



Sustainable Tourism Planning During the COVID-19 Pandemic: A Semi-Systematic Literature Review and Bibliometric Analysis

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ABSTRACT

Objective: The purpose of this study is to synthesize research results on the topic of sustainable tourism planning during the COVID-19 pandemic using the Scopus database. **Method:** A semi-systematic literature review (SSLR) with identification, screening, eligibility and inclusion on bibliometric analysis. **Results:** Research shows that the topic of sustainable tourism planning during the COVID-19 pandemic still offers extensive research opportunities; the pandemic has had both positive and negative impacts on tourism sustainability; and that tourism sector recovery requires multi-stakeholder collaboration involving communities, government, the private sector, academics, and tourists, taking into account environmental, economic, and socio-cultural aspects. The findings of this study indicate that publications on sustainable tourism planning during the COVID-19 pandemic still offer opportunities for deeper exploration in this context. **Novelty:** This study provides a comprehensive synthesis of trends and directions for the development of sustainable tourism planning during the COVID-19 pandemic, while emphasizing the importance of a multi-stakeholder collaborative approach as the basis for the recovery and sustainability of the tourism sector post-pandemic.

INTRODUCTION

The current COVID-19 pandemic inevitably impacts various sectors. At the global economic level, the COVID-19 pandemic has had a very significant impact on the economy. The Covid-19 pandemic triggered an economic crisis, and it is estimated that the fastest economic recovery will be in 2022 (Zetsche & Congsiglo, 2020). To respond to the pandemic crisis, the world has implemented lockdown measures to control the spread of the virus and has conducted intensive testing and tracing, as well as economic stimulus policies to limit the adverse impact (Fauzia, 2021; Woodward, 2009).

One of the most dynamic key drivers of the economy is the tourism sector. Tourism as a dynamic sector relies heavily on the adoption of strategic planning approaches (Segeda et al., 2025; Stokes, 2008). Tourism planning is a critical aspect of tourism development, as it provides a framework for the sustainable and responsible management of tourism resources and activities (Baloch et al., 2023). Tourism planning is a coordinated relationship between current and future conditions for determining goals, strategies, and sustainable actions to achieve the success of local communities and tourists (Martins, 2018; Padin, 2012). Without tourism planning, socio-cultural problems will arise as tourism grows, leading to economic inequality and environmental problems (Auliya, 2019). Tourism planning is a decision-making process that is integrated with the goals and direction of future tourism sustainability, development, and cooperation at the local, regional, national, and international levels (Hanrahan & Kelly, 2016; Risteskia et al., 2012;

Timothy, 1998). The concept of sustainable tourism has gained significant attention in recent decades as a means to balance the economic, social, and environmental impacts of the tourism industry. Sustainable tourism seeks to minimize the negative effects of tourism activities while maximizing the positive outcomes for local communities, the environment, and the industry itself (Fowler et al., 2022). In tourism sustainability activities, community participation plays an important role in planning, implementation, supervision, and maintenance (Setijawan, 2018). Related stakeholders also support the process in various ways. Sustainable tourism also considers the impacts of the present and future in its development (Yoeti & Gunadi, 2013).

However, the COVID-19 pandemic caused a contraction of between 45 and 70 percent in the international tourism economy, and international arrivals contracted by around 70 to 75 percent in 2020, effectively returning international tourism to the level of 30 years ago (Dempster & Zimmer, 2020). The contraction in the tourism sector certainly requires a large-scale recovery program and collaboration among the various parties involved. Recovery in the tourism sector is not only about large-scale policies but also requires targeted, mature planning so the recovery process can proceed quickly and precisely. The opening of new tourism destinations without proper planning will have a long-term negative impact on the environment, social structure, and culture, whereas if planning is implemented, tourism can have a positive impact on sustainability (Timothy, 1998). In the 2030 Agenda, the tourism sector is not specifically mentioned in the context of sustainable development. However, the tourism sector contributes to the targets of goals 8 (inclusive and sustainable economic growth), 12 (sustainable consumption and production), and 14 (sustainable use of marine and ocean resources) both directly and indirectly (Go & Kang, 2023).

The coronavirus disease (COVID-19) pandemic has caused a significant decline in the global tourism sector. Many tourist destinations are experiencing a decline in income, negatively impacting the local and national economies. Sustainable planning can help the sector recover and ensure future resilience. The COVID-19 pandemic has had a severe impact on the tourism industry worldwide. In terms of planning, tourism not only involves the community as the object but also the roles of the government, the private sector, and Academia. The government, through tourism agencies, provides services, prepares documents to achieve national tourism planning goals, and strengthens public-private partnerships in tourism marketing (Camilleri, 2024). Academia is one of the important supporting actors in this process (Ramos, 2009). Academia supports tourism planning activities through active and passive participation.

