THE REQUIREMENT ASPECT FOR SUSTAINABILITY SMART TOURISM DESTINATIONS: A SYSTEMATIC LITERATURE REVIEW AND PROPOSED MODEL ANALYSIS

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Abstract

Pieces of research in smart tourism and the sustainability of smart tourism have been conducted and proposed with different goals. This research paper aims to review several journal papers related to the sustainability requirements for smart tourism destinations, and we used the PRISMA analysis method and VOS Viewer software to analyse the originality of this research. Based on the concept, there are four fundamental aspects related to sustainability: Economic growth, environmental preservation, sociocultural impact, and management. By researching deeper and reviewing several journal papers that were analysed, we found several findings related to the requirements for sustainability for smart tourism destinations. That is, there are new aspects related to the requirements of smart tourism destinations. These aspects are smart tourism and visitor aspects more reliable to the research trend in the Sustainability Smart Tourism Destinations requirements. In addition to adding the essentials of this research, we enriched the analysis by providing the VOS Viewer analysis related to our findings and an analysis of the current and trending research on the requirements of smart tourism destinations. We also proposed a Model of the requirements for smart tourism destinations related to our findings in this research, that is, Smart tourism aspects and Visitor aspects, and we built a model combined with the national and international regulations due to tourism sector issues. In this research paper, we also include non-systematic literature review (non-SLR) references related to tourism sector regulation.

Keywords: Government regulations, Smart tourism aspect, Tourism sector, Smart tourism destination, Sustainability aspects, Visitor aspect, VOSviewer analysis.

1.Introduction

Tourism is one of the several vital sectors of a country that impacts the country's economic growth [1, 2]. Several positive impacts of the tourism sector for a country are national economic growth from direct income conservation activities or operations, cultural preservation, the establishment of institutional infrastructure, and the essential sociocultural impacts on local citizenships [3, 4]. Not just the positive impacts of the tourism sector but also several negative impacts on local citizenship, such as acculturation effects, negative implications on the environment such as littering and waste of the visitors, and inefficient use of economic resources [1, 5, 6]. Several government initiatives have been created to reduce the negative impacts on the tourism sector, such as providing tourists with guidance to avoid acting arbitrarily on the intended location and providing more in-depth training on negative environmental impacts to workers at tourist destinations. In addition, the government also provides resources to maintain tourist destinations, particularly those related to environmental sustainability [6, 7].

Referring to the digital era, the tourism sector was also touched by the digital infrastructure of Information Communication and Technology (ICT) and the proposed concept of smart tourism. Many concepts have been proposed for developing smart tourism, such as a dashboard for supporting tourists and a mobile application to influence and guide tourists via smartphone [8-12]. Not just for the guidance and influence of the tourists, some benefits that important things form the sense of the ICT also positively impact the government and private sectors. Such as the benefits to the tourism industry and creative economy that could improve the national economic growth and internationalize the attractions and local wisdom to the international level by promoting and socializing in social media networks [13- 15].

Moving to ICT products, the newest product of ICT is the usefulness of visual technology. Augmented Reality (AR) and Virtual Reality (VR) have also been conducted in the tourism industry. Many of the positive impacts of AR and VR in the tourism sector include increasing the sense of interest, improving the Visitor's knowledge, and enhancing the awareness and insecurities of the ICT field itself [12, 14-16]. The support research related to AR and VR in tourism, also proposed by [17], mentioned that since the outbreak of COVID-19, AR and VR are one of the reasons implemented in some tourism destinations because the offline situation and quarantine that must be staying at home, and by AR and VR could enjoy the tourist destination [2, 4].

