The progression of sustainable development goals in tourism: A systematic literature review of past achievements and future promises

Hafiz Muhammad Usman Khizar[a], Aurangzaib Younas[a], Satish Kumar[b], Ahsan Akbar[c,*], Petra Poulova[d]

[a] Institute of Business Management and Administrative Sciences, The Islamia University of Bahawalpur, Pakistan
[b] Indian Institute of Management, Nagpur, India
[c] International Business School, Guangzhou City University of Technology, Guangzhou 510800, China
[d] Department of Informatics and Quantitative Methods, Faculty of Informatics and Management, University of Hradec, Kralove, Czechia

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ABSTRACT

The UN 2030 agenda for global sustainable development has huge connotations for the theory, practice, and policy of tourism. This study comprehensively evaluates extant scholarly publications related to the United Nations Sustainable Development Goals (SDGs) in existing tourism scholarship. This review also evaluates existing research to identify knowledge gaps in the literature and to set future research agendas in tourism research to accelerate the progress of the UN SDGs. Doing so, we have utilized the systematic literature review (SLR) technique to identify, select, review, and evaluate extant scholarly publications on this topic. The Web of Science database was used to discover research publications using the keywords, *tour* AND (sdg* OR "sustainable development goal*" OR "UNSDG*" OR "UN agenda" OR "global agenda" OR "agenda 2030" OR "agenda-2030")*. A sample of 88 relevant empirical articles were systematically selected and reviewed. The findings are categorized into three main sections: (i) descriptive profiling of existing research, (ii) literature synthesis, and (iii) existing knowledge gaps and future research agenda. Given that the SLRs are rarely used in the realm of sustainable tourism and SDGs, this review provides a knowledge base of what is already known to further extend the scholarly debate on the role of tourism in achieving the SDGs. In particular, we highlight theme-based knowledge gaps and limitations in the existing literature and suggest future research agendas by presenting several potential research questions.

Introduction

Since the United Nations (UN) launched the Sustainable Development Goals (SDGs) in September 2015, sustainable development has become a focal debate area among governments, practitioners, and policymakers internationally. In this vein, recent studies have highlighted the critical role played by the tourism industry in the successful achievement of the SDGs (Kronenberg & Fuchs, 2021; Lockstone-Binney & Ong, 2022; Scheyvens, 2018). However, academics and policymakers around the world have predominantly focused their attention on investigating a fundamental question: what is the strategic role of the tourism sector on the road toward sustainable development (i.e., economic, social, and environmental sustainability)?

Over the years, the tourism sector has experienced exponential growth and has constantly been an area of interest among scholars, practitioners, and policymakers around the globe. According to United Nations World Tourism Organization (UNWTO) reports, the frequency of international visitor trips has experienced a remarkable increase over the years. In 2015, there were 1,186 billion visitor trips, compared to 25 million in 1950. Likewise, the value of tourism also witnessed substantial growth, from USD 2 billion in 1950, USD 104 billion in 1980, USD 415 billion in 1995, to USD 1,260 billion in 2015 (Blomberg-Nygard & Anderson, 2016). The tourism sector has also significantly contributed to global GDP, accounting for 9.8 % in 2015, amounting to USD 7,170.3 billion. The World Travel and Tourism Council (WTTC, 2016) predicts that by 2026, the tourism industry will reach a value of USD 10,986.5 billion, accounting for 10.8 % of global GDP.

Previous studies have suggested that the tourism industry not only provides financial assistance to countries but also provides an attractive landscape and contributes to building a positive image of the country (Arshad et al., 2018; Rojas-Méndez & Davies, 2023). Recent studies have predominantly underlined the role and significance of the tourism sector in the path toward achieving the SDGs (e.g., Boluk et al., 2019; Rasoolimanesh et al., 2023). The quantity of theoretical and empirical studies on the interplay of tourism and

* Corresponding author.
E-mail address: akbar@gcu.edu.cn (A. Akbar).

SDGs has increased exponentially in recent years (e.g., Go & Kang, 2023; Nunkoo et al., 2023), and the literature on this topic is constantly growing, but it remains fragmented in multiple academic and professional disciplines.

Despite advances in sustainable tourism (ST) research, our understanding is limited regarding the role and significance of ST in achieving the UN Agenda 2030. This gap can be attributed to several reasons, such as (i) the widespread and fragmented nature of ST literature; (ii) the use of various conceptions and theoretical frameworks borrowed from other disciplines in previous research on ST, as well as the lack of a common theoretical lens; and (iii) the reporting of equivocal findings in previous research for the role and significance of tourism actors in sustainable development (SD). These underlying limitations could complicate the general understanding of academics and researchers in their current and future debates on this topic, while practitioners and policymakers strive to maintain a clear pathway for the fulfillment of SDGs through ST development (Nwani & Ujah, 2023). However, there is a dire need for a comprehensive literature review to provide a knowledge base for clarifying the complexities and confusion in existing research. To the best of our knowledge, there is a lack of synthesized knowledge on this topic to date, and no prior study has systematically synthesized existing empirical literature on the interplay of SDGs and tourism. This study therefore aims to identify, review, and synthesize the current literature on SDGs in tourism research through a systematic review technique. This study also critically evaluates the extant literature to identify limitations and knowledge gaps and sets an agenda for the future development of knowledge in this field. This review aims to answer the following research questions (RQs):

RQ1: How has the research on SDGs evolved and progressed in tourism literature?
RQ2: What are the key thematic areas in ST research?
RQ3: What are the limitations and knowledge gaps in prior research?
RQ4: What are the future research directions that may be taken to advance existing research on SDGs in tourism research?

This study provides several novel contributions to the existing literature. First, ST is constantly attracting the interests of multiple stakeholders (i.e., the UN, governments, policymakers, communities, tourists, and industry), so numerous scholarly articles are being published on this topic. The fragmentation of and dramatic increase in scholarly literature on this topic complicates our general understanding of the phenomenon. This study therefore presents a systematic literature review (SLR) to provide a comprehensive and up-to-date synthesis of the extant literature on the relationship between SDGs and tourism. This study synthesizes the existing literature to highlight key SDGs in tourism research, as well as the theoretical underpinnings, topics, and thematic areas. Second, this study presents a state-of-the-art research profiling of extant literature by highlighting the publication timeline, key publication outlets, methods, and geographical locations where existing research has been conducted. Third, our review goes beyond just synthesizing the extant literature by identifying its gaps and limitations and suggests a theme-based research agenda in the form of specific RQs that can guide future researchers. Finally, a key contribution of this review is the development of a comprehensive framework that presents a simplified picture of ST that highlights its stakeholders, literature themes, and theoretical frameworks, which can be utilized for further development of knowledge in this field.