Active participation means that Academia helps the planning process with the government, while indirect participation occurs through scientific work based on research results and service activities. There are four levels of scientific work, namely (1) basic, theoretical, and methodological innovations, (2) individual studies, articles, and report, (3) synthesis of research knowledge, (4) actionable message: policy brief dan policy paper; academic articles are usually at the second level in the hierarchy in policy input (Siswanto, 2010; WHO, 2004). The article is a literature review of published work

on sustainable tourism planning during the COVID-19 pandemic. The focus of this article is on where articles on sustainable tourism planning during the Covid-19 pandemic were published, the condition of the tourism sector during the Covid-19 pandemic, tourism sector planning during the Covid-19 pandemic, and the sustainability of the tourism sector during the Covid-19 pandemic.

RESEARCH METHOD

The literature review in this article uses a semi-systematic approach. A semi-systematic literature review (SSLR) is a multidimensional synthesis of topics that allows researchers to map themes, theoretical approaches, and commonalities within the scope of the review's objectives (Moazic et al., 2021; Transfield et al., 2003). The SSLR step in this article is divided into two parts: identification, screening, eligibility, and inclusion, with bibliometric analysis. The first stage, identification, was done through database selection and keyword selection. The literature search for SSLR used the Scopus database and was conducted in June 2024. Selection of keywords to build the relevance of the topic of sustainable tourism planning during the Covid-19 pandemic: in the Scopus database, the selection of keywords is narrowed to the article title, abstract, and keywords. The strings used are "sustainable tourism planning" OR "sustainable planning" OR "tourism planning" OR "planning tourism" OR "sustainable tourism" OR "tourism sustainability" AND "Covid 19" OR "Covid-19" OR "Coronavirus Disease 2019" OR Coronavirus OR "new normal era" OR "Corona Virus Disease" OR pandemic OR recovery OR "Severe Acute Respiratory Syndrome Coronavirus-2" OR "SARS-CoV-2" OR plague OR restrictions, with these strings 44 articles were detected with restrictions on the articles published in the range 2019 to 2024.

The results are 44 articles with details: 1 article from 2019, 9 articles from 2020, 26 articles from 2021, 2 articles from 2022, 3 articles from 2023, and 1 article from 2024; the articles are presented in English, Spanish, Chinese, Portuguese, and with document types in the form of articles, conference papers, book chapters, and editorials. The early 2019 time span was selected because, in that year, the coronavirus was discovered. Furthermore, the screening and eligibility stage, at this stage filtering is carried out in the form of restrictions or limits in the form of the language used is English (40 articles were detected), complete articles can be accessed with the limit All Open Access, Gold, Hybrid Gold, Bronze, Green (21 articles were detected), and document searches are specialized only articles and conference papers (21 articles were detected). Finally, 21 articles were used. The literature search was conducted in June 2024. The following PRISMA design is used in the literature, as seen in Figure 1.

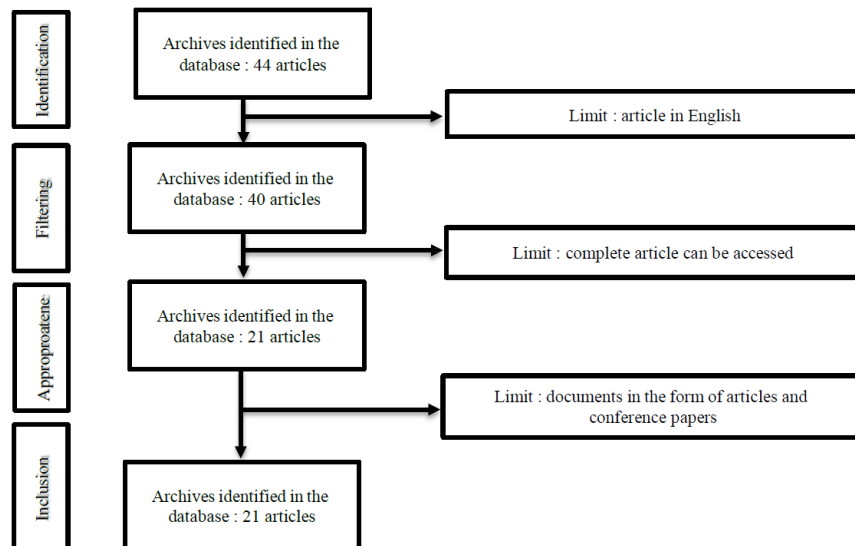


Figure 1. . Flowchart of literature review on sustainable tourism planning during the covid-19 pandemic