Refers to the smart tourism topic will stay consistent with the topic at hand of sustainability of smart tourism itself [18-20]. Several components of smart tourism are also highlighted in research on smart tourism destinations. The features of the smart tourism destination that are addressed are positive and negative impacts on social-cultural, environmental preservation, economic growth, and sense of the ICT (utilization of AR/VR technology), and big data sense for tourism information [10, 11, 20]. Each aspect also contains elements such as equity, safety and security, accessibility, and health. Besides, the features of environment preservation, such as climate change, resource use, and habitat protection. In addition, the specific components of economic growth are efficiency, welfare, and affordability. The last sense of ICT with particular aspects is research and development, service utilization, service quality, and satisfaction [10, 11, 21]. In this section, this paper's research aims to review some journal research on the sustainability requirements

for smart tourism destinations and propose a model analysis for the smart tourism destination.

2. Literature Review

In recent years, pieces of research the tourism study has changed to a more modernized one after the digital transformation era and named smart tourism [9, 22, 23]. Many countries have also developed the smart tourism concept to maintain the sustainability of the tourism sector in each country. The countries that have already implemented the smart tourism concept are Thailand, Spain, China, South Korea, Italy, Malaysia, Mexico, Netherlands, Romania, India, Indonesia, and other countries [5, 14, 24-26]. Several usefulness of the transformation digital sense in smart tourism also could help improve the tourism sector, such as providing the WebApp for visitor guidance to visiting the location of tourism site [25], The use of blockchain technology to improve the integrated blue economy [14], and ICT implemented for developing Smart Village concept [26].

Furthermore, the newest product has also been realized and implemented for the smart tourism industry, which is Augmented and Virtual Reality [27-29]. Some countries such as Spain, India, Peru, and Turkey have researched the usefulness of AR/VR. F. Eduardo and Christian proposed the first research related to this issue. The research developed a Mobile Application that utilized Augmented Reality to promote Peru's tourism destination, the Archaeological Zone of Caral, using visual technology. The AR concepts built in this research are 3D models and audiovisual. The result of the research has achieved the satisfaction of the users/visitors [27]. Besides, the proposed concepts of AR/VR are also stated in researched [29]. The research mentioned that AR/VR technology is also proposed in other aspects of the tourism sector, such as architecture and engineering, educational studies, business studies, medical simulation, and other sectors [29]. Furthermore, the research from Özkul and Kumlu also reviewed the usefulness of AR/VR in the business sector. The research concluded that AR/VR technology in the business and tourism sector will be the future of visual technology in several sectors and has begun during the outbreak of COVID-19 [24, 28]. In addition, the research related to AR/VR in smart tourism was also implemented in Indonesia to develop a smart tourism for promotion strategy in the tourism sector in Indonesia. The research also mentioned that AR/VR technology is a promising technology for smart tourism and one of the requirements aspect of the smart tourism destination [30].

Referring to the sustainability requirements for smart tourism destinations, researchers also conducted some research in related fields. Here, we brief some related works that discuss the sustainability of the requirements of smart tourism destinations. The first research was done with the aim of examining the advantages of being a knowledgeable and Muslim-friendly tourist destination. The researcher found the novel of the research is the Muslim segment. The research also stated that approaching Muslim-friendly destinations is an excellent concept for increasing tourism destinations. In addition, this research also gave insight into the religious and preservation of sociocultural of the Muslim tourist. While we looked up the aspect of the smart tourism destination, the Muslim segment includes the social-cultural impacts [31]. Another work discussed the perception of the innovative tourism destination in Puerto Vallarta, Jalisco, Mexico. The research discussed perceptions of smart tourism: regional capacity for innovation, technological components, linking, and sustainability. Training, investment, and governance are

three of the aspects of an innovative tourism destination [32]. Moreover, the same research also discussed the implementation of the ICT aspects in smart tourism is the building block for smart tourism destination that is valuable and meaningful for the tourism industry [25, 33].

Related to the discussion about sustainability in smart tourism, the previous research also mentioned that the power of the ICT utilized mobile Apps is the key to the sustainability of World Cultural Heritage Site (WCHS). On the other side, the concept of a "Smart Destination" was also conducted, putting the collective imaginary against reality [10, 34, 35]. Another study proposed a new strategy for innovative tourism destinations in the new technology era. The research also stated that the fruitfulness of ICT in this digital era is the main point of the smart tourism destination requirements [11]. The related research that discussed ICT in smart-tourism destinations was also discussed in the several researches [25, 31, 36]. The discussion and the review paper related to the sustainability requirements of smart tourism will be explained and described in the result and discussion chapter.

