of articles increasing in the domain from 2012 to 2022 is done. According to the collection of sources over time, the topic of oil prices and tourism is discussed in management, management, economic, and financial reporting literature. As a result, we recognize the principal trade trends and how the topic of tourism and oil prices evolved over the course of 10 years. The statistical software R Studio and the scientific mapping program VOS viewer, which makes use of biblioshiny, are used to do the research for this purpose. These methods are able research on numerous types of analysis, grouping, and visualization.

Table 1: Basic Information About Data Analysis

| Descriptions | | Results |
|--------------------------------------|--|-----------|
| • Main Information About Data | | |
| Timespan | | 2012:2022 |
| Sources (Journals, Books, etc.) | | 5 |
| Documents | | 7 |
| Annual Growth Rate % | | 7.18 |
| Document Average Age | | 4.43 |
| Average citations per doc | | 25.86 |
| References | | 424 |
| • Document Contents | | |

| | |
|---------------------------------|-------|
| Author's Keywords (DE) | 29 |
| | 6 |
| • Authors | |
| Authors | 28 |
| Authors of single-authored docs | 0 |
| • Authors Collaboration | |
| Single-authored docs | 0 |
| Co-Authors per Doc | 4 |
| International co-authorships % | 71.43 |
| • Document Types | |
| Article | 7 |

Figure 2



We implemented the conventional full-counting method to establish scientometric networks. We use a variety of approaches and essential steps when reviewing the references. and this mapping function was named (Aria and Cuccurullo 2017, Cobo, López Herrera et al. 2011, Börner, Chen et al. 2003).

Table 2

| | |
|--|---|
| STAGE 1: HISTORICAL PHASES | Detailed analysis of the titles, abstracts, and keywords used to represent the historical Phases of the core ideas found in oil prices and Tourism publications. |
| STAGE 2: CO-CITATION INVESTIGATION | Brief list of the top sources and references on oil prices and tourism |
| STAGE 3: THE CO-AUTHORSHIP ANALYSIS | A Discussion for network analysis of international co-authorship partnerships on the oil prices and Tourism |
| STAGE 4: THE INTELLECTUAL & KNOWLEDGEBASE STRUCTURE | to develop bibliometric networks, co-citation analysis and co-word analysis have been done, to analyse the intellectual knowledge base Map |
| STAGE 5: THE TIME PERIOD & KEYWORDS ANALYSIS | To illustrate the progression of keywords over mentioned time periods, the keyword co-occurrence analysis is broken out based on the time framework of the publication. |

6. Data Analyses

First, take a look at table 3, that also lists the top twenty authors in the tourism business. For this, we display articles together with their fractionalization, followed by citation along with their average author number. Additionally, we rate people based on their writings and citations. The top twenty authors in the topic of ecotourism and fuel costs are shown in Figure 1 and Table 2. A thorough analysis shown in Table 3 reveals that BECKEN S. and LENNOX J. are the most productive authors with 3 published papers each and fractional articles of 0.5 and 0.5, respectively. With 2 publications and 3 citations, Spagnolo G. also contributes a significant amount to publication. The authors in Vosviewer who are the most active are also shown in Figure 1(B). Wang in all of these authors. He received the most citations (25 total) for his most efficient and thorough article, which was about oil pricing and other economic topics.

Table 3: Top 20 Authors Co-Citation Descriptive Analyses

| Ranking | Authors | Articles | Fractionalized | Citations |
|---------|---------------|----------|----------------|-----------|
| 1 | APOSTOLAKIS A | 1 | 0.25 | 1 |
| 2 | BECKEN S | 1 | 0.5 | 3 |

| | | | | |
|----|-----------------|---|------|---|
| 3 | CHANG H-L | 1 | 0.2 | 1 |
| 4 | CHATZANTONIOU I | 1 | 0.25 | 1 |
| 5 | DINCA MS | 1 | 0.2 | 0 |
| 6 | EECKELS B | 1 | 0.25 | 1 |
| 7 | FILIS G | 1 | 0.25 | 1 |
| 8 | GOKMENOGLU KK | 1 | 0.25 | 1 |
| 9 | HESAMI S | 1 | 0.25 | 1 |
| 10 | HUANG B | 1 | 0.14 | 0 |
| 11 | HUANG Y | 1 | 0.14 | 0 |
| 12 | LENNOX J | 1 | 0.5 | 3 |
| 13 | LI S | 1 | 0.14 | 0 |
| 14 | LOGAR I | 1 | 0.5 | 0 |
| 15 | RAZI U | 1 | 0.2 | 0 |
| 16 | RAZZAQ A | 1 | 0.25 | 0 |
| 17 | REHMAN FU | 1 | 0.25 | 0 |
| 18 | RJOUB H | 1 | 0.25 | 1 |
| 19 | RUSTAMOV B | 1 | 0.25 | 0 |
| 20 | SONG Y | 1 | 0.2 | 0 |

Figure 3(A)

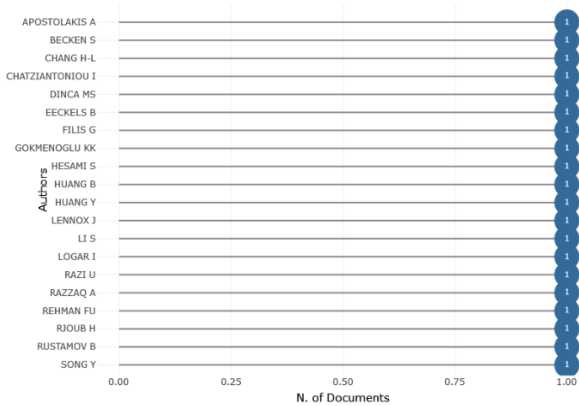
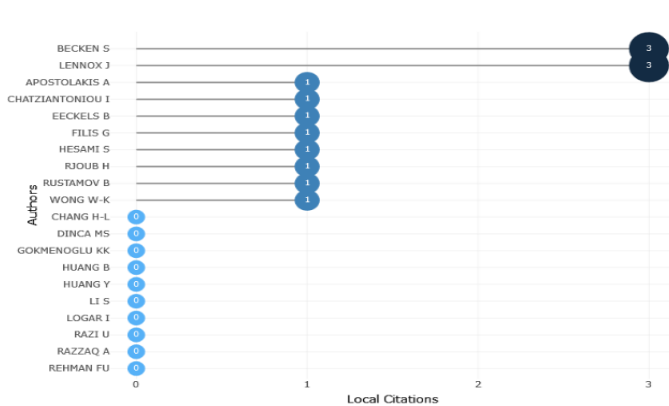


Figure 3(B)



6.1. Descriptive Analyses Result: By the Year

Up to 2022, tourism research in this time zone continued irregularly and resulted in a modest number of published publications. In 2012, one article was written to kick things off. In 2013, more research started to increase, especially during the international financial crises of 2014 and 2018. Research into tourism increased in volume. Figure 3 shows the annual progress advancements, and it is clear that there has been a large growth since 2018. Since there were no articles in 2014, there have been fewer articles published annually. With the exception of 2014 and 2018, the number of citations also rose at a nearly high rate during this time, from 43 to 2018. For comparison, Fig. 2b also shows the publishing growth of 7 papers published between 2012 and 2022 (restricted to English and SSCI Journals).