Based on the literature selection flowchart, the article search process begins with the identification stage, which yields 44 articles from the database used. Next, filtering is performed using criteria for English-language articles, reducing the number of articles to 40. In the filtering stage, only full-text-accessible articles are retained, resulting in 21 articles. The next stage is appropriateness/eligibility, which selects documents based on relevant publication types, namely journal articles and conference proceedings. After all inclusion and exclusion criteria are applied, 21 articles are declared eligible and used in the analysis process at the inclusion stage. This process ensures that the analyzed literature is high in quality, relevant, and suitable to the research objectives.

RESULTS AND DISCUSSION

Results

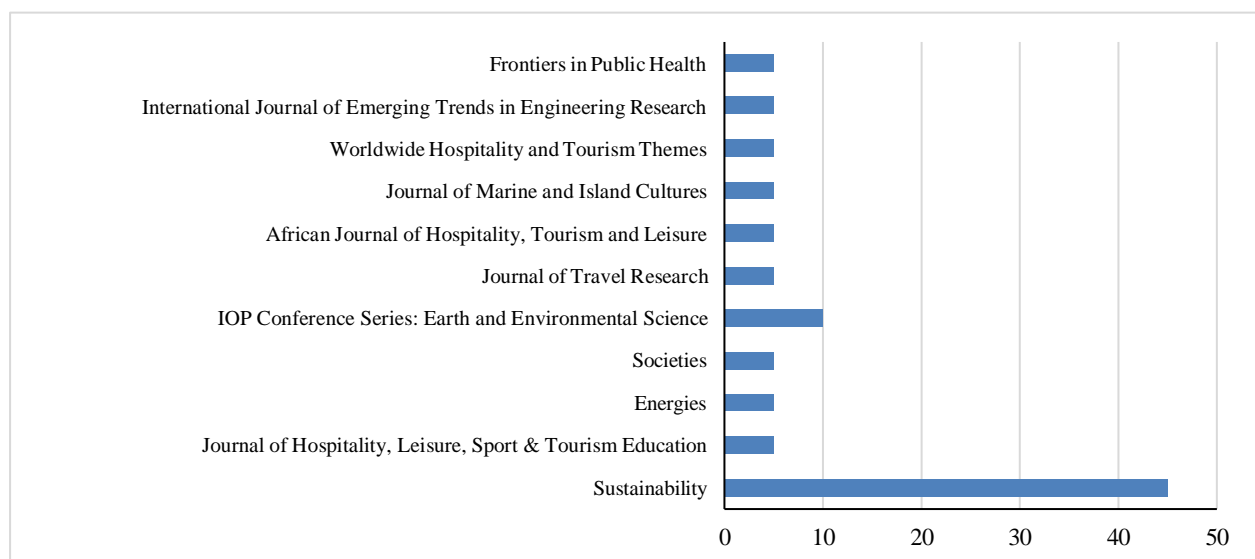


Figure 2. Percentages of number of publications per journal

Figure 2 is a graphical visualization comparing the number of publications from the Scopus database. The database used in this article includes 21 articles to answer questions. The first question is where articles related to sustainable tourism planning during the COVID-19 pandemic were published. Most of the articles were published in the journal *Sustainability* (Switzerland), accounting for 38,1 percent of articles related to sustainable tourism planning during the Covid-19 pandemic; in other words, the journal has a higher level of specialization in this theme. Furthermore, publications on sustainable tourism planning during the Covid-19 pandemic were published in the IOP Conference Series: *Earth and Environmental Science* at 9.52 percent. Apart from that, the theme of sustainable tourism planning during the Covid-19 pandemic was published in *Worldwide Hospitality and Tourism Themes; Societies; Journal of Travel Research; Journal of Sustainable Tourism; Journal of Marine and Island Cultures; Journal of Hospitality, Leisure, Sport and Tourism Education; International Journal of Emerging Trends in Engineering Research; Energies; African Journal of Hospitality, Tourism and Leisure*. The number of publications from each country is shown in Figure 3 below.