Theoretical background and scope of the review

Sustainable development goals - agenda 2030

SD is about future development—that is, working for our future by living in the present. The primary goal of SD is to provide good conditions for everyone to fulfill their needs (Diesendorf, 2000).

There is a strong relationship between social, economic, and environmental sustainability (Khan et al., 2022), and these three relations make a stronger case for the SD (Omair et al., 2023). Governmental and non-governmental organizations are trying to adopt and incorporate three key pillars of SD (i.e., economic, social, and environmental) in their strategic decision-making, but the lack of proper arrangements, planning, and policies are the reasons for its failure (Abubakar, 2022; Chowdhury & Kabir, 2023). Although the concept of SD has attracted global attention in recent years, it still requires more work to secure the future of coming generations.

Notably, unsustainable growth can create negative results for a community, country, and globally, which is why the UN has launched the SDG framework. The UN emphasized that all member countries should seek to achieve the SDGs and save natural and environmental resources for future generations (Pachot & Patissier, 2023). The SDGs (2015−2030) were planned by the UN as the new and advanced set of Millennium Development Goals (MDGs) (2000−2015). The 17 SDGs are related to almost every field of life on land or underwater, however, each of the SDGs provides a different direction: Goal 1 focuses on reducing poverty; Goal 2, zero hunger; Goal 3, good health; Goal 4, quality education; Goal 5, gender equality or equal rights for men and women. Clean water and sanitation are a key part of the environment and very crucial for health (Akbar et al., 2020), and these issues belong to Goal 6. Goal 7 is related to energy resources, particularly affordable and clean energy. Growth in the economic assets necessary for every country is listed as Goal 8. Industry innovation and infrastructure related to such innovation is Goal 9. Goal 12 is related to responsible consumption and production, Goal 10 to reducing inequalities (i.e., equality for all humans), and Goal 11 focuses on sustainable cities and communities. Goal 13 spotlights climate action focused on clean zero polluted climates, Goal 14 concerns life underwater, and Goal 15 centers on life on land that is healthy and safe for all humans and species. Goal 16 emphasizes peace, justice, and strong institutions, and Goal 17 highlights the need for partnerships for the goals. These 17 Goals (Fig. 1) have 169 targets that aim to tackle multiple challenges faced by humans (Nilsson, Griggs, & Visbeck, 2016).

Sustainable tourism and the SDGs

Tourism is a multibillion-dollar global industry that creates jobs, increases the financial assets of businesses, and supports a healthy environment locally and globally (Lorde et al., 2011). Tourism is an essential economic sector and the source of foreign replacement incoming for some developing and developed countries (UNWTO, 2010). There are two main types of tourism: domestic and international. The movement of tourists within the same country is domestic tourism, while international tourism refers to the flow of tourists to other countries. Since the 1970s, tourism-related studies have gained a unique place among academic disciplines and have been elevated to the status of a major academic discipline.

The tourism industry has adopted sustainability strategies designed to manage its impact on economies, societies, and the environment. In 1990, the UNWTO Conference on Sustainable Tourism formalized the concept of sustainable tourism development (UNWTO & UNEP, 2005) as an activity that encompasses the comprehensive consideration of tourism's present and future implications on the economy, society, and environment. It involves addressing the needs of various stakeholders, including (i) tourists, (ii) the industry, (iii) the environment, and (iv) the host communities. ST has the potential to improve economic growth while also improving people's quality of life, supporting ecological security, cultural diversity, and peace on earth. It can also contribute to all SDGs in the economic, social, and environmental domains, either directly or indirectly (UNWTO, 2015). Likewise, the framework of SDGs provide a secure and sustainable

Fig. 1. Sustainable development goals (source: www.un.org).

business model for the tourism industry and support its future development.

Tourism has a precise function to play in achieving "decent work and economic growth" (SDG 8), "responsible consumption and production" (SDG 12), and "life below water" (SDG 14), (Rasoolimanesh et al., 2023; WTO & UNDP, 2017). The possibility of tourism contributing to the attainment of the SDGs has been debated in various tourism studies. For instance, one study examined the significance of tourism for Southeast Asia's economic development, as well as its ability to contribute to the attainment of SDGs such as poverty reduction (Trupp & Dolezal, 2020). Gender equality is also linked to ST; however, the first step in promoting gender equality through tourism is the reinterpretation of current tourism development policies (Alarcon & Cole, 2019; Seyfi et al., 2022). According to Trupp and Dolezal (2020), it is more difficult to appreciate how ST connects with and contributes to other SDGs, given that tourism's role in the past has not always been caring in terms of health, education, and gender empowerment. According to the UNWTO and UNDP (2017), utilizing tourism's beneficial contribution to SDGs and mitigating the sector's bad effects requires strong collaboration and vital action by all tourism stakeholders.

Scope of this review

The goal of this study is to review, synthesize, and advance the extant literature on SDGs in tourism scholarship. Although literature reviews on this topic do exist, our review is distinct from previous reviews in several ways (see Table 1).

Research methodology

Given the main aim of this research is to explore, understand, describe, and evaluate the previous literature on the relationship between tourism and SDGs, we employed the SLR method (Tranfield et al., 2003), which is appropriate for managing the diversity of knowledge in a specific field and synthesizing the scientific information to address a specific research topic. The SLR method has been well utilized in tourism and hospitality research (e.g., Ahmad et al., 2022; Madanaguli et al., 2022). The SLR method is not the same as traditional literature reviews (e.g., narrative, scoping), as it treats the procedures for reviewing literature scientifically and incorporates empirical research ideas to ensure greater clarity and replicability in the process (Chauhan et al., 2022; Khizar et al., 2021). The processes

Table 1
Comparison of this SLR with previous literature reviews.