Figure 4(A)

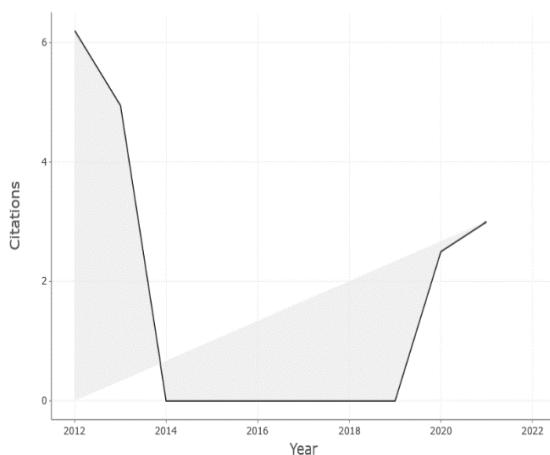
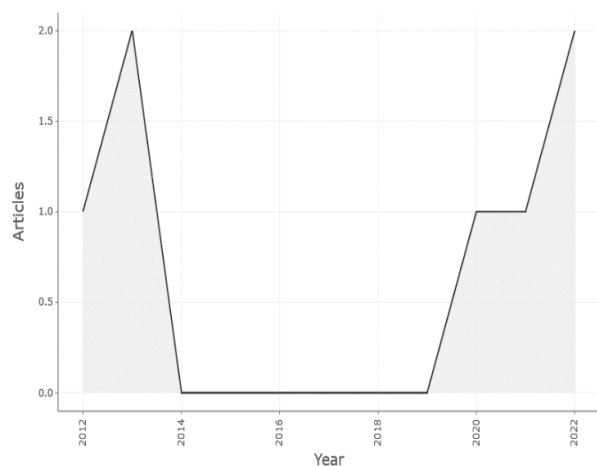


Figure 4(B)



We can see that there were more studies completed in 2018 than ever before, and that the number of publications had significantly increased since 2013, when there had been a sharp climb from 2013 to the beginning of 2014, and then a little down trend from 2018 to 2022 in 2013. Because of this, its descriptive analysis highlights the variations in the years when authors wrote their works and gave their citations.

Table 4: The Descriptive Analysis of TOP of List Countries

| Country | Articels | SCP | MCP | Frequency | MCP Ratio |
|----------------|----------|-----|-----|-----------|-----------|
| China | 2 | 1 | 1 | 0.286 | 0.5 |
| New Zealand | 1 | 1 | 0 | 0.143 | 0 |
| Pakistan | 1 | 0 | 1 | 0.143 | 1 |
| Switzerland | 1 | 0 | 1 | 0.143 | 1 |
| Turkey | 1 | 0 | 1 | 0.143 | 1 |
| United Kingdom | 1 | 0 | 1 | 0.143 | 1 |

From the Scopus data source, we have information on the majority of the articles published in different countries. Using the R studio software, we then ran this data, and the results show that different countries have different quantities of articles on oil price shocks, which help the tourism sector. China with two components, it at the forefront of the list, proceeded with SCP 1 and MCP 1, as shown in the table, and its frequency is 0.286. The countries listed after China include Pakistan and New Zealand. SCP 0 and MCP 1, as well as Turkey, the UK, and Switzerland each had one article regarding how fluctuations in oil prices affect tourist industry, with a & 3 has had significant effect. The frequency between SCP 8 and MCP 1 is 0.286. frequency of 0.143. The publishing of Articles 2 by China. In addition, even though we have a lot of results, we only include the top nations that support article publishing. The results are presented clearly in Figures 4(A) and (B). Figure 4 (A), for instance, shows two colours that MCP and SCP both share. The nations have been displayed on the Y axis, and the total number of documents is plotted on the X axis. Figure 3 illustrates how different nations publish articles in diverse methods, as can be seen from the graph (B). Figure 4(A) was produced using Biblioshiny, while this figure was produced using the Vos viewer.

The fig (B) denotes Bibliographic coupling, which shows how diverse pieces of research are related to one another, and demonstrates the best productivity (Boyack & Klavans, 2010) The networks throughout the various countries were analysed using the author configurations. Long-standing ties exist between the United States and a number of countries, including Canada, Turkey, and Hong Kong. The regional distribution of tourism research is shown in detail on the density map in Fig. 5. One of the top countries and a key player in the field of tourism research is China. Figure 5b expands on Figure 5 by adding a geographic breakdown of the nation's scientific output. The distributed blue colour demonstrates a significant development in tourist research in various countries, while the heavy blue tint represents a single nation's big volume of publications. The graph demonstrates that many regions are still not contributing to the scientific debate. One such place where tourism research is still in its infancy is the continent of Africa.

Figure 5 (A)

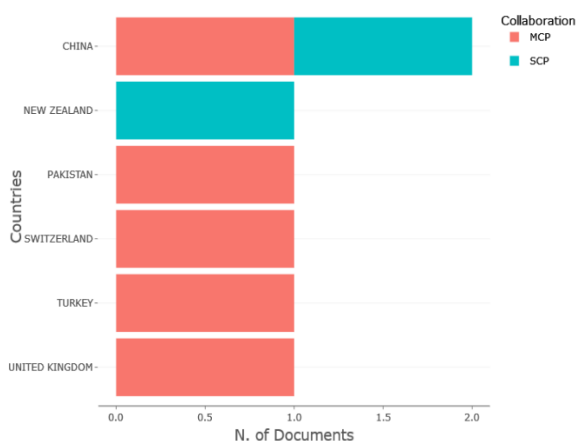


Figure 5 (B)

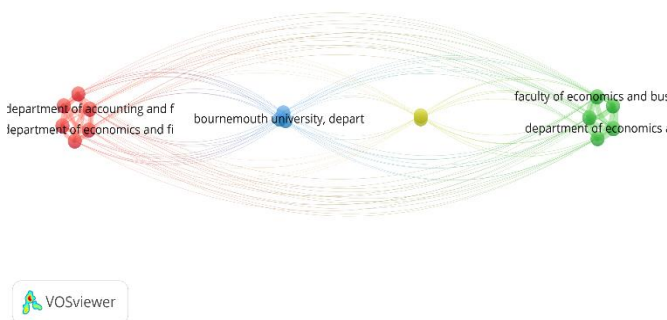


Table 5: Descriptive Analyses by Top Countries Citations

| Country Name | Total Citation (TC) | Average-Article Citations |
|----------------|---------------------|---------------------------|
| New Zealand | 62 | 62.00 |
| United Kingdom | 62 | 62.00 |
| Switzerland | 27 | 27.00 |
| Pakistan | 19 | 19.00 |
| China | 6 | 3.00 |
| Turkey | 5 | 5.00 |

With a total of 62 citations and an average article citation of 62.000, New Zealand, the U.k, and the U.s are the three top nations in this specific table for citation and article publishing. In this descriptive study, there are numerous nations with a large number of citations; nevertheless, we focus on the top ten nations, which have a combined total of about 62 citations on oil price shocks. Various software results are displayed in Figure 5 (A) and (B). Examples of biblioshiny results are shown in Figure 5 (A), where the United States is ranked first with 62 citations and New Zealand is last with 62 citations. However, as can be seen in Figure 5, many scholars are working on various studies and quoting publications from other countries given the status of the global economy today, where the oil market is the key driver. Vosviewer, which exhibits Figure's connection (B).