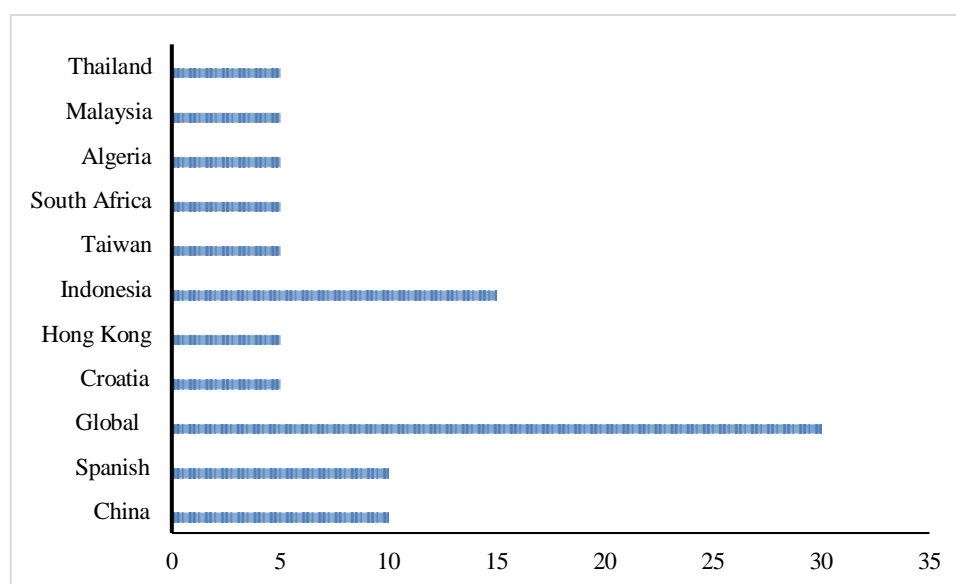


Figure 3. Percentages of number of publications per case study in articles or proceedings

Figure 3 shows the number of publications per case study in articles or proceedings on sustainable tourism planning during the COVID-19 pandemic, from 2019 to 2024. The global region has the largest number of case studies among countries. This case study includes a literature review and a Twitter analysis. Global has the highest number of case studies from 2019 to 2024. The distribution of global case studies is as follows: in 2021, there were 4 articles or proceedings; in 2020, there were 2. The second-highest case study is Indonesia, with 3 articles or proceedings (2 in 2021 and 1 in 2020). The third- and fourth-highest positions are case studies in Dina and Spain. Some articles are multinational studies or use case studies across several countries, while others use articles and tweets

as their data sources. In addition to the multinational region level, some use country studies and smaller regions, such as China, Spain, Croatia, Hong Kong, Thailand, Taiwan, South Africa, North Africa, Europe, Malaysia, Wuhan City, Indonesian small islands, Yogyakarta and Pandeglang. The number of first authors from each country is shown in Figure 4 below.