Previous literature reviews	Content and focus of the review	Method	Contributions
Mostafa et. al. 2020	ST indicators	Systematic scoping review	How tourism can be a powerful tool for community development and reducing inequalities.
Nunkoo et. al. (2023)	SDGs and interdisciplinarity in ST research	Bibliometric analysis	How is existing research on ST interdisciplinary and what are the gaps? This review only focused on the papers published in one journal. The study used structural topic modeling to highlight key trends in ST research.
Peeters et al. (2018)	Transport future and tourism	Critical review	Transportation research on desirable transport futures, which explored the social and economic implications of the policy measures.
Moyle et al. (2020)	ST in general	Bibliometric analysis	Lack of reticulation and integration among individual studies. Proposed areas of future research.
Present study	SDGs in tourism scholarship	SLR	Contrary to other literature reviews, the present SLR contribute existing research by answering the following RQs. RQ1: How has the research on SDGs evolved and progressed in tourism literature? RQ2: What are the key thematic areas in ST research? RQ3: What are the limitations and knowledge gaps in prior research? RQ4: What are the future research directions that may be taken to advance existing research on SDGs in tourism research?

for data collection and analysis in the SLR are also similar to empirical research (Weed, 2005).

Data collection

To cover all of the relevant literature on SDGs published in tourism journals, we carried out the systematic procedures and protocols of SLR (see Fig. 2). First, we selected the Web of Science (WoS) database to search and identify all relevant articles for answering the RQs of this study. This database has been included in recent SLRs (e.g., Khizar et al., 2022) because it covers a wide range of journals in the fields of business management, tourism, and sustainability. Next, to search for the articles to be included in this review, we initially developed an exhaustive list of relevant keywords by searching on *Google Scholar* and manually analyzing the titles and abstracts of the first 100 results. We then discussed our keywords list with the two academic experts on ST and developed the following keyword string for our search execution in the WoS database: *tour* AND ("sustainable development goal*" OR sdg* OR UNSDG* OR "global agenda" OR "agenda 2030" OR "agenda-2030").*

For the purpose of data collection, an initial keyword search was executed in WoS on December 31, 2021, to reveal all of the potentially relevant articles published in academic journals. This process yielded 270 potentially relevant articles to be included in our review. Given the specificity of the RQs and ensuring the quality of the identified articles, the following inclusion-exclusion criteria were developed: (i) only peer-reviewed articles, (ii) published in the English language, and (iii) published in any of the A* or A category tourism journals listed in ABDC. Using these filters, 112 research papers related to the topic of this research were identified. Next, two authors (UK and SK) independently performed a title and abstract analysis of each of the identified article to ensure their relevance to the RQs of this review. At this stage, six irrelevant articles were discarded and all the remaining (n=106) studies were downloaded for in-depth reading and full-text analysis. Given the aim and scope of this review, we decided to focus only on empirical articles while excluding all non-empirical articles (e.g., theoretical, conceptual, and literature reviews) in our thematic analysis. Finally, we reached a consensus in the selection of 106 studies for research profiling and a final sample 88 articles to be included in this study for further review and analysis.

Data analysis

The data were analyzed in three stages: (i) descriptive quantitative analysis, (ii) thematic content analysis, and (iii) critical analysis.
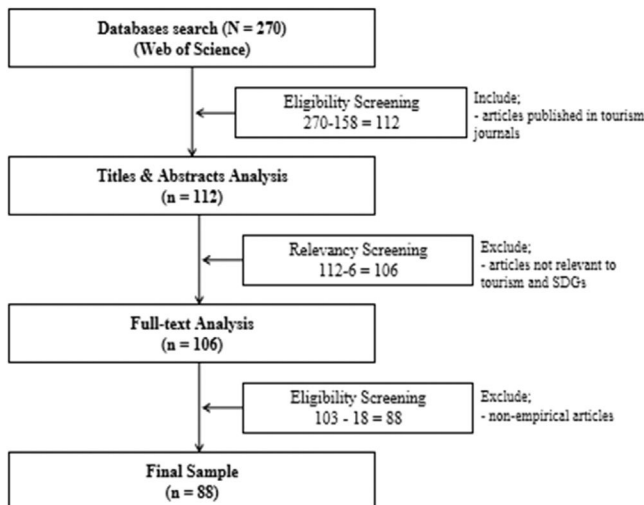

Fig. 2. Data collection process.

To begin, descriptive analysis of all of selected articles (n=88) was conducted to highlight the general features and research profile. Following that, content analysis was performed to categorize the current literature into several topics that developed throughout the assessment of tourism and sustainable development research papers to craft different themes and sub-themes. Finally, we conducted a critical review and analysis to identify gaps and limitations in existing tourism scholarship to suggest a theme-based future research agenda.

Results

Descriptive analysis

This section provides the quantitative descriptive statistics describing the sample selected in this review in terms of publication timeline, key journals, research methods, geographical contexts, and the SDGs that were the focus of the selected papers.

Fig. 3 illustrates the trend of research on SDGs and ST. The year 2016 was the starting point, as the first paper on this topic was published on the topic; however, it is evident that limited research was available in the first three years following an increasing trend of scholarly publications from 2019 onward. To improve consistency, the research was limited to the published studies and the period January 2016 to February 2022.

Our findings revealed 35 % non-empirical and 65 % empirical research studies (Fig. 4), of which 38 % used quantitative, 38 % qualitative, and 26 % mixed methods (Fig. 5).
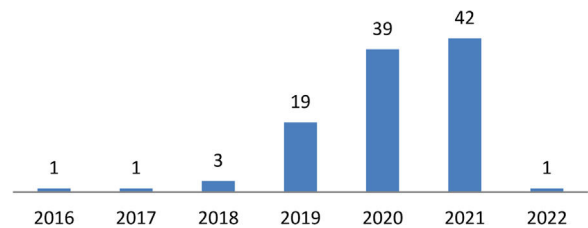

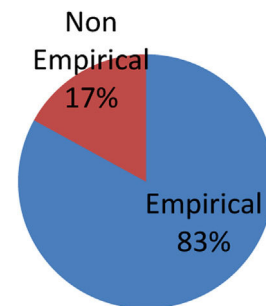**Fig. 3.** Timeline of published research papers.
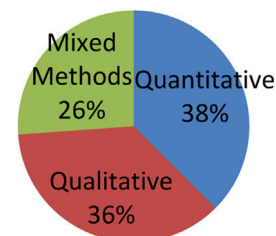

Fig. 4. Types of research articles.

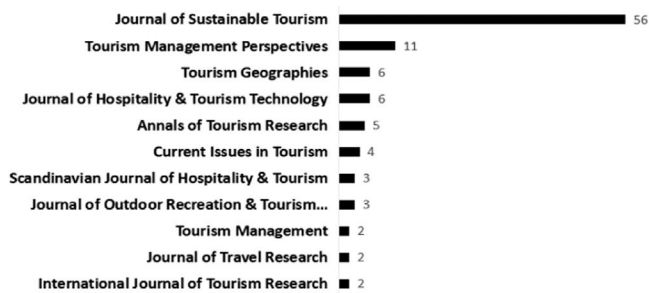**Fig. 5.** Methods used in selected studies.