Figure 6 (A)

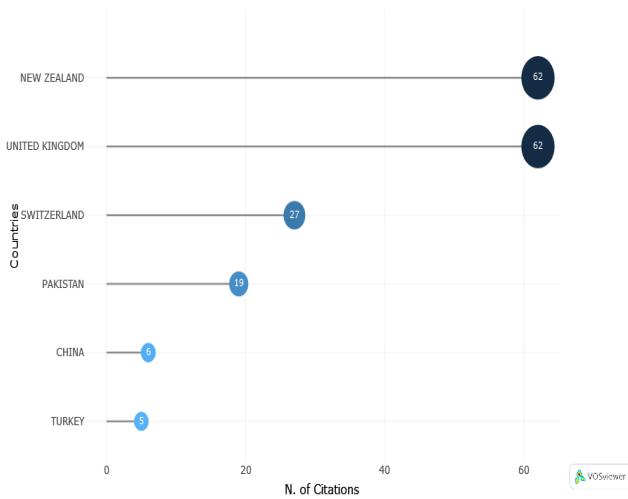


Figure 6 (B)

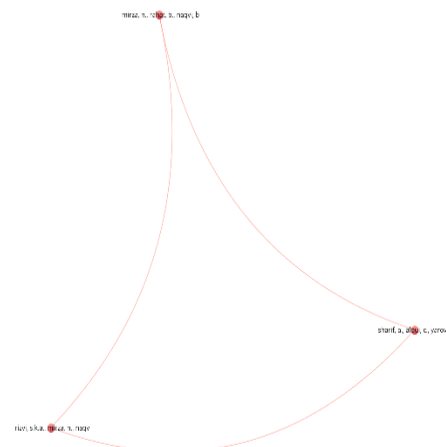


Table 6: Descriptive Analysis: Top Most Authors Citations

| Authors | Local Citation |
|------------------|----------------|
| APOSTOLAKIS A | 62 |
| BECKEN S | 62 |
| CHANG H-L | 3 |
| CHATZIANTONIOU I | 62 |
| DINCA MS | 3 |
| EECKELS B | 62 |
| FILIS G | 62 |
| GOKMENOGLU KK | 19 |
| HESAMI S | 5 |
| HUANG B | 3 |
| HUANG Y | 3 |
| LENNOX J | 62 |
| LI S | 3 |
| LOGAR I | 27 |
| RAZI U | 3 |
| RAZZAQ | 19 |
| REHMAN FU | 19 |
| RJOUB H | 5 |
| RUSTAMOV B | 5 |
| SONG Y | 3 |

Table 6 displays descriptive analyses of the majority of the top authors with local citations before we investigate the majority of citations for writers from various countries and analyse the top with 20 local citations. This author has a large number of publications that have been

published, but the citations on the oil price and tourism were particularly noteworthy, and Apostolakis A. and Beckens, CHATZIANTONIOU I., and LENNOX J. all have 11 local citations. Figures 6 (A) and (B) also show the outcomes of local citations Which are interconnected. For example, in Figure A, we have many writers with local citations, but we only include the top local cited authors in the table. Maps of an author's local citations with linkages to other writers with the same local citations are shown in Fig. B.

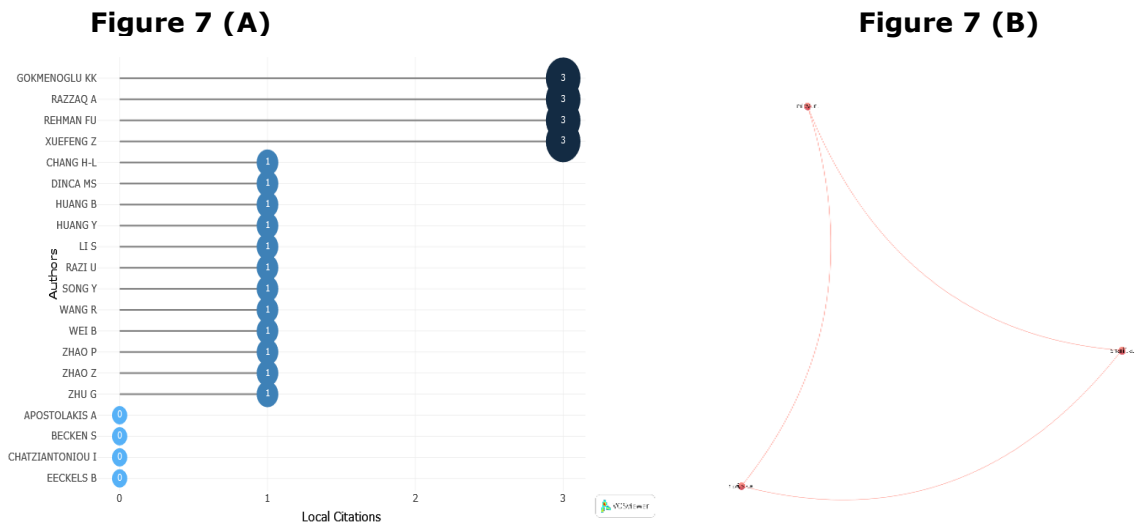


Table 7: Descriptive Analysis: Top Most Relevant Affiliation of Articles

| Affiliation | Articles |
|--|----------|
| Zhejiang University of Water Resource and Electric Power | 4 |
| Eastern Mediterranean University | 2 |
| Universitat Autònoma De Barcelona | 2 |
| University Of Portsmouth | 2 |
| Big Data Research Center Asia University | 1 |
| Binhai Research Institute in Tianjin | 1 |
| Bournemouth University | 1 |
| Cyprus International University | 1 |
| ILMA University | 1 |
| IQRA University | 1 |

According to Table 7's descriptive analyses of the top 10 most relevant affiliations of publications among the research on oil prices, the Zhejiang University of Water Resource and Electric Power is the top organisation, with 4 articles on the price of oil. Looking at the quantity of citations and authors in the prior tables, it can be seen where these universities have strong relationships with one another. The institution's name and the number of articles are shown in Figure 7's circle and left, respectively. Ten articles that are closely related to Zhejiang University of Water Resource and Electric Power are displayed at the top.

