

**Impact of economic policy uncertainty on sustainable tourism from the perspective of
GDP and greenhouse gases emissions (GHGs)**

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Summary

This study reviews the impact of economic policy uncertainty (EPU), greenhouse gas emissions (GHGs), and gross domestic product (GDP) on sustainable tourism. We identify six areas based on integrative review. Based on inductive analysis these components are combined into a single theoretical framework that describes the interrelationships between the themes and how they together contribute to sustainable tourism. The paper has the potential to make a theoretical contribution by evaluating the relationship between sustainable tourism and economic indicators such as GDP. The results suggest governments should understand that sustainable tourism can boost local economic development. This could involve promoting sustainable tourist investments, promoting local tourism entrepreneurs, and building sustainable tourism infrastructure. The findings of the research offer policymakers valuable insights to adopt economic policies that prioritize sustainable tourism, reduce uncertainty, and mitigate greenhouse gas emissions. These actions are essential for ensuring the long-term viability and resilience of the tourism industry.

Keywords: sustainable tourism, economic policy uncertainty, economic growth, GHGs, bibliometric analysis, inductive analysis, integrative review

Track: Sustainable and Responsible Business

Word Count (excl. table and references): 1993

1. Introduction

Tourism sector boosts local economies by, providing jobs, and developing communities (Neves, Fernandes and Pereira, 2015). However, tourism can also have negative impacts on the environment, culture, and society if not managed sustainably. Sustainable tourism is an approach that seeks to balance economic, social, and environmental concerns to ensure that tourism activities can be sustained over the long term (Streimikiene et al., 2021). The number of foreign visitor arrivals hit 1.4 billion in 2018 and is continually growing. This demonstrates the importance of tourism in the global economy. Also, tourism adds to the GDP as an industry and in many nations, this contribution is considerable. Tourism has been identified as a strategic priority for a number of governments and areas (Stryzhak et al., 2022). We conduct our literature review using bibliometric analysis since it is a comprehensive method for tracing the knowledge architecture of a study issue and is often used to investigate a wide variety of subjects (Aria & Cuccurullo, 2017). This study specifically seeks to respond to the following research questions:

1. What ideas, theoretical concepts, research methods, and settings of interest are addressed in the body of existing knowledge on sustainable tourism.
2. What are the existing research gaps in the study of sustainable tourism and its various dimensions, including environmental performance indicators, GHGs emissions, and the economic implications on GDP.

Tourism has been criticised for increasing GHG emissions. Tourism emits GHGs, however it would be interesting to see if tourist density affects environmental performance. Tourism-dependent nations have lower GHG emissions and better environmental performance. Numerous economic sectors boost growth. In many developed nations, manufacturing drove economic growth in the early 1900s, replacing agriculture and extractive sectors. In the 21st century, industry has moved to lower-developed countries with cheaper labour, while higher-developed countries have relied increasingly on services like tourism. Emerging economies shifting from agriculture and industry to tourism face carrying capacity (based on land area and population), trade inefficiencies, energy usage, and waste (Bojanic & Warnick, 2020). A surge in uncertainty may cause a delay (or cancellation) of travel plans owing to concerns about safety, security, and social stability. People may be hesitant to travel overseas during times of increased uncertainty. If an economy is unstable and uncertain, household consumption will fall, which may result in a decline and delay in tourist expenditures, since travel and tourism expenditures are predicted to be more sensitive during times of increased uncertainty.

Governments need to recognise that uncertainty about their economic policies will impact not just macroeconomic factors, but also tourism demand. Hence, tourism development globally depends on the economic policies of countries and any discrepancies in economic policies in a country would influence the tourism receipts of other countries. More extensive research (e.g., by trip purpose, age group, and gender) needs to be carried out for better understanding the effects of the EPU on various indices of tourism growth (Demir & Gozgor, 2018). The following is how the analysis is carried out: Section 2 covers the data and methods, section 3 outlines the results and discussion of the study, followed by policy implications and Future Research Agenda (FRA) in section 4, and lastly the conclusion in section 5.