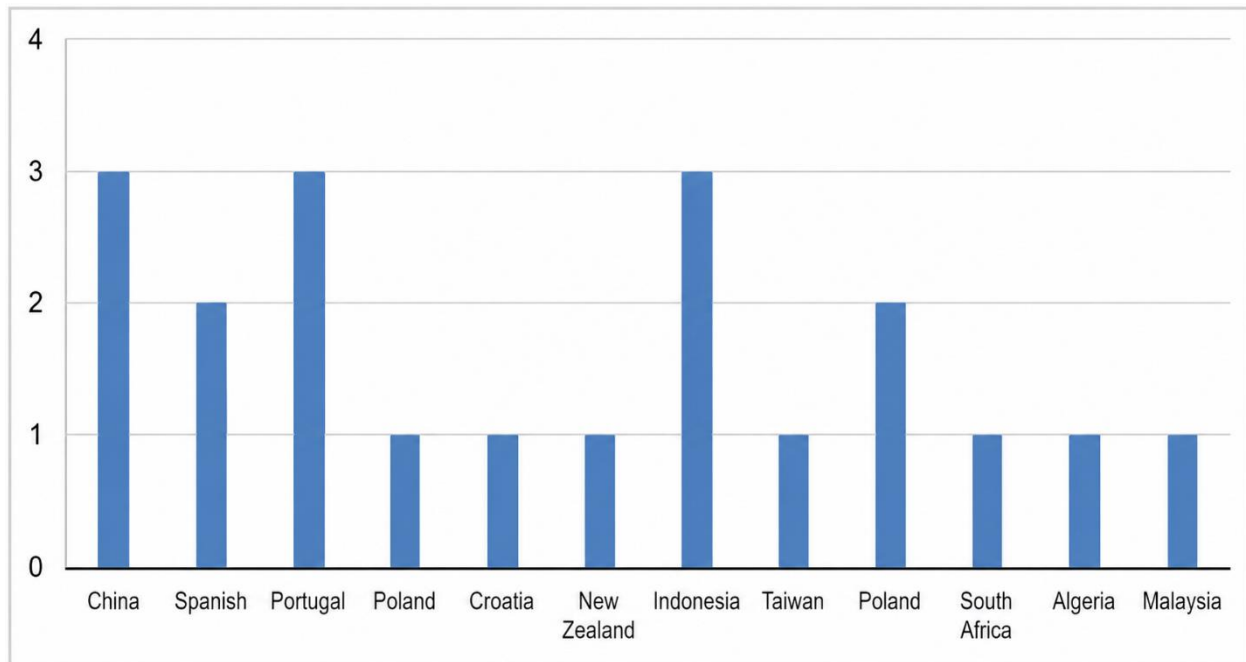


Figure 4. Number of countries first author

Figure 4 shows the number of countries of origin of the first author for articles or proceedings on sustainable tourism planning during the Covid-19 pandemic, from 2019 to 2024. The top three countries of origin for the first author on this topic are China, Portugal, and Indonesia, each with 3 articles or proceedings. Judging from the distribution of article publications over time, articles in this field have increased from the initial number in 2020 of 6 articles and in 2021 of 13 articles. In terms of author affiliation, the three highest positions are held by Centro de Investigação, Desenvolvimento e Inovação em Turismo with 3 articles, Uniwersytet Mikołaja Kopernika w Toruniu with 2 articles, and Polytechnic Institute of Leiria with 2 articles published in this field and indexed by Scopus.

In addition to these three affiliates, each affiliate published articles related to sustainable tourism planning during the Covid-19 pandemic once namely Ambarrukmo Tourism Institute, Brawijaya University, Bandung Institute of Technology, Diponegoro University, Around Europe Advisors, Cape Peninsula University of Technology, Centre universitaire Ahmed Zabana Rélizane, Cheng Shiu University Taiwan, Institute for Systems and Computer Engineering, Technology and Science, Instituto Politécnico de Viana do Castelo, Instituto Superior de Gestão e Administração de Santarém, Instituto Universitário de Lisboa ISCTE-IUL, Leeds Beckett University, National Sun Yat-Sen University, North China University of Water Resources and Electric Power, Polish

Academy of Sciences, Resilience Development Initiative, South China Normal University, Stanislaw Leszczycki Institute of Geography and Spatial Organization of the Polish Academy of Sciences, The University of Auckland Business School, Universidad Complutense de Madrid, Universidad de Málaga, Universidade de Aveiro, Universidade de Vigo, Universidade do Algarve, Université Djilali Bounaama Khemis Miliana, Universiti Teknologi MARA, University of Central Lancashire, University of Johannesburg, University of Kang Ning, University of Montreal, University of Rijeka, Western Sydney University, Kunming University of Science and Technology, National Institute of Development Administration, Chiang Mai University, Wuhan Institute of Technology.

Based on citations in the articles, 50 percent cited 1-50 publications, and the rest cited more than 50 publications to support their articles. 33,3 percent used interview instruments to obtain data, others used secondary data, and some also used databases, including articles and tweets. Research during the COVID pandemic identified 8 strong keywords, some of which are shown in the visualization in Figure 5.