3. Methodology

In this research, the PRISMA Methodology was used for systematic literature review as the research methodology used in general [37]. We proposed our model analysis for the requirements of sustainability for requirement of smart tourism destinations. Furthermore, we used VOS Viewer software bibliography analysis to visualize and analyse the newest novelty of research in the requirements of the sustainability smart tourism destination. In addition, in this section, we brief some of the Research Questions (RQ) for answering the aims of this research and ensure that this research is manageable well with a scope.

3.1. PRISMA systematic literature review

In Fig. 1, the research methodology was drawn for a systematic literature review of the sustainability requirement of smart tourism. In addition, we use the PRISMA Method for this Systematic Literature Review (SLR) to enhance the transparency and scientific accuracy of a previously reported systematic review or meta-analysis [37]. The query for search engines we wrote on the Scopus website was "Sustainability Smart Tourism" and we collected the final data of the research paper in thirty-nine paper journals for qualitative analysis, as defined in Fig. 1. Table 1 shows the query on the Scopus website and the results. Table 2 is the selection criterion inclusion and exclusion of the results from the Scopus website.

Table 1. Query on Scopus's website.

Scopus query/keyword: Based on Title, Abstract, Keyword	Amount of data from Scopus search website
"Sustainability AND smart AND tourism"	313 results
TITLE-ABS-KEY (sustainability AND smart AND tourism) AND (LIMIT-TO (PUBSTAGE , "final")) AND (LIMIT-TO (OA , "all")) AND (LIMIT-TO (PUBYEAR , 2023) OR LIMIT-TO (PUBYEAR , 2022) OR LIMIT-TO (PUBYEAR , 2021) OR LIMIT-TO (PUBYEAR , 2020) OR LIMIT-TO (PUBYEAR , 2019)) AND (LIMIT-TO (DOCTYPE , "ar")) AND (LIMIT-TO (LANGUAGE , "English")) AND (LIMIT-TO (SRCTYPE , "j"))	75 results

Table 2. Selection criterion inclusion and exclusion.

Criterion	Inclusion	Exclusion
Published Year	2019 - 2023	< 2019
Subjects are	Social Sciences, Environmental Science, Energy, Computer Science, Engineering, Business, Management and Accounting, Arts and Humanities, Mathematics, Decision Sciences, Earth and Planetary Sciences, Medicine, Economics, Econometrics and Finance, Psychology	-
Document Type	Article	Conference Paper, Review, Conference Review, Book Chapter
Publication stage	Final published	Article in press

3.2. VOS viewer analysis

In addition to enriching the results of the systematic literature review that was aimed in this research, we utilized the VOS Viewer software analysis to analyse the newest and novelty of the research in the requirements of sustainability smart tourism. As well as VOS viewers have also been used in the research of smart tourism. There are two research paper used to research analysis in tourism. The first research has successfully developed blockchain technology to achieve the sustainability of tourism [14]. The second research [38], also aims to investigate the impact of technological eco-innovation on local area development and modernization. The result of the research mentioned that the smart city concept is one of the aspects of sustainable smart tourism. The result analysis of the VOS Viewer in this research will be discussed in the result and discussion section.

3.3. Research question (RQ)

To answer the purposes of this research and maintain this research, it is manageable well with the comprehensive review for the sustainability smart tourism destination requirement. We state the RQ below for the purposes of answering the research.