2. Data and Methods

2.1 Criteria for inclusion/ exclusion

For the purpose of literature review, we employ integrative analysis to assess qualitative as well as quantitative trends in the field of Sustainable Tourism. The “Scopus” database, which stands out by seamlessly integrating a meticulously curated abstract and citation database with enriched data, and interconnected scholarly literature across various disciplines, gives data on scientific research output to enable and provide data on distribution, collaboration, and impact, is utilized to perceive the required data (Bakker, 2005; Rey-Martí et al., 2016). Advance Search narrows our search in Scopus Core Collection. In the search bar using Boolean operators, field tags and parentheses, keyword used were sustainable, tourism, sustainable tourism, economic growth, renewable energy, carbon, GDP which displayed 7354 results. After restricting to business, management, economics, and social sciences, N=4671 remained. We then applied filters to document type articles and review papers and limited our language to English, resulting in N=4539. After ABDC A*, A, and ABS 3 and above analysis, N=2846 was obtained (See Figure 1).

The number of articles based on sustainable tourism that have been published in chronological sequence is shown in Figure 2. From 3-4 articles each year from 1974 to 1980 to 312 articles in 2022, the publishing pattern has shifted. There appears to be a significant rise in publishing after 2012, with 88 papers published in 2014.

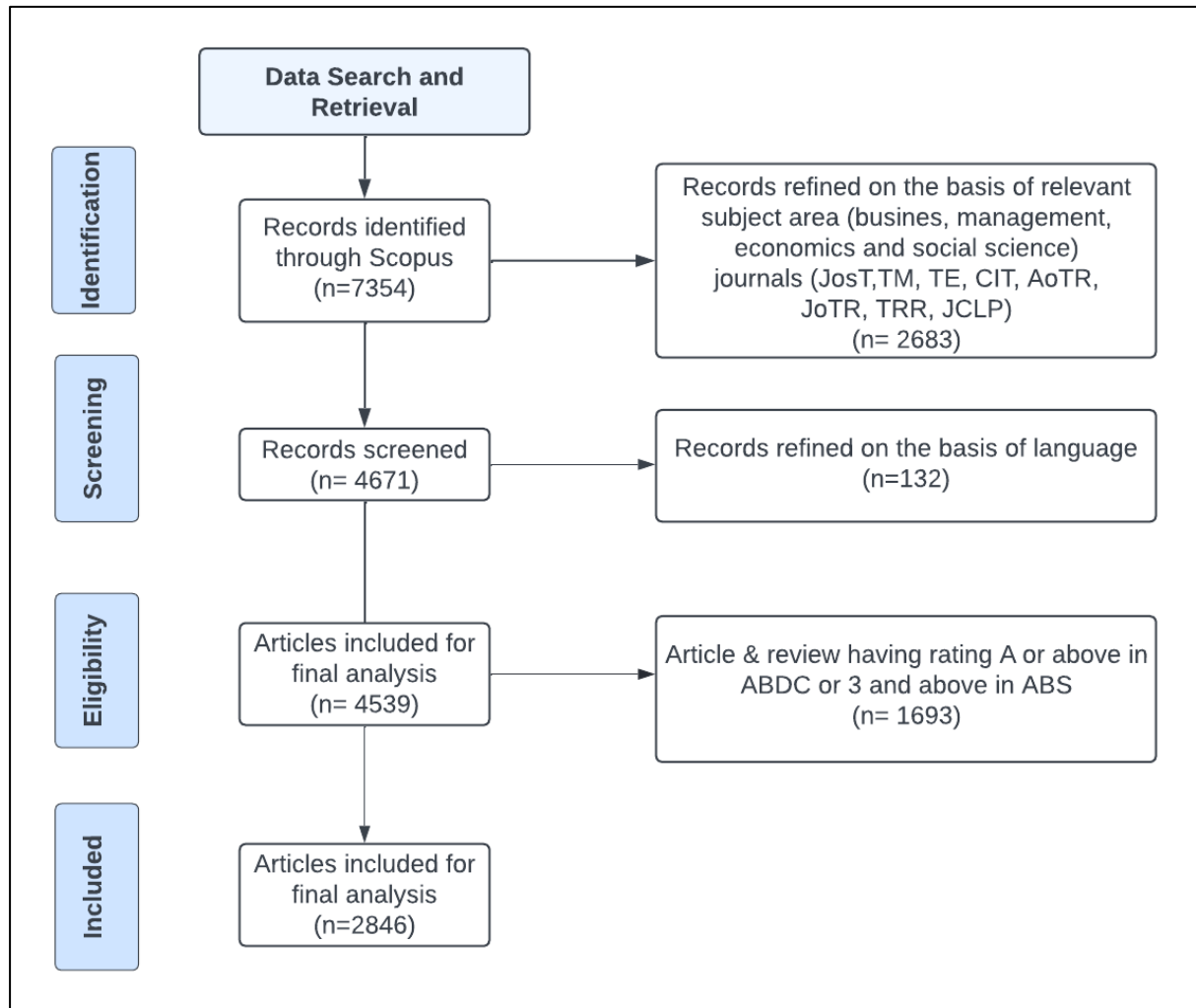


Figure 1. Prisma Framework

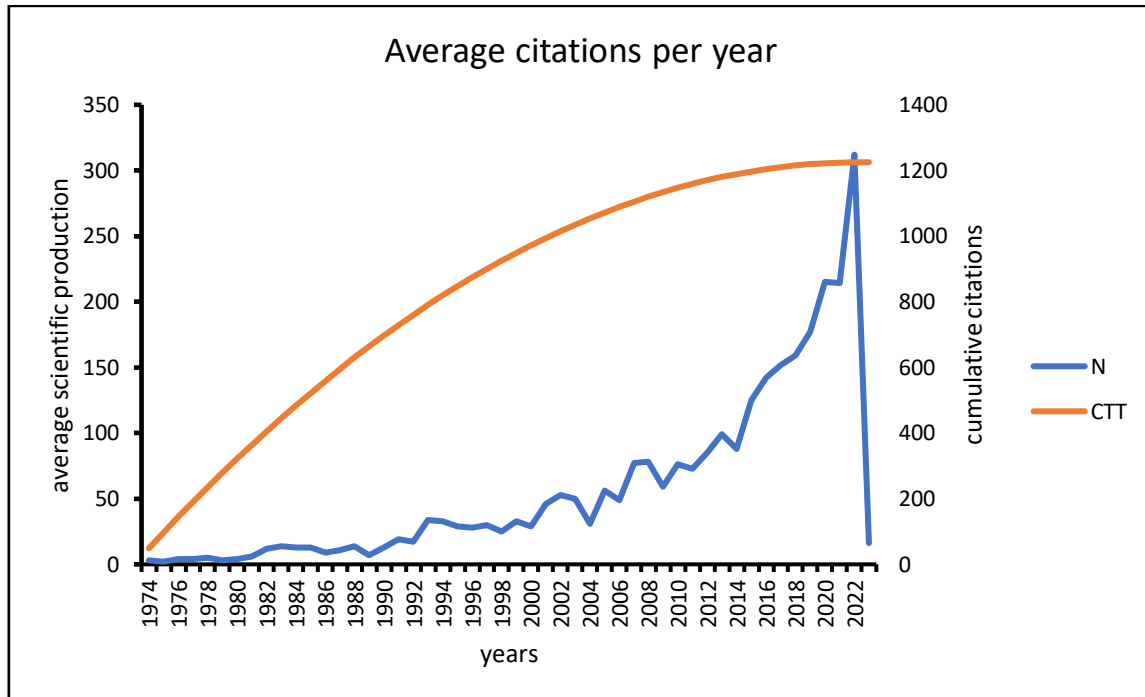


Figure 2. Publication & Citation trends

3. Results and discussion

3.1. Strategic diagram of conceptual structure of concerned field- Strategic map