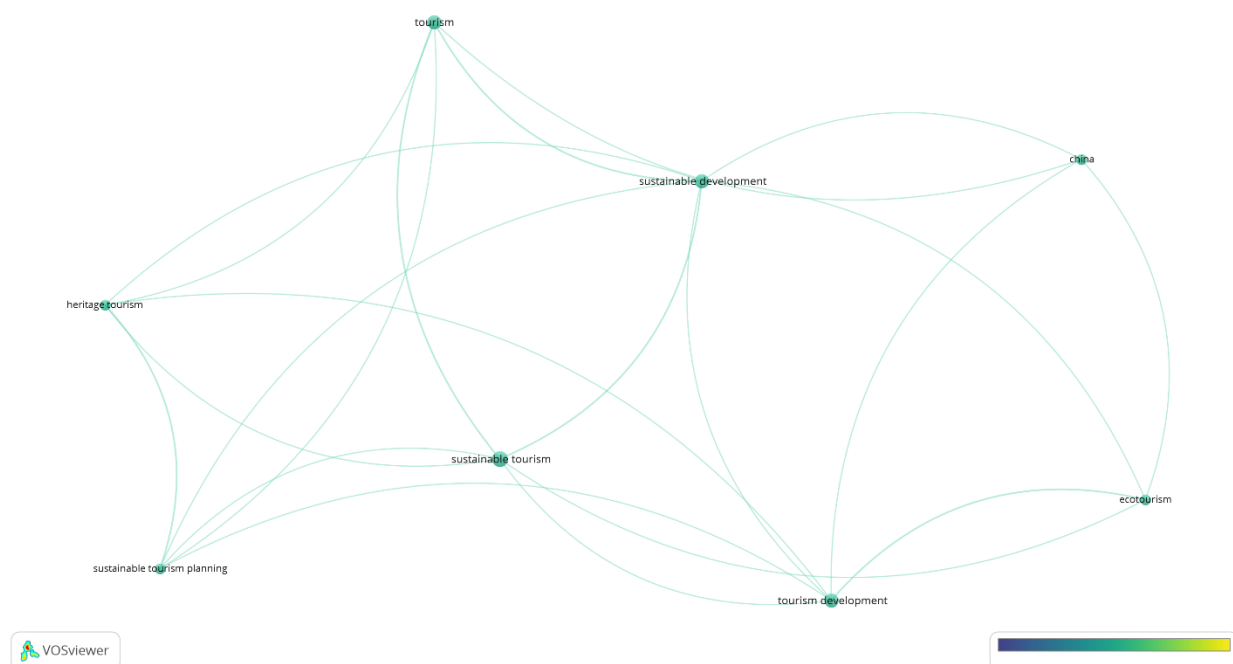


Figure 5. Keywords visualization

Based on the keyword network map, research on sustainable tourism planning during the COVID-19 pandemic is dominated by the themes of sustainable development, tourism development, sustainable tourism, ecotourism, and heritage tourism, which are strongly interconnected. The interconnectedness of keywords indicates that most documents published during the pandemic period focused on redesigning the tourism sector to make it more sustainable, resilient, and adaptive to the global health crisis. The nodes of sustainable development and tourism development serve as central themes connecting issues of ecotourism, cultural heritage, and sustainable tourism planning, indicating that researchers are addressing not only the recovery of the tourism industry

post-pandemic but also the transformation towards a development model that is more oriented towards environmental, economic, and social sustainability. Furthermore, the emergence of countries such as China in the network reflects the significant contribution of research to the development of sustainable tourism strategies during the COVID-19 era.

Discussion

Condition of the tourism sector during the COVID-19 pandemic

Before the coronavirus emerged, the tourism sector in several countries experienced the problem of overtourism, an excessive increase in visitors (Badurina & Frleta, 2021; Srisawat et al., 2021; Yiu et al., 2021). A pandemic is a large-scale outbreak of an infectious disease. Over the past twenty years, the world has been hit by disease outbreaks, namely SARS in 2003, MERS in 2012, Swine flu from 2009 to 2010, Ebola from 2014 to 2016, Zika from 2015 to 2016, and Covid-19 from 2019 to present (Brzustewicz et al., 2021). The World Health Organization (WHO) declared coronavirus disease (COVID-19) a global pandemic on March 11, 2020 (Adamiak & Barbar, 2022; Hakim, 2020).

Tourism has been one of the economic sectors most affected by the spread of the pandemic (Adamiak & Barbara, 2022) The Covid-19 pandemic in some articles is stated as a pandemic that has the greatest or very serious effects compared to previous pandemics because it has a direct impact on a global scale, especially for countries that have a strong economic dependence on this sector (Brzustewicz et al., 2021; Hemmonsbey, 2021; Lin & Wen, 2021; Minguez et al., 2021; Sánchez-Teba et al., 2020; Susanto & Kiswantoro, 2021; Zhou, 2023). The first step taken in some countries in articles with this topic is to carry out travel restrictions or lockdowns, which affects reducing the health crisis and decreasing tourism growth due to various policy packages such as working and studying from home, self-isolation and so on (Adamiak & Barbara, 2022; Badurnia & Erleta, 2021; Brzustewicz et al., 2021; Hemmonsbey, 2021; Lin & Wen, 2021; Minguez et al., 2021; Sánchez-Teba et al., 2020; Susanto & Kiswantoro, 2021; Zhou, 2023; Samah et al., 2020). After the discovery of the COVID-19 vaccine, the tourism sector hopes to recover through government policies that lift lockdowns, implement health protocols, and maintain social distancing (Hakim, 2020).