Fig. 6. Journals publishing 2 or more articles on the topic.

Fig. 6 illustrates the journals selected for the adaptation of reviewed papers. *Journal of Sustainable Tourism* (n=56) and *Tourism Management Perspectives* (n=11) appeared with the highest frequency.

Literature synthesis/research themes

Following recent systematic review studies (e.g., Khizar et al., 2021), we conducted thematic content analysis and synthesized extant literature into key themes, as follows: (i) poverty alleviation and community development; (ii) peace, justice, and reduction of inequalities; (iii) partnerships; (iv) governance and administrations; (v) environmental sustainability and climate action; and (vi) modern and quality education.

Poverty alleviation and community development

The tourism industry is at the forefront of prosperity and jobs creation in the economies of many countries. It has the potential to play an important role in poverty alleviation (SDG 1), and food security (SDG 2) (Carius & Job, 2019; Degarege & Lovelock, 2021; Izurieta et al., 2021; Scheyvens & Hughes, 2019). Previous studies have suggested that SDG1 has a "synergistic relationship with most of the other goals" (Pradhan et al., 2017, p. 1169), and these synergies need to be influenced to improve the chances of attaining all 17 SDGs.

Previous studies have indicated that tourism development helps to reduce poverty, while the presence of good government policies amplifies this impact (Dossou et al., 2023; Folarin & Adeniyi, 2020; Hatipoglu & Inelmen, 2021). However, this effect only exists when there are win–win connections between tourism and community development programs (Izurieta et al., 2021). According to the study by Wiltshier (2020), local communities want to take full responsibility for destination development through tourism. Similarly, the analysis by Hutchison et al. (2021) confirmed that indigenous people's well-being should be seriously considered when redeveloping tourism in the post-COVID-19 era. Governments and tourism policy-makers need to change their mindset significantly and apply an effective policy and regulatory structure if they want to do more than just pay lip service to the SDGs (Stumpf & Cheshire, 2019). With good planning and policy implementation, community-based tourism (CBT), a form of ST development that involves tourism enterprises owned and managed by community members, has the potential to create and maximize opportunities and benefits for the local community development and poverty alleviation (Pasanchay & Schott, 2021). CBT is viewed as an imperative stimulus in achieving the SDGs, particularly in eliminating poverty, reducing the ecological impact of tourism, and creating financial prosperity, and jobs creation in developing countries (SDG 1 and SDG 2) (Hutchison et al., 2021). Despite the significant importance of CBT to the SDGs and the increasing attention paid to CBT initiatives, existing research on CBT remains limited (Ditta-Apichaiet al., 2020; Pasanchay & Schott, 2021). An important component of CBT is providing jobs to local people and incorporating them in the value chain through sub-contracting in the form of micro-entrepreneurship, consequently, which helps to reduce poverty (Ditta-Apichaiet al., 2020; Hall, 2019).

In addition, there exist empirical evidence highlighting the significance of automation, and information & communication technologies (ICTs) in employment creation (Tuomi et al., 2020), poverty alleviation and economic inequality reduction (Ofori et al., 2022). In this line of research, the study by Ditta-Apichai et al. (2020) suggested that ICTs have the potential to help CBT micro-entrepreneurs in terms of market entry and risk reduction in their examination six online tourism information-sharing platforms in Thailand. They identified three distinct business models based on tourism offerings, membership policies, and contributions to the destination community. Similarly, Neto et al. (2020) pointed out that tourism businesses need to build their virtual brand personality in online travel community platforms including the sustainability dimension.

Peace, justice, and reduction of inequalities

The tourism industry has the potential to promote peace, justice for all, and the creation of an enabling atmosphere for overall business growth. Some scholars have pointed out that religious tourism can be a powerful social force with the potential to promote peaceful and inclusive development in the developing world (Senbeto, 2022). Religious tourism is defined "as tourism to sites of current and/or previous religious significance" and is among the earliest forms of tourism. However, there is a paucity of studies on the relationship between religious tourism and the SDGs (Senbeto, 2022). Researchers have also suggested that peace tourism, a new form of tourism, could be a methodology for achieving peace through tourism (e.g., Erwin and Sturm, 2022). Other scholars have investigated access to justice for local communities or travelers. For instance, Higgins-Desbiolles et al. (2019) examined tensions in international mobility and suggested that greater attention should be paid to just and sustainable degrowth in tourism to protect the rights of local communities. Torabian and Mair (2022) investigated how bordering practices become political indicators of social justice in the context of the international travel of Canadians and affect tourism mobility with a focus on dual citizenship.

Gender and other forms of inequality are worldwide issues in many sectors, especially in emerging economies. Tourism provides many job opportunities for women, so the tourism industry has advanced in the role it plays in the reduction of gender inequalities and women's empowerment (Freund & Hernandez-Maskivker, 2021). Most existing research has investigated gender equality in the tourism industry and its relationship with the SDGs (Dashper et al., 2022). The literature generally suggested that women's empowerment is a crucial component of ST development in tourist destinations, and entrepreneurship activities help women to be empowered (Abou-Shouk et al., 2021; Elshaer et al., 2021; Figueroa-Domecq et al., 2022; Freund & Hernandez-Maskivker, 2021; Seyfi et al., 2022). In this regard, Figueroa-Domecq et al. (2022) analyzed the complex role of gender at different stages of women's entrepreneurship in tourism and surmised that women tourism entrepreneurs tend to place more importance on specific aspects of sustainability. According to Abou-Shouk et al. (2021), economic empowerment is the main dimension of women's empowerment that causes their support for ST developments. Elshaer et al. (2021) found that the relationship between women's empowerment and ST development is mediated by tourism involvement. At the same there also exist empirical evidence highlighting the barriers and challenges to women involvement and gender equality in tourism sector. For instance, Freund and Hernandez-Maskivker's (2021) interviews with female managers from tourism associations in Spain concluded that achieving gender equality in executive-level positions is still a big challenge for tourism organizations because of the various barriers to women's access to leadership. Tourism sectors should thus set policies to assist tourism associations in improving gender equality in the industry. Barriers

such as economic sanctions in Iran also negatively affected women's empowerment in tourism and created special challenges (Seyfi et al., 2022).