On a Cartesian plane, a strategic map represents relevant themes of a conceptual structure. The two fundamental parameters for understanding thematic maps are centrality and density (Cobo et al., 2015). The level of connection created by a certain theme with other themes is represented by centrality, while the magnitude of internal ties within the themes is indicated by density (Bamel, Umesh, Pereira, Vijay, Del Giudice, 2021).

Figure 3 depicts five themes in each of the four quadrants. Environmentally Responsible behavior appeared as the main theme, with high centrality and density, and sub-themes like travel and tourist behavior, environmental impacts, pro environmental behavior are all interconnected. The literature has discussed how in order to better understand environmentally sustainable consumption and promote environmentally responsible consumer behavior, the study provides a solid conceptualization of environmentally sustainable consumer behavior by employing theory of planned behavior (Han, 2021). Ecotourism is another theme that is in the motor theme indicating that the sub themes are being explored extensively, as evidenced by the literature, where sub themes such as willingness to pay, socioeconomic impact, have been highlighted by how a shift in focus from the dominant product orientation in environmentally sustainable tourism to a demand orientation has been proposed as a means of mitigating the effects of the inherent trade-offs that the tourism industry faces between profit maximization and environmental sustainability investment. The success of such a strategy is dependent on the presence of a class of visitors who are not only motivated to care for the natural surroundings of the host place, whether travelling in an ecotourism or general tourism context, but also constitute an economically appealing market segment (Dolnicar & Long, 2009). In addition, the Sustainable Development Goals (SDGs) have given renewable