Figure 7

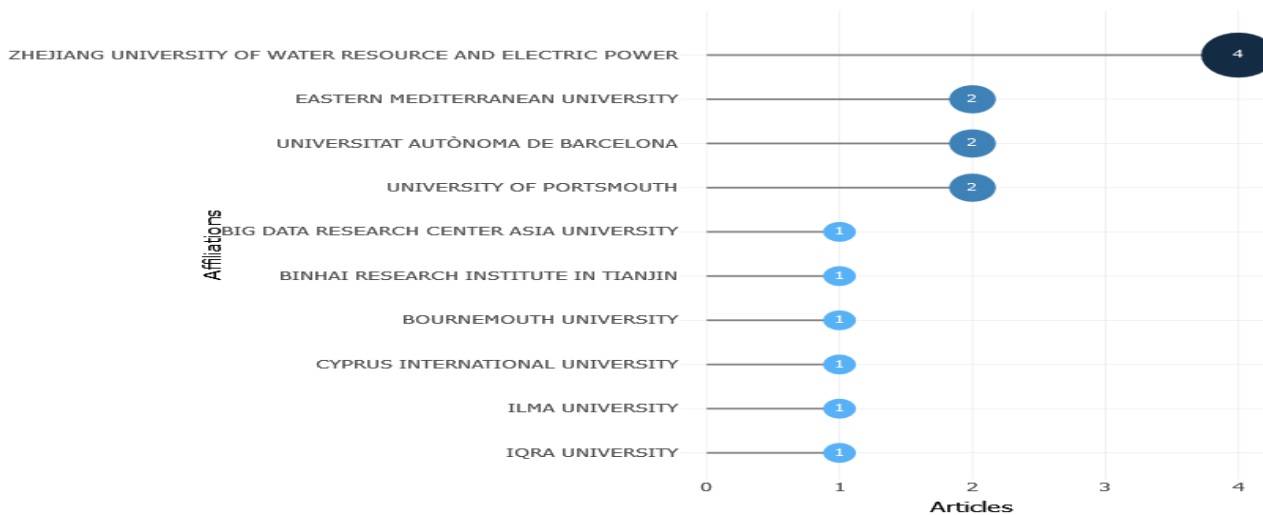


Figure 8



Table 8: Descriptive Analysis: Top Most Co-Occurrence with keywords

| Keyword | Occurrences |
|---------------------|-------------|
| Tourism | 3 |
| Costs | 2 |
| Crude Oil Price | 2 |
| Energy | 2 |
| Income | 2 |
| Numerical Model | 2 |
| Oil | 2 |
| Oil Prices | 2 |
| Price Dynamics | 2 |
| Railway Transport | 2 |
| Tourism Economics | 2 |
| Accurate Prediction | 2 |
| Commodity Price | 1 |
| Crude Oil Exports | 1 |
| Demand Analysis | 1 |
| Domestic Demand | 1 |
| Domestic Tourism | 1 |
| Economic Growth | 1 |
| Economic Impact | 1 |
| Economic Policy | 1 |

Table 8 uses a descriptive analysis of the top Most Frequent Words to group research on the effects of oil price shocks and its front-line research across time. Since the co-occurrence of keywords reveals how frequently certain terms appear in publications, authors must give keywords. Table 7 and Fig. 8 present a broad overview of the keyword co-occurrence study. Figure 8 (B) illustrates a cumulative co-occurrence when using the software R studio, and Figure (A) displays Vos viewer connectivity. a graphic showing the symmetry of the connections between the wires. The term with the higher frequency also shows up more often on the grid, and vice versa. The fast rise in keyword usage reveals fresh patterns in research. The time-zone visualization graph in Figures 8(A) and 8(B) illustrates the time-zone interpretation of the keyword co-occurrence on the shock to the oil price (B). The size of the nodes in oil price research over multiple time axes shows the key themes.

Figure 8 (A)

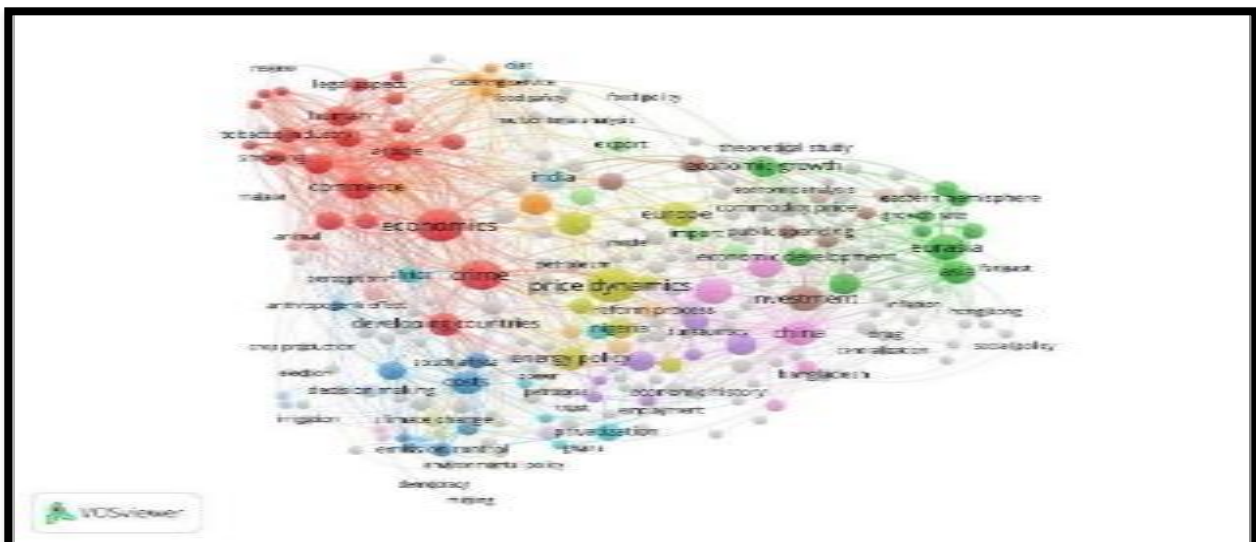


Figure: 8 (B)



Table 9: Descriptive Analysis: Top Most Impactful Source

| Source | Articles | Citations | Total Strength |
|--|----------|-----------|----------------|
| Energies | 1 | 5 | 16 |
| Economics and sociology | 1 | 6 | 10 |
| Energy | 1 | 27 | 9 |
| Journal of security and sustainability | 1 | 2 | 7 |
| Asia pacific journal of tourism research | 1 | 22 | 4 |
| Economic research | 3 | 36 | 4 |
| Suitability | 1 | 2 | 0 |
| frontiers in environmental science | 1 | 1 | 2 |

Table 9 lists the most influential sources. Several articles in the journals have been written about the price of oil. We employ publications that have citations for their articles as well as the overall link strength in a table to accomplish this. While conducting a literature review, academics may be able to identify important journals and their general concentration and production in the study topic by looking at Table 9 descriptive analysis, which provides the top most influential sources. When two journals are cited in the same publication, it is known as a journal co-citation. This practice reflects the relationship and distribution of information bases. Figure 9(A) shows the Bibloshiny graphics while Figure 9(B) displays the Vosviewer source database for comparison. The Scopus database's annual trend for the top journals is displayed. The density map and the top journals for oil price research are displayed in Fig. 9. The node's dimensions reveal the frequency of publications. The most active and important journals in oil price research shown in Fig. 9. all journals are published one articles mostly, each of which was closely related to the others.