The Covid-19 pandemic has hurt the tourism sector, including a reduction in tourist arrivals, rent cuts, the closure of tourism businesses, and the postponement or cancellation of events (Hemmonsbey, 2021; Lin & Wen, 2021; Yiu & Cheung, 2021). However, the Covid-19 pandemic also has a positive impact on the tourism sector, including the development of electronic tourism, reduction of emissions caused by decreased travel, increased sense of global responsibility (considering the impact of actions realized by a region on the state of other regions), and reduction of traffic congestion (Brzustewicz et al., 2021; Więckowski, 2021).

The problem of overtourism before the Covid-19 pandemic has been replaced by a new concern, undertourism, albeit temporary (Więckowski, 2021). Changes in tourist behavior can affect tourism activities, including avoiding crowds, avoiding closed places,

changing desires, and changing lifestyles and communities in tourist sites. There is a tendency to avoid tourists based on the area of origin (Brzustewicz et al., 2021; Pardo et al., 2020). In essence, tourists want changes in the adaptation of the tourism sector, namely related to the cleanliness of facilities, disinfecting items that have the potential for transmission, and accessibility of health services, because tourists also have a great need for recreation and relaxation to relieve psychological stress during the COVID-19 period (Madani et al., 2020). Among actors in the tourism sector, some still survive, while others temporarily or even permanently close their tourism businesses and switch to other sectors (Lin & Wen, 2021; Azhari et al., 2021).

The Covid-19 pandemic continues to have a very negative impact on society, the country's economy, and, especially, the tourism sector. Our study quickly assessed the tourist needs of the Algerian population during the confinement period (Boutafenouchet et al., 2026). The results showed a strong need for recreation and relaxation to relieve psychological stress, which adversely affects the physical and mental health of all people, including children, during the COVID-19 period. In conclusion, the Covid-19 pandemic requires tourism sector actors to make adaptations and adjustments, innovate, and pursue social progress to survive; stakeholders should create policies to anticipate adverse outcomes and ensure the pandemic ends soon (Susanto & Kiswanto, 2021; Lin & Wan, 2021; Munguez et al., 2021).

The COVID-19 pandemic has had a significant impact on the global tourism sector, shifting the underlying problem from pre-pandemic overtourism to undertourism during the crisis (Pasquinelli & Trunfio, 2022). Travel restrictions, lockdown policies, and changes in tourist behavior have led to a decline in visits, the closure of tourism businesses, and significant economic losses (Aldao et al., 2025). However, the pandemic has also spurred new opportunities, such as the development of digital tourism, reduced environmental emissions, and increased awareness of sustainability (Talwar et al., 2023). These findings indicate that tourism recovery requires adaptation, innovation, and collaboration between governments, industry players, and communities to create a more resilient, safe, and sustainable tourism system for the future.

Tourism sector planning during the COVID-19 pandemic

Recovery from the COVID-19 pandemic crisis is underway and requires effective, integrated recovery planning strategies at the local, regional, national, and continental levels (Yiu et al., 2021; Susanto & Kiswanto, 2021). Planning requires innovations such as the use of online platforms, marketing local products in tourist areas, and live streaming of local flora and fauna on YouTube and TikTok (Haryono, 2025; Putri et al., 2025). One obstacle to these innovations is signal strength (Lin et al., 2021). Tourism sector planning requires joint coordination among local communities around tourist attractions, government, the private sector, academia, and tourist visitors (Hemmonsbey et al., 2021; Lin et al., 2021; Munguez et al., 2021; Prado et al., 2020). Local communities of tourist attractions make a big contribution because they are the ones who maintain tourist resources, besides that local communities can also participate directly in tourism

development, for example through attendance in the Discussion Forum Group (FGD), development of multimedia technology in the context of branding tourist attractions, raising social awareness of the use of tourist attractions, innovation of attractions or tourist attractions (Badrunia & Frleta, 2021; Chen et al., 2021; Madani et al., 2020; Susanto & Kiswanto, 2021).

The government can contribute through curriculum reviews in tourism schools that include elements of current issues and hone critical thinking, FGDs with related parties in finding solutions to generate the tourism sector, tightening health protocol policies, and the effectiveness of tourism spatial planning (Azhari et al., 2021; Hakim, 2020; Minguez et al., 2021; Susanto & Kiswanto, 2021). The private sector can contribute through tourism business development and promotional activities (Susanto & Kiswanto, 2021). Academia can contribute through curriculum reviews in tourism schools that incorporate current issues and critical thinking (Chen et al., 2022; Minguez et al., 2021). Tourists can contribute through cooperation during travel related to health protocols and also after traveling, for example, by establishing joint businesses to revive tourist attractions (Azhari et al., 2021; Hakim, 2020; Lima et al., 2021; Lin & Wen, 2021; Santoz, 2021). During the COVID-19 pandemic, the impact of tourism and the role of planning in the long-term success and sustainability of tourism have become increasingly important.