energy a tremendous boost and opportunity for innovation and development (Brazovskaia et al., 2021). Another key theme that evolved as an independent theme with a high-density value is Place attachment, which contains sub-themes like memorable tourism experiences and family background. It has been proposed that when people feel attached to a location, they are more willing to safeguard it. Managers of natural area tourism sites may be able to take advantage of this relationship to help them manage such locations more sustainably (Tonge et al., 2015). If we look at the bottom left and right corner, there are two themes that is partially in the niche theme and partially in the emerging theme. We see EPU and input-output analysis, which is approaching towards niche theme or we can be neutral because it has both negative density and negative centrality, but sub-themes like policy making, life cycle assessment, market segmentation, neoliberalism, cost benefit analysis have a lot of potential because authors have raised several questions as EPU can have significant impacts on the tourism industry's sustainability. By using input-output analysis to assess the potential impacts of EPU on sustainable tourism, policymakers can make more informed decisions about how to support sustainable tourism initiatives and minimize negative impacts on the environment, society, and the economy. The basic theme quadrant has three themes climate change, sustainable tourism and tourism includes sub-themes such as carbon footprint, greenhouse gases, tourism development, nature-based tourism and so on. Within the sub theme, there is a low density and potential for further development. They can also progress to the motor theme. Lastly, tourism and society is another theme which is partially in the basic theme and partially in the emerging theme. The sub themes include corporate social responsibility, corporate sustainability, health tourism, stakeholder. Sustainability has evolved as a driving force in the tourism industry, influencing public policy and encouraging the development of the idea of sustainable tourism (Torres-Delgado & López Palomeque, 2012).