Figure 9 (A)

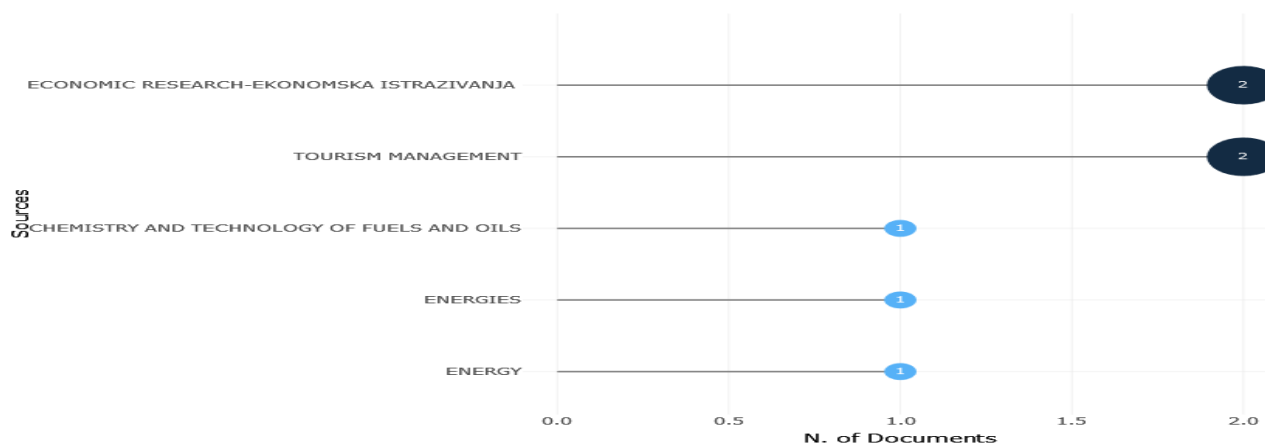


Figure 9 (B)



Table 10: Descriptive Analysis: Top Most Impactful Words Trending

| Items | Frequency |
|---------------------|-----------|
| Tourism | 3 |
| Costs | 2 |
| crude oil price | 2 |
| Energy | 2 |
| Income | 2 |
| numerical model | 2 |
| Oil | 2 |
| oil prices | 2 |
| price dynamics | 2 |
| railway transport | 2 |
| tourism economics | 2 |
| accurate prediction | 1 |
| commodity price | 1 |
| crude oil exports | 1 |
| demand analysis | 1 |
| domestic demand | 1 |
| domestic tourisms | 1 |
| economic growth | 1 |
| economic impact | 1 |
| economic policy | 1 |

To categorise the expanding themes of tourism the frontiers of trimming research, Evaluation of keywords co-occurrence was done. The allocation of keywords is important and noteworthy for authors since the co-occurrence of keywords shows how frequently certain terms appear in articles. The blue cluster, which has a high degree of centrality examines how investment returns, rising economies, and oil price shocks with a heavy emphasis on implementing policy solutions to protect against the detrimental macroeconomic impact of changes in oil prices. The red cluster discusses the connection between prices of oil and economic consequences. Recently, the significance of economies that import oil has grown when determining how share price returns, currency fluctuations, and economic instability would affect those businesses especially tourism business sector. The purple cluster is made up of capital allocation strategies and oil price fluctuations. This cluster discusses money management strategies for creating a balancing strategy and avoiding negative effects on stock market investments. Oil price is the word that comes in the oil price paper the most often (409 times), followed by economic terms (286 times), and price of commodities (277 times). Additionally, as shown by figure 11, which shows a word cloud made up of 264 different words, countries have very significant outcomes in this. The co-occurrence network and conceptual structure are brought together as the primary objectives of the co-word analysis. The terms "price," "economy," and "oil," among others, show out in most of figure (10)A analysis in the descriptive technique, while figure 10 (B) shows the co-occurrence generated by the Vos viewer.

Figure 11 shows the R studio's word tree map. It is a very unique and diversified data collection that offers a wide range of details about our data and shows different frequencies and their proportional contributions. Tree map analysis is essential for finding the most intriguing study areas and identifying any gaps in the body of knowledge on oil price shocks because researchers usually insert numerous keywords. Figure 11 displays the data as layered rectangles through a tree map, emphasising the significant terms that were utilised in the articles. A display of data sets from studies on oil price shocks that contain naturally occurring word clusters is

Figure 13(E)

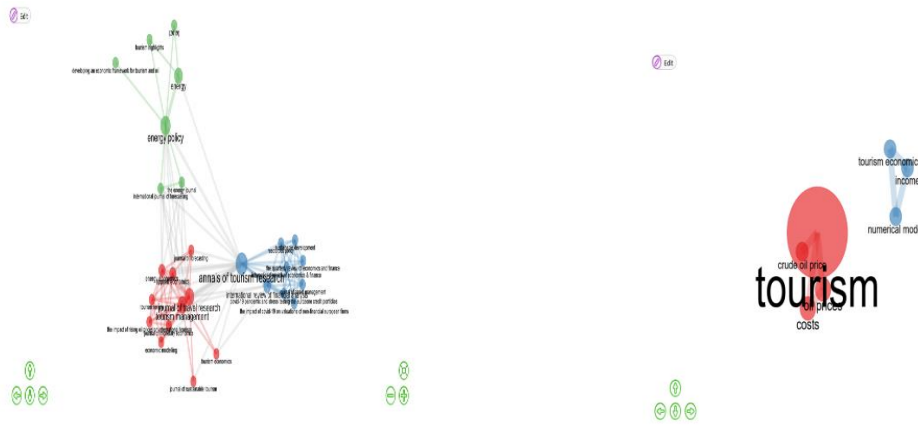


Figure 13 (F)