Sustainability of the tourism sector during the COVID-19 pandemic

The Covid-19 pandemic offers a valuable opportunity to reorganize tourism towards a more sustainable path, guided by the principles of sustainability, authenticity, social justice, and safety (Minguez et al., 2021; Rastegar et al., 2023). The term sustainability has been developing since the late 1980s (Azhari et al., 2021). Sustainable tourism is the development of tourism that considers environmental, economic, and socio-cultural aspects, as well as updates on the latest issues, problems, challenges, policy revisions, and strategies (Lima et al., 2021; Santoz, 2021; Utama et al., 2024). The principle of flexible planning and development is to promote commitment to sustainability and reduce bureaucracy, thereby improving the efficiency of regulatory planning (Sipayung et al., 2022). Future scenarios may rely on encouraging and educating visitors to appreciate indigenous culture in the hope that tourists will stay longer and care more about the environment and culture after the lockdown policy (Lin & Wen, 2021). The online tourism business will grow even more after the pandemic has passed (Lin & Wen, 2021).

The Covid-19 crisis can be overcome with a strong entrepreneurial presence, diversification of activities, exploration of market potential, reorganization of resources, digital literacy, dedication, financial strength, language, and technology (Lin & Wen, 2021; Minguez et al., 2021). Tourism is no longer just a profit-seeking industry but also a process for strengthening local capacities to promote ethnicity, heritage, and pride (Lin & Wen, 2021; Liu et al., 2025). The pandemic has increased the focus on digital technologies in sustainable tourism planning (Pallazo et al., 2022; Socratous et al., 2025). With travel restrictions in place and many businesses facing financial difficulties, digital

platforms and tools have become increasingly important for promoting sustainable tourism practices (Đuric et al., 2025). This encourages the development of new digital platforms and tools for sustainable tourism, such as online booking systems, virtual tours, and digital marketing campaigns, and also encourages the emergence of new forms of tourism, such as staycations, workcations, six-foot tourism, and creative tourism (Srisawat, 2023; Zeqiri et al., 2025). Tourism sustainability with careful planning must also be coupled with elements of discipline of various related parties such as a good understanding of the regulatory system, behavior, norms, criteria and standards to foster deep understanding (Khater et al., 2025); mental attitudes or attitudes of obedience and order as a result and development of training, mind control, and ethical control; as well as a reasonable attitude that shows seriousness to comply with everything with respect and order (Susanto & Kiswantoro, 2021).

CONCLUSION

Fundamental Findings: Sustainable tourism planning during the COVID-19 pandemic has evolved rapidly in response to the pandemic's significant impact on the tourism sector. Findings indicate that sustainable tourism recovery requires integrated planning that considers environmental, economic, and socio-cultural aspects through collaboration between all stakeholders. **Implications:** The study's findings emphasize the importance of a collaborative approach between the government, local communities, the private sector, academics, and tourists in designing tourism recovery strategies that focus not only on economic recovery but also on long-term sustainability. **Limitations:** This study focuses on literature published during the COVID-19 pandemic and, therefore, cannot comprehensively describe the effectiveness of implementing sustainable tourism strategies in the post-pandemic phase across various regional contexts. **Future Research:** Further research should evaluate the implementation and long-term impact of sustainable tourism recovery strategies, including the role of digitalization, destination resilience, and the effectiveness of multi-stakeholder collaboration in facing future crises.

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AUTHOR CONTRIBUTIONS

Rian Destiningsih led the research and manuscript writing. **Yunastiti Purwaningsih** processed and analysed bibliometric data. **Tri Mulyaningsih** performed data validation and discussion. **Akhmad Daerobi** strengthened the methodological. All authors approved the final manuscript.

CONFLICT OF INTEREST STATEMENT

The authors declare that there are no conflicts of interest, either financial or personal, that could influence the content or results of this study.

ETHICAL COMPLIANCE STATEMENT

This article has met the standards of research and publication ethics. The author affirms that this research is original, conducted with academic integrity, and free from unethical practices, including plagiarism.

STATEMENT ON THE USE OF AI OR DIGITAL TOOLS IN WRITING

The final responsibility for the content of the manuscript rests entirely with the authors. The author declares that this manuscript was prepared entirely without the assistance of artificial intelligence (AI) or other digital tools. The entire process, from planning, data processing, analysis, to writing and editing the manuscript, was carried out manually by the author. Thus, full responsibility for the content and authenticity of this article rests solely with the author.

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