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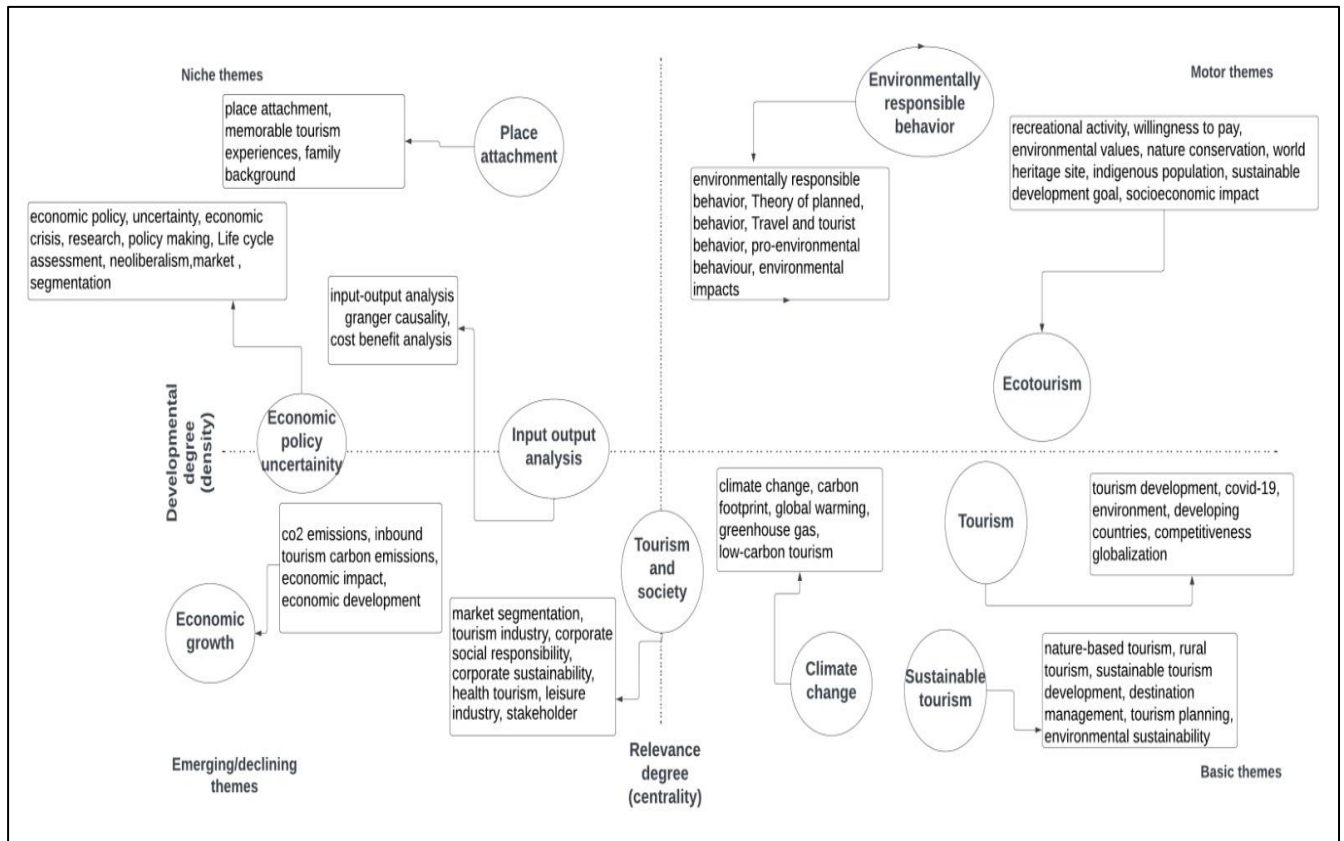


Figure 3. Strategic Map

These components of the data structure lay the groundwork for conceptualising the framework, and are derived from the commonalities identified within the analysis of the conceptual structure of the extant literature, which are further supported by the inductive analysis (figure 4). It is based on six components that illustrate the concept of tourism and its interrelationships. The first component of sustainable development consists of sustainable tourism, climate change, and attachment to place. The second component of sustainable business development includes tourism, ecotourism, and economic growth. Tourism, input-output analysis, and EPU comprise the third component of volatile tourism infrastructure. Ecotourism and environmentally responsible behavior constitute the fourth component of reduced carbon footprint. Climate change and input-output analysis comprise the sixth component of effective environmental policy. Lastly, sustainable wellbeing consists of sustainable tourism, economic growth, and tourism and society. Table 1. presents the research gaps and the possible future research questions:

Table 1. Research gaps and possible future research questions

S.no	Themes	Gaps	Suggested Research questions
1.	Impact of sustainable tourism on GDP	1. Limited understanding of the relationship between sustainable tourism and different dimensions of GDP. 2. Limited research on the economic impacts of sustainable tourism in developing countries.	RQ1. What is the nature and extent of the relationship between sustainable tourism and different dimensions of GDP, including economic growth, employment, income generation, and regional development? RQ2. What factors influence the relationship between sustainable tourism and GDP, such as government policies, infrastructure, or natural resources?
2.	Impact of sustainable tourism on GHGs	1. Limited understanding of the carbon footprint of tourism.	RQ1. How do consumer perceptions of sustainable tourism impact their travel behavior and carbon footprints?
3.	Relationship between sustainable tourism, GDP, GHGs, and EPU	1. Limited research on the role of policy in promoting sustainable tourism in the face of EPU. 2. Limited research on the interaction between sustainable tourism, GDP, GHG emissions, and EPU.	RQ1. How does EPU affect sustainable tourism development, GDP, and GHG emissions in a country? RQ2. How does EPU affect sustainable tourism development, GDP, and GHG emissions in a country?

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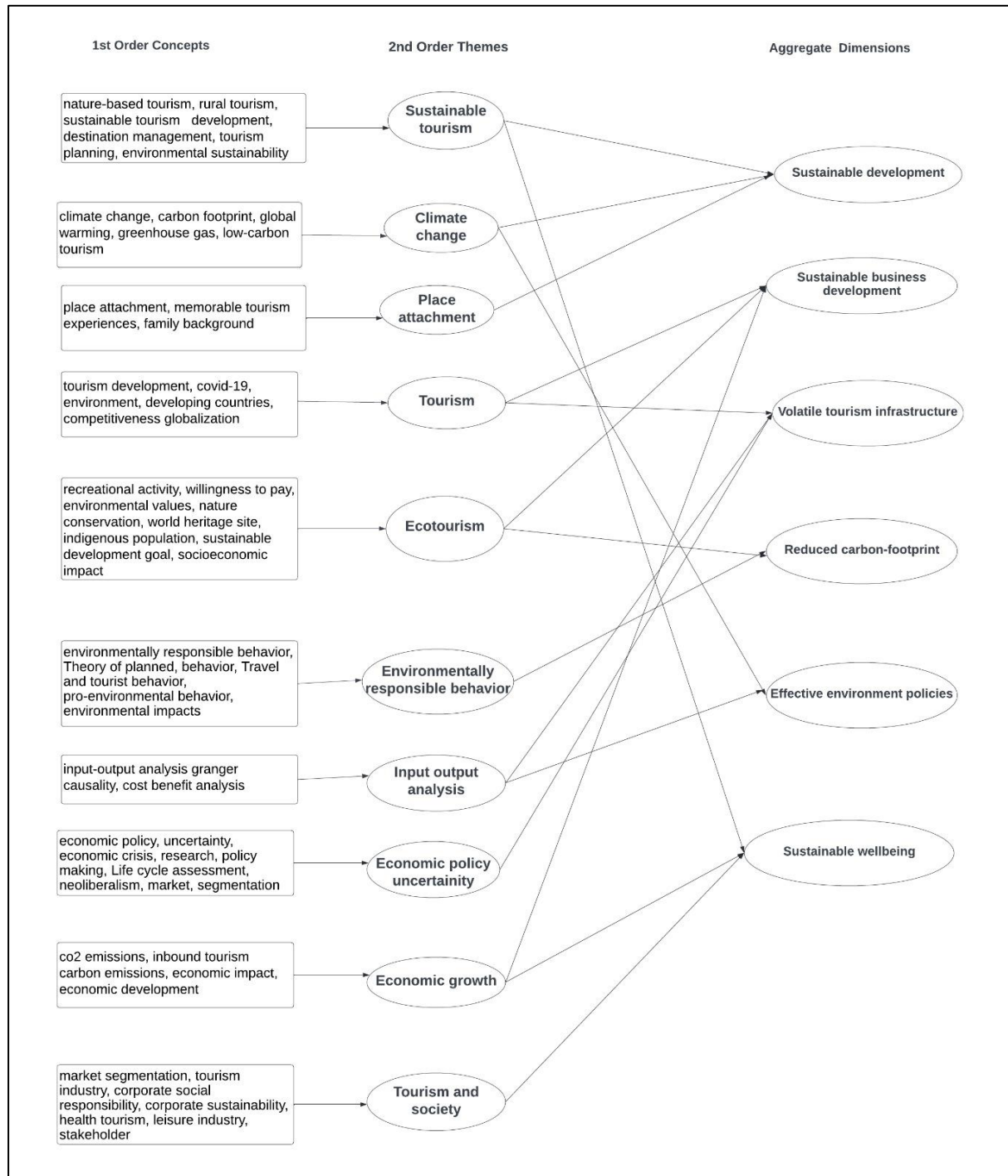