RQ1: What are the requirements for a sustainable smart tourism destination? To answer this question, we identified these aspects that related to the question:

   (i)   Economic growth aspects
  (ii)   Environmental preservation aspects
 (iii)   Sociocultural impacts aspects
  (iv)   Management aspects
   (v)   Regional and national regulations related to smart tourism destinations aspects.
  (vi)   International Standards and Organizations (ISO) related to smart tourism destinations aspects.
 (vii)   Smart tourism aspects
(viii)   Visitor/Tourist aspects

RQ2: What kind of proposed Model can reflect all aspects of the sustainability smart tourism destinations' requirements? To answer this question, we designed the model in Fig. 3.
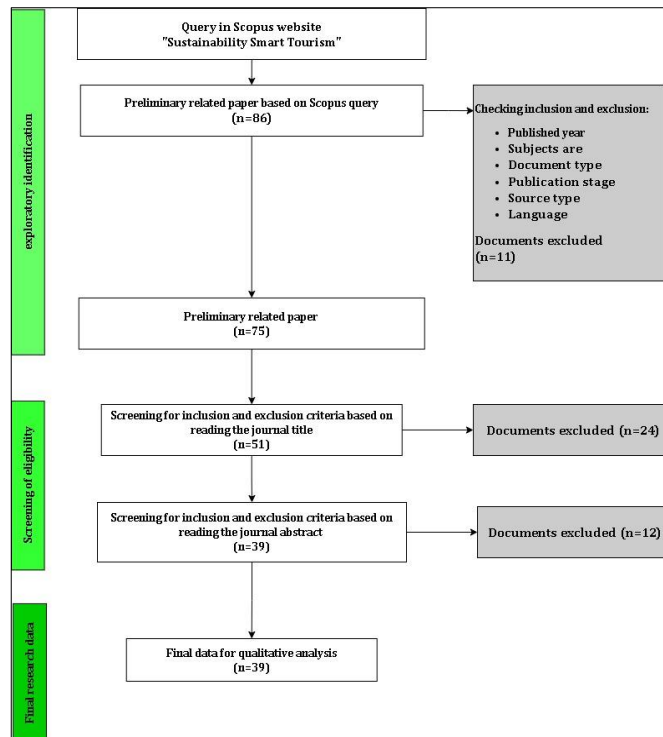
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┌─────────────────────────────────────────────────────────────────┐
│ exploratory identification                                        │
│   ┌───────────────────────────────────────┐                      │
│   │  Query in Scopus website              │                      │
│   │  "Sustainability Smart Tourism"       │                      │
│   └───────────────────────────────────────┘                      │
│                                                                   │
│   ┌───────────────────────────────────────┐   ┌────────────────┐ │
│   │ Preliminary related paper based on    │──▶│ Checking inclusion│
│   │ Scopus query (n=86)                   │   │ and exclusion:   │
│   └───────────────────────────────────────┘   │ • Published year │
│                                                │ • Subjects are   │
│                                                │ • Document type  │
│                                                │ • Publication    │
│                                                │   stage          │
│                                                │ • Source type    │
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│                                                │ Documents        │
│                                                │ excluded (n=11)  │
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│   │ Preliminary related paper (n=75)      │                      │
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│ Screening of eligibility                                          │
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│   │ Screening for inclusion and exclusion │──▶│ Documents       │ │
│   │ criteria based on reading the journal │   │ excluded (n=24) │ │
│   │ title (n=51)                          │   └────────────────┘ │
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│   │ Screening for inclusion and exclusion │──▶│ Documents       │ │
│   │ criteria based on reading the journal │   │ excluded (n=12) │ │
│   │ abstract (n=39)                       │   └────────────────┘ │
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│ Final research data                                               │
│   ┌───────────────────────────────────────┐                      │
│   │ Final data for qualitative analysis   │                      │
│   │ (n=39)                                │                      │
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**Fig. 1. PRISMA methodology –
Scopus review and data collection process.**

4. Results and Discussion

We described the findings and discussion of the PRISMA systematic literature review related to the requirements for sustainability of the smart tourism destination that covers and answers the research questions stated before. Previous research mentioned four aspects of requirements for the sustainability of smart tourism destinations: management, economic growth, socio-cultural and environmental preservation. Moreover, after deeply reviewing all the journal papers collected from the Scopus website, we found new requirements for the sustainability of smart tourism destinations. Those new aspects are smart tourism aspects and visitor aspects. The details of our findings related to smart tourism will be explained below.