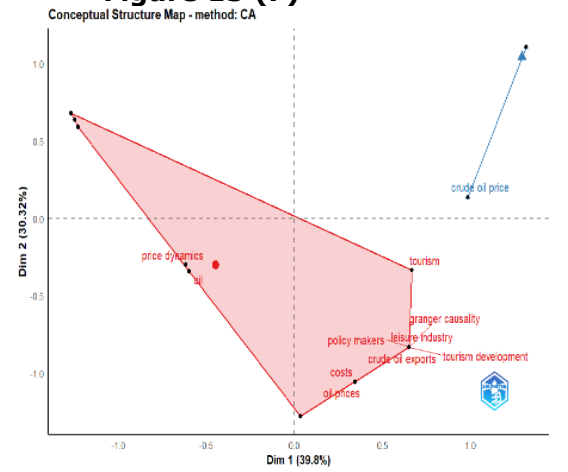


Figure 13(G)

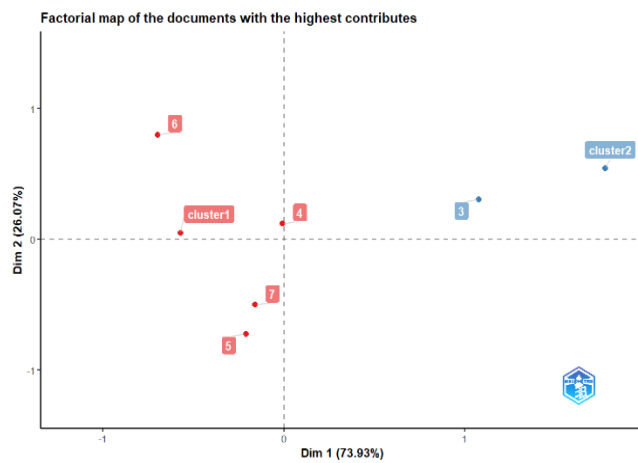
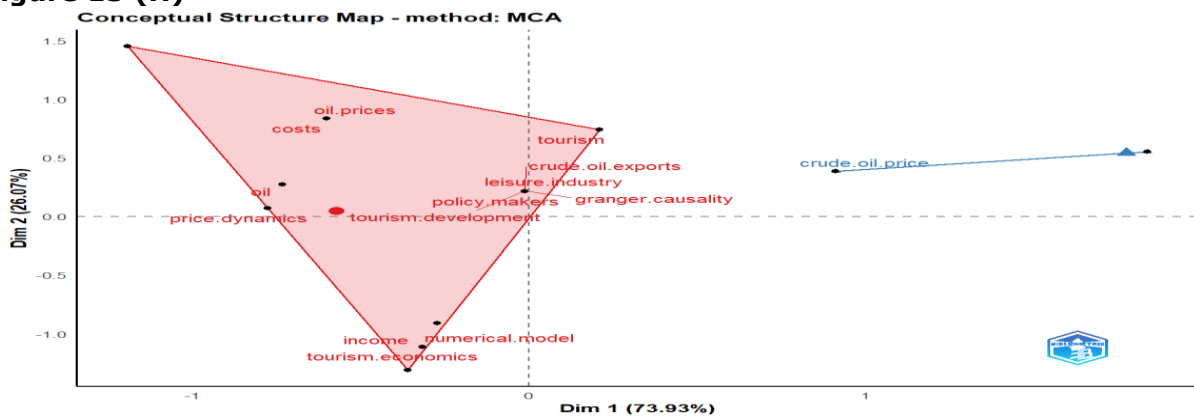


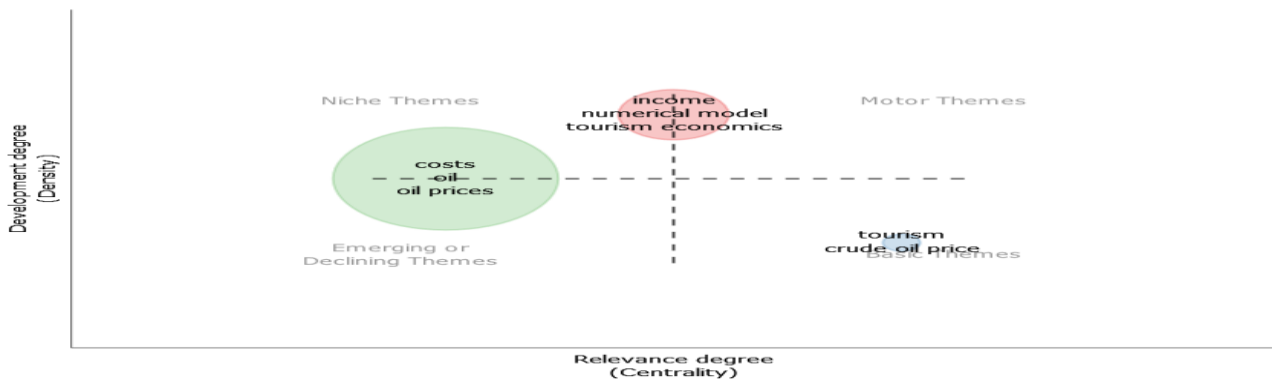
Figure 13 (H)



6.5. Thematic Map

We employ the maps to further analyse current state of research and better understand how research themes have evolved in recent literature. In order to assess the evolution of the chosen research theme, Figure 11 illustrates the centrality (x-axis), importance, and density of study form factors (y-axis). Usually, sub-components can be separated out from the thematic map. Waning or developing subjects, which may leave the study area or concentrate on areas of greater research interest, are displayed in the thematic map's bottom left quadrant. Transversal or basic themes are shown in the lower right hand corner and essentially higher centrality but low population density. There should be further research done on this study. the top left's highly dense and lower coherence corner suggest that these study topics are remote yet well-developed research domains. Last but not least, there is high centrality and density in the upper right. These subjects are referred to be "motor themes" since they are prominent and have a large body of research.

Figure 14



Although it encompasses the fundamental dynamics and best representation of the sampled information, it does not make reference to earlier studies and instead conveys the authors' subjective opinion. Basic themes are depicted in the lower right corner of Fig. 12 along with significant research clusters. Due to their great centrality and low density, these research fields are regarded as transversal or fundamental themes. These research topics have made significant research contributions, making it difficult to determine the direction of future research due to the literature's vast coverage. This cluster's primary research area is tourism, with a focus on examining how oil price shocks and other challenges affect tourism (Ezugwu et al., 2021) The last and most important research trend looks into the link between oil prices and tourism with a focus on oil price shocks. Financial institutions and decision-makers can integrate economic goals with oil price shocks on tourism due to such (Papatheodorou et al., 2010) These subject areas are thought to have greater scope for investigation and the potential to have a substantial impact on the body of scientific literature.