Figure 4. Concept, themes, and dimensions

4. Policy implications and FRA

We find several directions for future research. This problem “Sustainable Development” is a new one that requires a lot of attention, and every day some news from around the world flashes and causes worry. Investors and corporations are under the watchful eye of regulatory authorities, but due to a lack of a uniform standard, they easily slip through the cracks.

The themes that we generated throughout our literature analysis have a lot of potential since

they are niche and emerging issues. Policymakers should pay attention to niche and emerging issues identified through extant literature review. By proactively addressing these issues, they can develop new rules or enhance existing frameworks to effectively regulate sustainable tourism practices and align them with environmental goals. Policymakers should ensure that the policy implications and actions taken in the context of sustainable tourism align with the SDGs. The SDGs provide a comprehensive framework for sustainable development, covering a wide range of environmental, social, and economic aspects. Integrating the principles and targets of the SDGs into policy formulation and implementation can help drive sustainable tourism practices and contribute to achieving the broader development agenda. Establish transparent and consistent economic policies to provide stability and encourage long-term investments in sustainable tourism, thereby supporting GDP growth and reducing GHG emissions. Tourism policy must be integrated with wide economic, energy, and environmental policies that prioritize green investments, green energy development, quality job creation, and policy trade-offs and complementarities to promote sustainable and equitable growth (Khan et al., 2020).

After extensive study on the link between sustainable tourism, GDP, GHG emissions, and EPU, many significant conclusions may be derived. There is a need for more research that examines the economic impacts of emissions reductions in the tourism industry and the potential for sustainable tourism initiatives to generate economic benefits while also reducing GHG emissions. Tourism's carbon footprint is still poorly understood.

5. Conclusion

The relationship between sustainable tourism, GDP, GHG emissions, and EPU is complex and multifaceted. The analysis so conducted suggests that sustainable tourism can have a positive impact on both economic growth and the environment, but the extent of this impact may depend on a variety of factors, such as the specific policies implemented and the nature of the tourism industry in a given country.

Furthermore, EPU can play a role in shaping the relationship between sustainable tourism and GDP, as well as the adoption of sustainable tourism practices. A more stable policy environment may be more conducive to the growth of sustainable tourism and the reduction of GHG emissions, while a high level of EPU can hinder progress in these areas.