4.1. Sustainability aspect for smart tourism destinations (RQ1)

To answer the question part of RQ 1 that has been stated in the previous section, we describe the results and findings relating to the requirements of sustainability of smart tourism destinations.

4.1.1. Economic growth aspect

Related to the requirements of smart tourism destinations, it also contains a vital aspect of the tourism sector: economic growth. We are discovering several aspects of economic growth supported by the tourism sector. The detailed aspects of the economic growth discussed in the paper journal are the blue economy caused by

the tourist destinations such as sea, beach, and island tourist attractions [8, 10, 14, 34, 39]. Besides the other detailed aspect of economic growth is the hospitality business, driving economic development, equitable economic development, eco-innovation, and growing inequalities. From the other detailed aspects discovered by the review, we found that economic development and eco-innovation were the highlighted or primary aspects of economic growth. In contrast, the other aspects, such as the hospitality business, were several additional values for economic growth [20, 38, 40]. Moreover, the detailed aspects of the economic growth that support the sustainability of the smart tourism sector are inseparable from the economic development factors that are the main aspect of the national income and economic growth.

4.1.2. Environmental preservation aspect

The next important aspect of smart tourism is the environmental preservation aspect. Most of this aspect always discusses the negative impact of the tourism sector, especially negative side impacts for tourist destinations, such as throwing garbage carelessly, carrying out actions that violate ethics in the local environment, and causing violations such as environmental and air pollution around tourist attraction areas [41, 42]. We are discovering the details of the environmental preservation aspect that the majority highlighted and discussed in the journal papers. The details of the aspects are Carbon Dioxide (CO_2) emission and environmental factors. Several research studies have discussed this negative impact on the environment of the tourist destination and raised some steps for prevention and mitigation of that issue [7]. The steps of treatment prevention raise other detailed aspects that need to be discussed. These are environmental subsystem, agritourism activity, rural and regional environment, regional capacity for innovation, regional innovation strategies, rural ecological environment, and rural revitalization strategy [23, 32, 43]. In addition, related to the rural areas, the revitalization strategy continued to the other aspects needed to gain a deeper understanding. Those other aspects that need to be maintained are urban aspects that involve urban planning, urban renewal processes, and urban sustainability [19, 34, 41].

Furthermore, in this research, we also proposed a new model of smart tourism aspects that discusses the visitors and smart tourism aspects related to the requirements aspects for the smart tourism destination. The proposed analysis of our model will be discussed in the RQ2 part.

4.1.3. Sociocultural impact aspect

Based on the review of the positive sociocultural impacts, we analysed the detailed aspects of the sociocultural impacts on the local communities and the visitors of the tourist destination. We found several detailed aspects that contrast with the sociocultural impacts, such as the tourists' disregard for the local context due to regulations in the tourist attractions as well as the local citizenship regulations and government regulations [44]. Despite the contrasting aspect with the sociocultural impacts, the positive impacts also happened to the local communities connected to mutual relationships in rural communities in the vicinity of the tourist destination [20]. Moreover, most of the paper journals discussed and talked deeper into the cultural detail aspects such as constructing a theoretical model of cultural identity, habits of the visitors while visiting the destination with cultural heritages, cultural

history, and others related to the cultural aspects [25, 40, 45]. In addition, we also found that the other aspects categorized new in the sociocultural aspects are halal tourism and Muslim-friendly aspects. Those aspects discussed how to treat Muslim visitors while visiting tourist destinations, such as providing a prayer room, halal food, and other things related to Muslim-friendly aspects [31].