Other forms of inequalities, such as those facing minorities and economic inequalities in tourism, and their relationship with the SDGs have received limited attention (see, e.g., Hon & Gamor, 2022; Kronenberg & Fuchs, 2021; Luu, 2021; Robinson et al., 2019). Robinson et al. (2019) pointed out that, due to the precarious nature of tourism work, tourism employment might deepen economic inequalities. The tourism industry should pay more attention to the dimension of tourism workers than to the other dimensions of sustainability. To this end, Hon and Gamor (2022) proposed a research framework for investigating the inclusion of minority groups in the tourism workforce as a corporate social responsibility strategy to achieve the SDGs. Another study by Kronenberg and Fuchs's (2021) revealed that income inequalities over the study period (i.e., from 2008 to 2016) had increased, and institutional support is crucial for reducing inequalities and achieving sustainability. Focusing on employees with disabilities, Luu (2021) investigated the influence of disability-inclusive human resource practices in the tourism industry on the work–family interface among employees with disabilities in South Korea and Vietnam.

Partnerships

It is necessary to bring together all relevant stakeholders to achieve the SDGs (Birendra et al., 2021). Partnerships between governments, private businesses, and/or civil societies support the implementation of ST developments. Tourism partnerships are defined as a type of cooperation that involves a "pooling or sharing of appreciations or resources among two or more tourism stakeholders to solve a dilemma or create an occasion that neither can address individually" (Selin, 1999, p. 260). At the macro, destination level, tourism-based leadership programs can foster collective leadership capacity, which in turn can build effective stakeholder networks and collaborative processes that drive better development of ST (Birendra et al., 2021; Fang et al., 2022; Hughes & Scheyvens, 2016; Liburd et al., 2022). At the micro, business level, multi-stakeholder partnerships can help, for example, compel the food waste issue (de Visser Amundson, 2022), promote innovation (Ferrer-Roca et al., 2022), increase ocean literacy (Garcia & Cater, 2022), and promote sustainable marine mammal tourism (Finkler & Higham, 2020).

Governance and administration

Another important theme highlighted by our review and analysis of the extant research on ST development and SDGs between 2015 and 2022 is the centralized governance and administration system. Chen et al. (2022) demonstrated the vulnerability of Airbnb listings during the COVID-19 pandemic and called for taxation and social protections for Airbnb hosts. Hosseini et al. (2021) noticed that most World Heritage Sites are located in developing economies and put forward policy implications for the governance of heritage preservation issues. Mugo et al. (2022) discussed both the contributions and limitations of partnership arrangements (i.e., the Amboseli Ecosystem Trust and the Big Life Foundation) in the governance of the Amboseli landscape in Kenya. At the same time, poor governance by some African governments has threatened ST development in urban spaces (Musavengane et al., 2020). Similarly at the corporate level, managers should be engaged in corporate social responsibility practices to enhance governance performance (Moneva et al., 2020). ICTs profoundly affect corporate structures and governance in the tourism industry (Gössling, 2021), and technological innovations such as blockchain and cryptocurrencies have enabled new applications and e-governance, as well as empowering tourism operators to have greater transparency in operations and collaboration (Tham & Sigala, 2020).

Environmental sustainability and climate action

Climate change poses a risk to the worldwide economy and the tourism industry (Ullah et al., 2022). However, the challenge that environmental change poses to tourism growth and its impact on the SDGs in particular remains under-researched (Bilynets et al., 2023; Sriarkarin & Lee, 2018). To achieve the SDGs, developing countries that want to follow tourism as a development strategy need to apply environmental management principles quickly and efficiently (Grilli et al., 2021). Any type of industrial development may have negative ramifications for the physical environment in which it occurs and can lead to serious environmental issues. This lowers the quality of life for both locals and visitors and may, in turn, jeopardize the tourism industry's long-term viability (Sun et al., 2020).

Tourism is an extremely climate-responsive sector that is also strongly influenced by many factors, including the state of the natural environment and perceptions of personal security (Scott, Hall, & Gössling, 2019). ST development, however, may be beneficial to the preservation of natural places. Conservation of the natural, cultural, and constructed environment is a significant motive for tourism projects. Environmental sustainability and climate actions are of significant importance because tourists who observe and pay attention to pro-environmental actions at the destination may perceive the location as more ecologically friendly and sustainable after they leave. Implementing pro-environmental measures becomes a logical tourism marketing expenditure when the organic image is a primary driver of the destination choice. The exercise of country-level indicators in a multi-dimensional climate change susceptibility index is an approach that assures local information disparities are overcome and faces up to the incorporation of multiple forms of information (Acosta-Michlik et al., 2008; Hamada et al., 2022; Westermeyer, 2010).

Modern and quality education

Quality education related to the tourism sector contributes directly and indirectly to the SDGs (Slocum et al., 2019; Cotterell et al., 2019). Education is the basis for improving lives and many business sectors, and many institutions throughout the world are attempting to incorporate sustainability into their tourism and hospitality courses. Quality education for ST and its development is vital not only for learning about ideas connected to SDGs but also for altering students' mindset and active engagement in issues concerning ST development and SD futures. Education and learning about ST help visitors and locals become more aware of SDG 15 by providing information and resources. Hikes, exhibitions, and other educational events are used to teach people about life on land and the creatures of the region (Cotterell et al., 2019). Quality education for tourism also boosts local people's understanding of environmental issues and increases their devotion to other creatures. In addition, access to comprehensive education can contribute by providing people with the tools to develop pioneering solutions to the world's major problems. The idea of life learning for all is a key element of ST and the SDGs.

Future research trajectories

After presenting a comprehensive literature synthesis, we conducted a critical review and analysis of the extant literature to highlight theme-based knowledge gaps and limitations. Doing so, the present review provide future research directions by developing and posing RQs for further progression in this field of study (see Tables 2, 3 below).

Discussion and implications

Given the importance of tourism in achieving the SDGs set by the UN, the amount of literature on the topic has been growing in recent

Table 2
Theoretical frameworks and perspectives.