6.6. Thematic evolution

Additionally, by analysing the advancement of numerous topics, we strengthen our analytical process (Fig. 14). We highlight the evolution of financial theory and the history of themes across two historical periods using the Bibliometrix R package and "biblioshiny," which are based on the authors' subjective analysis of the evolution of themes throughout the course of the macroeconomic literature's publishing period. The two main research periods are, respectively, 2014 and 2018 to 2021. As per our study, research topics have evolved throughout time. A lack of theoretical advancement, sharing of data, academic collaboration, and cross-industry studies are the last obstacles to the current literature; as a result, more research is required to draw academic attention and overcome existing significant empirical framework constraints.

Table 13: Intellectual Structure

| Node | Cluster | Betweenness | Closeness | Pagerank |
|-----------------------|---------|-------------|-----------|----------|
| Mauro p. 1995 | 1 | 677.371 | 0.0103 | 0.112 |
| Rose-Ackerman s. 1999 | 1 | 0.194 | 0.006 | 0.016 |
| Klitgaard r. 1988 | 1 | 0.470 | 0.006 | 0.020 |
| Treisman d. 2000 | 1 | 27.645 | 0.006 | 0.052 |
| Ades a. 1999 | 1 | 3.280 | 0.006 | 0.029 |
| Rose-Ackerman s. 1978 | 1 | 0.352 | 0.006 | 0.020 |
| Becker g.s. 1968 | 1 | 0 | 0.003 | 0.019 |
| Brunetti a. 2003 | 1 | 0.210 | 0.003 | 0.021 |
| Fisman r. 2002 | 1 | 0.307 | 0.005 | 0.013 |
| Leff n. 1964 | 1 | 0.486 | 0.006 | 0.015 |

The authors' contributions to tourist industry oil price fluctuations are revealed by cluster, betweenness, closeness, and page rank in Table 13's display of various writers inside an intellectual framework. Co-citation and historiography are the two sorts of intellectual organization, and both are shown in images A and B below. Figure A illustrates the degree plot graph of the intellectual structure, which has a negative slope curve. A connectivity map with the co-citations of different authors is shown in Fig. B. The social structure map in Table 14 shows the node where Abaidoo R. was the most prominent author, followed by 1 cluster, betweenness, and closeness, which are each represented by 1 and 0.5. Significant cluster 4 is furthermore present in bakely t. The connections between different authors and their published works are shown in Figure 15.

Figure: 15 (A)

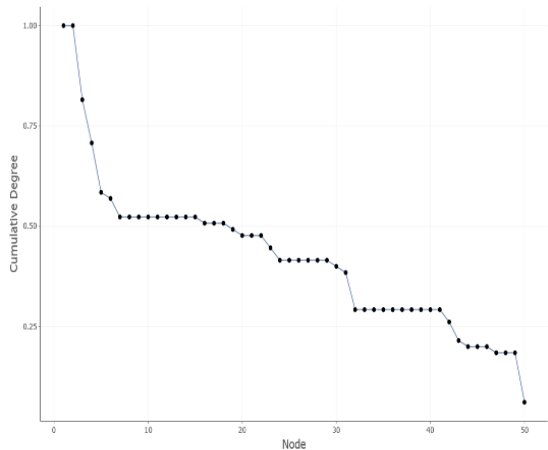


Figure: 15 (B)

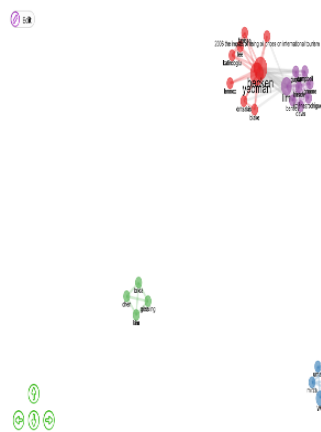


Figure 15 (C)

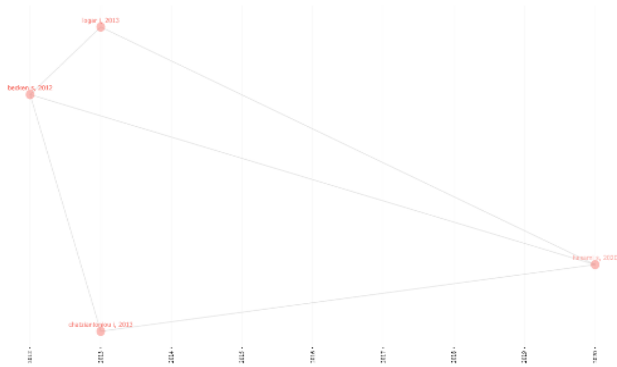


Figure 15 (D)

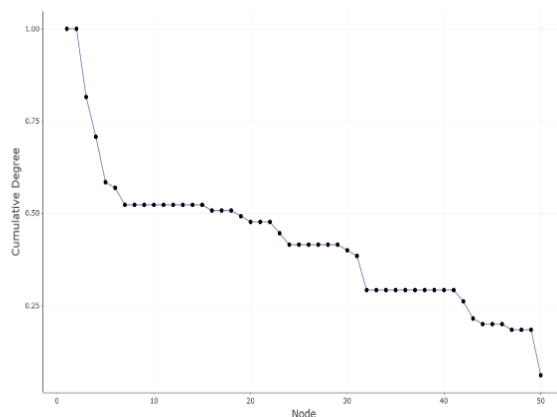


Table 14: Social Structure Collaborations Network

| NODE | CLUSTER | BETWEENNESS | CLOSENESS | PAGERANK |
|-------------|---------|-------------|-----------|----------|
| Abaidoo R | 1 | 1 | 0.5 | 0.066 |
| Agyapong Ea | 1 | 0 | 0.333 | 0.035 |
| Agyapong Ek | 1 | 0 | 0.333 | 0.035 |
| Bjorvatn K | 2 | 0 | 1 | 0.045 |
| SÃ, Reide T | 2 | 0 | 1 | 0.045 |
| Li M | 3 | 0 | 0.333 | 0.048 |
| Liu D | 3 | 0 | 0.333 | 0.048 |
| Peng H | 3 | 0 | 0.333 | 0.042 |
| Zhang L | 3 | 0 | 0.333 | 0.042 |
| Bakely T | 4 | 0 | 0.5 | 0.045 |

Figure 16

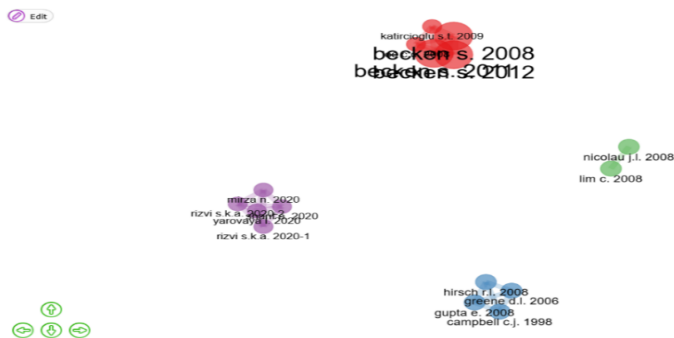


Table 15: Collaboration World Map

| From | To | Frequency |
|-----------|----------------|-----------|
| USA | China | 10 |
| USA | United Kingdom | 7 |
| China | Hong Kong | 6 |
| Australia | Indonesia | 4 |
| USA | Australia | 4 |
| USA | Canada | 4 |
| Nigeria | Malaysia | 3 |
| USA | Spain | 3 |

Using data from Biblioshiny, which includes a list on numerous countries and their frequencies, Table 15 presents a second type of social structure cooperation world platform. The USA and China are the first two nations we concentrate on since they have the strongest frequencies of 10 and are a member of a vast worldwide network of collaboration. China and Hong Kong follow with a frequency of 6 and 7, respectively, while the USA and the UK follow with a frequency of 7. Figure 16 also contains a graph from R studio and one from Vos viewer that both show how related the nations are to one another.