References

- Aria, M., & Cuccurullo, C. (2017). bibliometrix: An R-tool for comprehensive science mapping analysis. *Journal of Informetrics*, 11(4), 959–975. <https://doi.org/10.1016/j.joi.2017.08.007>
- Bakker, F. (2005). A Bibliometric Analysis of 30 Years of Research and Theory on Corporate Social Responsibility and Corporate Social Performance. *Business & Society*, 44, 283–317. <https://doi.org/10.1177/0007650305278086>
- Bamel, Umesh, Pereira, Vijay, Del Giudice, M. (2021). The extent and impact of intellectual capital research. *JOUR*, 23(375), 400.
- Bojanic, D. C., & Warnick, R. B. (2020). The Relationship between a Country's Level of Tourism and Environmental Performance. *Journal of Travel Research*, 59(2), 220–230. <https://doi.org/10.1177/0047287519827394>
- Brazovskaia, V., Gutman, S., & Zaytsev, A. (2021). Potential impact of renewable energy on the sustainable development of russian arctic territories. *Energies*, 14(12). <https://doi.org/10.3390/en14123691>

- Cobo, M. J., Martínez, M. A., Gutiérrez-Salcedo, M., Fujita, H., & Herrera-Viedma, E. (2015). 25years at Knowledge-Based Systems: A bibliometric analysis. *Knowledge-Based Systems*, 80, 3–13. <https://doi.org/10.1016/j.knosys.2014.12.035>
- Demir, E., & Gozgor, G. (2018). Does economic policy uncertainty affect Tourism? *Annals of Tourism Research*, 69(December 2017), 15–17. <https://doi.org/10.1016/j.annals.2017.12.005>
- Dolnicar, S., & Long, P. (2009). Beyond ecotourism: The environmentally responsible tourist in the general travel experience. *Tourism Analysis*, 14(4), 503–513. <https://doi.org/10.3727/108354209X12596287114291>
- Han, H. (2021). Consumer behavior and environmental sustainability in tourism and hospitality: a review of theories, concepts, and latest research. *Journal of Sustainable Tourism*, 29(7), 1021–1042. <https://doi.org/10.1080/09669582.2021.1903019>
- Khan, A., Bibi, S., Ardito, L., Lyu, J., Hayat, H., & Arif, A. M. (2020). Revisiting the dynamics of tourism, economic growth, and environmental pollutants in the emerging economies-sustainable tourism policy implications. *Sustainability (Switzerland)*, 12(6). <https://doi.org/10.3390/su12062533>
- Rey-Martí, A., Ribeiro-Soriano, D., & Palacios-Marqués, D. (2016). A bibliometric analysis of social entrepreneurship. *Journal of Business Research*, 69(5), 1651–1655. <https://doi.org/https://doi.org/10.1016/j.jbusres.2015.10.033>
- Streimikiene, D., Svagzdiene, B., Jasinskas, E., & Simanavicius, A. (2021). Sustainable tourism development and competitiveness: The systematic literature review. *Sustainable Development*, 29(1), 259–271. <https://doi.org/10.1002/sd.2133>
- Stryzhak, O., Sayar, R., & Onur ARI, Y. (2022). Geopolitical risks, GDP and tourism: an ARDL-ECM cointegration study on Ukraine. *CES Working Papers*, 14(1), 85–113. www.ceswp.uaic.ro
- Tonge, J., Ryan, M. M., Moore, S. A., & Beckley, L. E. (2015). The Effect of Place Attachment on Pro-environment Behavioral Intentions of Visitors to Coastal Natural Area Tourist Destinations. *Journal of Travel Research*, 54(6), 730–743. <https://doi.org/10.1177/0047287514533010>
- Torres-Delgado, A., & López Palomeque, F. (2012). The growth and spread of the concept of sustainable tourism: The contribution of institutional initiatives to tourism policy. *Tourism Management Perspectives*, 4, 1–10. <https://doi.org/10.1016/j.tmp.2012.05.001>