Existing literature	Future research direction	Future research questions
-Existing studies have predominantly used the following theories: -Institutional theory: Examining the influence of formal and informal institutions on ST governance and practices. -Stakeholder Theory: Analyzing the roles, interests, and power dynamics of different stakeholders in shaping ST development. -Destination Management Theory: Investigating destination-level planning, management, and collaboration for ST -Ecological Modernization Theory: Understanding the processes of environmental innovation and resource efficiency in the tourism industry. -Triple Bottom Line: Assessing the economic viability and benefits of ST alongside its environmental and social impacts. -Systems Theory: Understanding the interconnectedness and interdependencies within tourism systems.	-Future studies should use the following theories to investigate the role of tourism in the attainment of sustainable development goals: -Governance, Policy, and Planning Theories: To investigate issues related to the governance, management, and planning of the tourism sector. -Economic and Environmental Sustainability: To integrate economic and environmental theories (e.g., circular economy, resilience theory, environmental justice theory) in the context of ST. -Social and Cultural Models: To investigate the social and cultural implications of tourism in the achievement of SDGs. -Technology and Innovation: To explore the role of digital technologies (e.g., AI, machine learning) in ST and the adoption and diffusion of innovations.	-How can the application of governance theories (e.g., network governance or collaborative governance) enhance ST governance at the destination level? -What are the key factors that influence the effectiveness of governance mechanisms in promoting ST practices, and how can these mechanisms be strengthened through the use of governance theories? -What are the factors that facilitate or hinder the diffusion of ST policies across different destinations, and how can policy diffusion theories help explain these dynamics? -How can the application of policy diffusion theories inform the design and implementation of effective strategies to foster the adoption and implementation of ST policies at various scales? -How can resilience theory be used to enhance the adaptive capacity of tourism destinations to cope with environmental changes, natural disasters, and other disturbances? -What are the critical factors and strategies that contribute to the resilience of tourism systems, and how can resilience theory inform the development of more resilient and ST practices? -How can the principles of the circular economy be effectively applied in tourism contexts to promote resource efficiency, waste reduction, and sustainable consumption and production practices? -What are the barriers and enablers to implementing circular economy practices in the tourism industry, and how can circular economy theory guide the development of strategies and interventions to overcome these challenges? -How does social capital influence ST development and the achievement of SDGs at the community level? -What are the mechanisms through which social capital contributes to community resilience, empowerment, and collaboration in ST contexts? -How does social justice theory contribute to understanding and addressing social inequalities and power dynamics within ST development? -What are the impacts of ST practices on marginalized groups, and how can social justice theory inform strategies to ensure equitable distribution of benefits and mitigate negative impacts? -How can innovation diffusion theory explain the adoption and dissemination of ST innovations across different stakeholders and destinations? -How can innovation diffusion theory guide the identification and prioritization of ST innovations that align with specific SDGs, and how can these innovations be effectively integrated into tourism practices and policies?

years. This study sought to identify and systematically synthesize the relevant literature on the effective role of tourism on the path toward achieving the SDGs. The extant literature provides various implications for the strategic role of tourism in SDGs. By grouping the selected literature into key themes, we developed a knowledge base on the topic. Moreover, based on our review and critical analysis of the extant tourism literature, we developed a comprehensive framework for understanding the richness and complexity of research on the SDGs in the field (Fig. 7). Our framework encompasses several considerations, such as (i) the nature and conceptualization of ST, (ii) the stakeholders involved, (iii) mapping key themes in the extant literature on SDGs, and (iv) highlighting key theoretical perspectives.

ST comprises three key pillars (i.e., economic, social, and environmental). The economic pillar contributes to creating new jobs, facilitating the local workforce, and the growth of local businesses. It thus supports SDG 1 (no poverty) by creating new jobs, SDG 2 (zero hunger) by providing work opportunities, and SDG 17 (partnerships for the goals) through networking and business partnerships. The social pillar of ST contributes to providing equal rights, local culture, education, and secure traditions; it supports SDGs 10 and 5 (reduce inequalities, gender equality) by providing equal rights and supports SDG 4 (quality education) by providing good and quality education. The environmental pillar provides help in waste management, protection of plants, water management, and secure use of energy; it supports SDG 13 (climate action), SDG 6 (clean water and sanitation), and SDG 7 (affordable and clean energy).

The survival, (de)growth, and success (or failure) of any industry are largely influenced by its stakeholders. The stakeholders of ST include (but are not limited to) the local community, tourists, governments, NGOs, tourism industries (e.g., agencies, transport companies, hotels, restaurants), transport companies, and academic institutions.

The findings of our review also highlight key thematic areas and theoretical perspectives utilized in the extant literature. These themes are poverty alleviation and community development, reducing inequalities and promoting justice, peace and tourism business partnerships, governance and administration, environmental sustainability (Shah et al., 2021), and climate action, and modern and quality education. Existing research on ST has also drawn upon various theories and frameworks from multiple disciplines to understand and analyze the complex dynamics within this field. These theories provide valuable insights into the relationships between tourism, sustainability, and the achievement of SDGs. We also found the dominance of the following theoretical lens in ST scholarship: profit-maximization theory, social change theory, theory of human capital, landscape governance roles, revenue sharing theory, theory of multi-stakeholder, and social justice theory. All theories and themes assist to understand the phenomena of SDGs and ST.

A key component of our framework is the proposed theoretical frameworks that can be used in future scholarly works for further knowledge development. We categorize the theories into four main clusters: governance, planning, and policy frameworks; economic and environmental models; social and cultural models; and theories related to technology and innovation. By incorporating these additional or new theories into future research, the gaps in existing knowledge can be addressed and a more comprehensive understanding of ST can be achieved. These theories can provide fresh insights, analytical frameworks, and practical guidance for promoting sustainability and achieving the SDGs within the tourism industry. We thus call for more research using these theories in potential scholarly contributions; however, the selection of theoretical frameworks/models must align with the research objectives, context, and specific RQs.

Table 3
Theme-based future research.

Poverty Alleviation and Community Development			
Sub-themes	Knowledge gaps and limitations	Future research directions	Future research questions
Employment opportunities for poverty alleviation	-Unemployment and poverty are major issues, especially in underdeveloped countries (e.g., African, and Asian countries). The tourism sector facilitates job creation and poverty reduction; however, limited research exist on tourism-supported employment opportunities and poverty alleviation in developing countries.	-More research is needed on tourism-supported employment opportunities and poverty alleviation in underdeveloped countries (e.g., African countries).	-How does ST support poverty reduction through the creation of new job opportunities? -What are the effective policy implications for poverty reduction in underdeveloped countries?
Technological developments	-Lack of research on new technologies that contribute to increasing employment opportunities in the tourism sector. At the same time, the introduction of new technologies can sometimes cause job shortages. There is limited research on the usage of automation in line of hospitality and tourism while protecting the employment conditions.	-Researchers should investigate the role of new technologies and innovations in the ST context and how these developments facilitate the creation of job opportunities.	-Which types of new technologies are effective and helpful in reducing poverty through new job creation? -Which technologies reduce the involvement of different stakeholders (e.g., customers, employees, and public) in the tourism industry? How?
Hunger issues	-Role of NGOs is essential to eradicate hunger and poverty. Limited research available on the role of the NGOs in reducing hunger and poverty. -Limited research on food wastage in hotels and restaurants.	-Future researchers should focus on examining the role of NGOs in poverty reduction. -Future studies should examine food wastage from a variety of perspectives to develop profitable food systems for local communities.	-How can governmental accountability and policies be improved in low- and middle-income countries to reduce hunger issues? -What factors contributes to reducing poverty and inequality through NGOs in developing countries? -How does governance quality contribute to poverty reduction and hunger issues?
Community involvement	-The involvement of local communities in economic growth and development is inevitable, but there is a lack of research on CBT.	-Researchers should examine how CBT may facilitate economic, social, and environmental development.	What are the major roles of CBT in economic growth? In achieving the SDGs? -How can a CBT governance model cooperate in the poverty reduction?