Figure 16 (A)

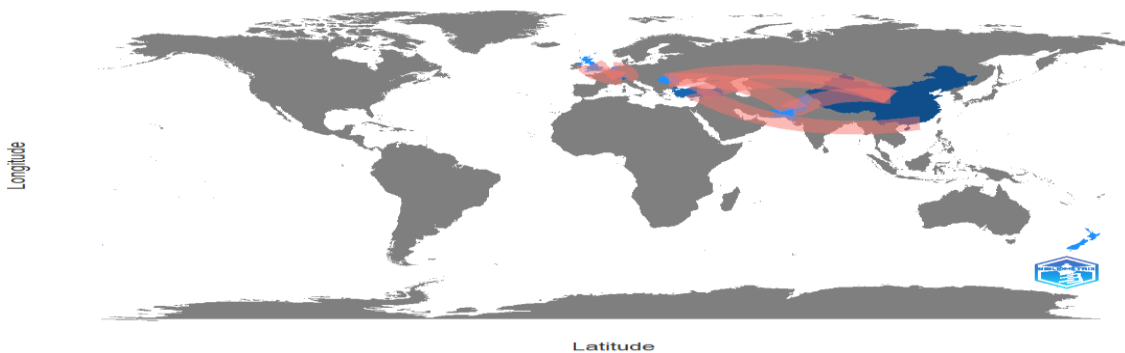
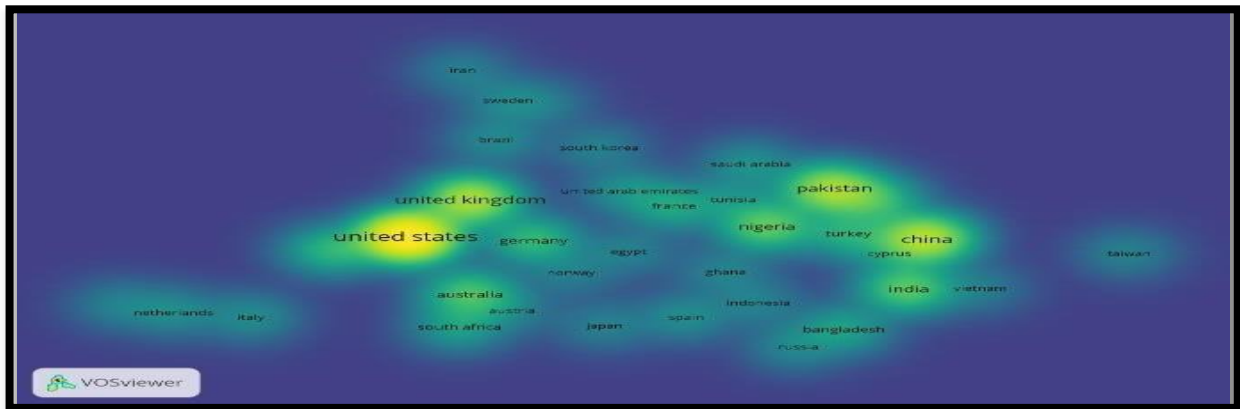


Figure 16 (B)



6.7. Suggestions and Policy Implications

According to the study, a significant factor affecting how much money oil-exporting nations make from tourism is oil. Extreme actions must be done to restore the economy's balance after oil price shocks have a significant influence on the overall economy and seize control of the system. t. The current global oil crisis is having a huge negative impact on poor countries, whose economy are entirely reliant on oil supplies. Therefore, any nation's tourism industry needs to be protected from drastically changing oil prices and should also lessen its dependency on oil. We discuss the policy ramifications of oil price shocks driving tourism in our analysis. Concepts and prospective policy implications should be given the considerations. Governments and tourist administrators should therefore carefully examine changes in energy prices. Within the next few days, One of the study's most significant findings is that low oil prices should drive countries that export oil to increase their investments in the tourism industry and capture a larger share of the global tourism market. However, countries that export oil should consider developing a strategy to boost tourism's economic contribution as a non-oil sector. However, this policy reform might have long-term advantages. In order to identify the characteristics of travellers, government organisations should work with international tourist associations. The earnings from tourism, however, cannot increase the GDP of these nations.

6.8. Future Directions

This research on the tourism literature and bibliometric analysis will lead to a fresh conclusion. This publication provides support to researchers employing different methodologies studying tourism and oil price shocks. Researchers will use the findings of this study to help create new regulations and laws for organizations and the government that will help them regulate oil prices and advance tourism at all levels. However, in order to thoroughly investigate how tourism and oil prices affect an economy, future research will need to take into consideration additional aspects.

7. Conclusions

The most fundamental requirement for every economy's modern economic cycle is fuel, which is required for crucial economic sectors as well as for maintaining national security and the stability of economic policies (Ma et al., 2021a; Our investigation, which was based on the total number of papers about the impact of oil price shocks on tourism that were located in the Scopus database, has finally come to a close. The data were analysed, and bibliometric maps of scholarly articles on oil price shocks were created using the VOS viewer tool. Research involving authors and documents, network collaboration, co-occurrence, correlations, and journal citation are just a few of the many research kinds for which the VOS viewer is helpful. From 1990 to 2004, 806 research articles were published.

Studies show that the price of oil influences tourism revenue, hence an increase in the price of oil will hurt this revenue. As a result of an increase, various forms of leisure and travel may become more expensive, which will make individuals less likely to go. Due to their tight dependence on fuel, some industries, such as airlines and cruise lines, have notably been more negatively impacted by rising oil prices than others. Additionally, the effects of oil price variations are advantageous to the economy both now and in the future. The results also demonstrate how the country suffers as a result of short-term adaptations to shocks in oil prices related to tourism. Therefore, it is suggested that the current administration has the power to change the political landscape and put an end to tourism. Additionally, the requirement for efficient governance must be immediately met. Public servants are expected to carry out their tasks with integrity, sincerity, commitment, responsibility, budgetary responsibility, openness, and respect for the law. Due to this, there aren't many research that have looked into how changing oil prices affect the on tourism.

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