Peace, Justice, and Reduction of Inequalities

Sub-themes	Knowledge gaps and limitations	Future research directions	Future research questions
Opportunities for females and minorities	-Women can contribute to different challenges in any country, but there is a lack of research on the drivers of (and barriers to) women entrepreneurs in the tourism sector. -Limited research has been conducted that elaborates the role of women in ST and SDGs, especially in Arab countries.	-Future researchers should focus on finding ways to increase gender diversity and improve the female staff ratio in business sectors. -Future studies should investigate the elements that affect women's empowerment in tourism sectors by taking into account temporality and vulnerability. -More policy research is needed on governance systems to control inequalities (i.e., females and minorities) in the tourism sector, and exploring how to provide new opportunities for women and minorities.	-What are the most important criteria to implement the policies to reduce inequities in tourism sectors? How? -What jobs are most suitable for minorities (and women) in the tourism sector? -What are the significant policies for female empowerment in the tourism industry? -What policies and processes are most effective in combating income inequality and gender inequality in developing countries?
Sustainable development and gender inequality	-Men and women can both contribute to the tourism sector, but very few academic studies are available on gender (in) equality in ST context. -Limited research on tourism businesses that contribute to fulfilling the SDGs through tourism.	-More research is required related to gender equality in the tourism sector. -Future studies should identify businesses that are more closely linked to ST and the SDGs.	-What is the main barrier or main challenge for how women in tourism fulfil the SDGs? -Which types of jobs and business are most suitable for men (and women) in tourism?

Governance and Administration

Sub-themes	Knowledge gaps and limitations	Future research directions	Future research questions
Governments and the tourism industry	-There is a dearth of research on the role of governments and other institutions in the planning, governance, and administration of ST development.	-Future studies should move beyond simply ameliorating the symptoms of poverty, and policy research interventions are needed to investigate the involvement of communities in poverty reduction.	-How do institutional and governmental support involve communities in the tourism business sectors to reduce poverty?
Political and tourism stability	-Political stability is a key factor for any kind of business related to the tourism sector, but there is limited research on the governance relationships with the tourism development, stability, and growth with political stability.	-Future research should investigate good governance relationships for inclusive growth and political stability.	-What conditions and policies are a cause of tourism and political stability and growth of ST and the SDGs?
Polices for landscape	-The landscape attracts tourists to every country, but there is a scarcity of related policy research.	-Future research should find new governance systems and policies for landscape development.	-What governance systems and policies facilitate the tourism landscape? -What are the main locations and where is the landscape needed in every country?

Table 3 (*Continued*)

|		Poverty Alleviation and Community Development	
Sub-themes	Knowledge gaps and limitations	Future research directions	Future research questions
Environmental Sustainability and Climate Action			
Sub-themes	**Knowledge gaps and limitations**	**Future research directions**	**Future research questions**
Environmental sustainability and nature-based tourism	-Limited research has been conducted on environmental change and climates issues influencing the development and growth of the tourism sector. -There is limited research focusing on biodiversity and eco-system and environmental protection. -Nature-based tourism (NBT) has key role for boosting ST development, but there is very limited research in this area.	-Future research should focus on the implementation of polices on climate actions and environmental sustainability planning. -The ecosystem creates a comfortable positive image on the environment, and future research should consider ecosystem services schemes that target ST initiatives. -Future studies should map new planning on attractive natural views for tourism site locations.	-What are the most successful strategies for ensuring that the general population is aware of and responds to early warnings about natural disasters? -What are the drivers of (and barriers to) tourist intention−behavior in NBT? -What kinds of natural environments and locations attract tourists?
Coastal tourism development Climate change	-There has been a lack of focus on boosting the tourism sector by ensuring safe and secure sea levels. -Climate change influences ST, but there is limited research on climate action (SDG 13) in the tourism literature. -There is a lack of research on the participation of green areas in climate change.	-Future research and interventions are needed to help boost coastal and beach areas. -Future research could critically investigate the universality of the concept of SD, particularly under more complex climate changes. -There is an urgent need for future research on ST to explore how to connect operations with SDG-13 on climate action to ensure sustainability.	-What are safe coastal arrangements that can contribute to the SDGs by preserving the coastal ecosystem? -What are the best ways to support climate-friendly development strategies and ST? -How do public observations of climate change influence individuals? -What are the obstacles to (and drivers of) developing and managing social and economic progress with environmental health and sustainability metrics? -What mechanisms might allow for a more rapid change to a carbon-free economy with the aid of green management?
Modern and Quality Education			
Sub-themes	**Limitation**	**Future research directions**	**Future research questions**
ST development through quality education	-There is limited research on the involvement of academia in ST development. -There is a lack of research on tourism business education programs and future-oriented educational policies in developing countries	- Future studies should focus on educational and academic cooperation in the tourism sector. - Future researchers should examine ways to integrate SDGs in the curriculum of tourism education, especially in developing countries.	-How can academic systems be modified and improved to maximize the benefits of tourism-related industries? -What are the most effective strategies for delivering locally relevant, accessible, and high-quality tourism, SDG, and future-oriented tourism education ?
New policies for tourism education systems	-There is a lack of policy research regarding tourism education. -Adventure tourism and volunteering tourism has received considerable attention from scholars, but there is limited research on the interventions of tourism education. -There is limited research on how adventure-based tourism and volunteering tourism contribute to the SDGs.	-We call for policy research on the development and execution of quality tourism education. -Future studies might investigate tourism education interventions with the experiences and contributions of adventure and volunteer tourists. -Future studies should examine the interplay of adventure and volunteering tourism firms with the SDGs.	-How can the education system for tourism businesses be enticed to gain a deeper understanding of commitment? -How can adventure tourism contribute to achieving the SDGs? -How can volunteering tourism contribute to achieving the SDGs?

Proposed Theoretical Frameworks
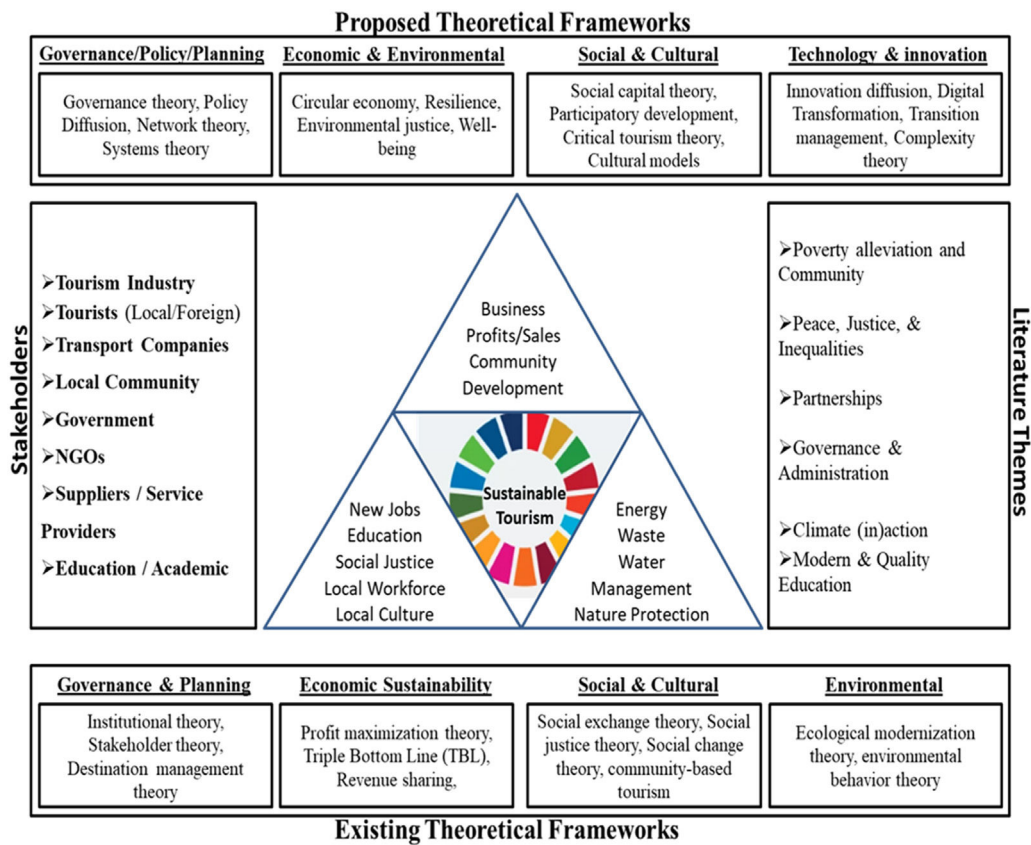
Fig. 7. Comprehensive framework.

Implications for theory

This review offers several implications for theory. First, it identified and synthesized the fragmented literature on the effective role of the tourism sector on the road toward sustainable development. In doing so, the present study classified the existing literature into key themes to develop a comprehensive knowledge base on this topic. Second, a critical evaluation of the extant literature was presented to identify knowledge gaps and limitations and to set future research agendas. In particular, we have suggested specific RQs to guide future researchers who may advance the debate on ST and SDGs. Third, our review findings highlighted the need for integrating various theoretical frameworks and models from other disciplines (e.g., complexity theory, system theory, stakeholder theory, and institutional theory). This approach can provide a more comprehensive and holistic theoretical framework for analyzing the complex dynamics within the context of ST. Moreover, the present study also highlights the significance of advancing sustainability related theories in tourism research to address emerging challenges and knowledge gaps. To this end, there exist a potential to developing, testing, and refining theories related to behavioral change, transformations, resilience, and social justice within the context of ST. We postulate that these advances will contribute to a deeper theoretical understanding of how tourism can effectively contribute to advancing the achievement of the SDGs.

Practical implications

This study also serves as a guide for practitioners and policymakers by providing a detailed overview of the strategic role and the current progression of the tourism sector in the achievement of SDGs. Our review findings may also assist governments and policymakers in developing and deploying effective strategies in ST development in various ways. First, the present study highlight the importance of fostering collaboration among various stakeholders (e.g., governments, local communities, businesses, and NGOs) to achieve ST outcomes. Practitioners can utilize our findings to facilitate multi-stakeholder partnerships, encourage community participation, and enhance cooperation for SD. Second, this review offers valuable insights for policymakers and destination managers on how to align tourism strategies and policies with the attainment of the SDGs. They can use the identified best practices, case studies, and policy frameworks for the development and deployment of ST policies. Third, our findings also highlight the role and significance of education and awareness in promoting ST practices. In this regard, practitioners can develop educational campaign and programs targeting tourists, local communities, and industry professionals to enhance their understanding of ST principles and practices. Finally, our review underscores the importance of robust monitoring and evaluation mechanisms to assess the progress and impacts of tourism on SDGs. It provides valuable insights for developing the monitoring and evaluation systems to track the economic, social, and environmental outcomes of tourism activities.

Limitations

Although this review provides several key insights into theory and practice, it is not free from limitations. Readers should interpret the findings of this review in light of the following limitations. First, we only selected articles published in tourism journals listed in the WoS database. Studies published in other journals might have been omitted. Second, we restricted our article search based on specific keywords, and there is a possibility that some potentially relevant studies may thus have been overlooked. A further limitation is the exclusion of research papers written in languages other than English. Finally, the thematic content analysis in this paper only focused on

empirical studies while excluding books, literature reviews, and conceptual papers.

Conclusion

The UN has developed a set of 17 goals as part of its global agenda to be fulfilled by 2030 and continues to call for the participation of all member countries to achieve these goals. Achieving the SDGs is one of the biggest challenges for governments around the globe, but this ambitious goal cannot be achieved without the participation of every stakeholder. Policymakers and scholarly communities have emphasized the need for the development and growth of the tourism sector for the achieving the SDGs. This review study organized the scientific knowledge about the SDGs in the tourism literature using the SLR technique, which also evaluates existing research by highlighting limitations and gaps to set future agendas for the further development of knowledge in the field.

Declaration of Competing Interest

The authors declare that there is no financial and any non-financial conflict of interest.

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