Related to the sociocultural aspects, cultural heritage aspects were also highlighted and discussed in several journal papers that we reviewed. While we research and gain a deeper understanding, the cultural heritage aspect is also one of the aspects categorized as the essential detail aspect of requirements of the smart tourism destination. Some of the research papers talked about implementing the ICT concepts in the cultural heritage destination, developing concepts of the smart city that integrated into preserving the cultural heritage, and studying the strategy of promoting the cultural heritage destinations [20, 25, 26]. Besides, cultural heritage research has also been trying to develop new visual technology (AR/VR), such as India, which has implemented AR/VR technology in its cultural heritage destination [29]. In addition, metaverse technology was highlighted for one of the references as the immersive technology related to the requirements of the smart tourism destination [46, 47]. Referring to Indonesia as a country with a diversity of cultures and has a lot of cultural heritage destinations, we emphasize that the possibility of developing ICT technology, especially AR/VR technology, will be a significant challenge to promote the cultural heritage destination to the world [1, 48].

4.1.4. Management aspect

The management aspect plays a prominent role in supporting other aspects, such as environmental and sociocultural aspects, and the main one is economic growth. After reviewing the journal paper related to the main topic, we found several aspects that have been discussed and described in the paper, such as action and plan strategy for innovative tourism sustainability, including local government tourism strategy, potential for sustainability tourism sector, promote of tourist destination, point of interest, perceived risk, corporate social responsibility, governance, and political discontinuity [11, 41, 43, 49]. In addition, the main discussion was about the sustainability aspects: 1) sustainability for management paradigms; 2) sustainability for solutions; 3) sustainability for strategies to achieve sustainability goals; 4) sustainability for responsible behaviour; and 5) the essential detail of the aspect is sustainable tourist destinations. Besides, the other aspects highlighted in the paper journal are city hospitality, the city's destination competitiveness, and the last aspects of tourism policy related to the government and local regulations and tourism supply [5, 18].

4.1.5. Smart tourism aspect

We related to the findings and analysis of this research that we found two critical aspects to the requirements of the innovative tourism destination and sustainability. After reviewing and analyzing the journal papers, we discovered that Smart tourism and Visitor aspects are two aspects that have an essential role in the innovative tourism destination. Most of the papers we reviewed discussed the implementation of ICT in smart tourism destinations. There are several detailed aspects related to ICT, which are digital accessibility, digital technology, innovation technology, Internet of Things (IoT), Information Technology (IT) applications, mobile applications,

gamification, intelligent dashboards, innovative tools, smart technology, social media promotion, and networking technology [8, 9, 11, 12].

Besides the other detail aspects that were categorized, the smart tourism aspects were smart city concepts that include green infrastructure, green mobility services, green technologies, innovative environment, real-time data for smart city, rural tourism, smart chance, smart city initiative, smart destinations, innovative governance, smart initiatives, smart island, smart specialization and strategy, innovative system initiatives, innovative tourism city concept, smart tourism innovation, smart tourism paradigm, smart destination, transformative innovation policy [4, 5, 32, 50]. In addition, the other detailed aspect supporting smart tourism is the technology infrastructure that contains other related aspects, such as technological components. These technological factors are needed to develop and build smart cities, technological components, technological innovations, and technology-based eco-innovation that are implemented in several locations, such as in rural and village areas [36, 43, 49].

4.1.6. Visitor aspect

The following aspects related to our findings and proposed model analysis in this research are Visitor aspects. Much research related to these aspects is also being highlighted and discussed for the requirements of the sustainability smart tourism destination. Another research [7, 24], mentioned that the visitor aspect is directly correlated to the economic growth and national income for the tourism sector while increasing the number of tourists will impact the regional and national income [11, 51]. Moreover, most of the detail aspects of the Visitor's aspects always leads to treating visitors to be more comfortable in doing tourist attractions and making repeat visits so that they can increase the number of visitors, which have an impact on regional and national income [12, 51].

Furthermore, the first of the detailed aspects related to the Visitor's aspects discussed communication that happened around the visitors, such as communication channels, demand directly interacts intimately, emotions for a tourism destination, engagement of the citizens, evolution of tourism, experience design, host communities, and Visitor [9, 20, 22]. In addition, the other detail aspects are improving the quality of life for residents and visitors, influencing the tourism experience, privacy concerns, professional tourism activity, resilience, and mental health, rhetorical approach, satisfaction, tourism experience, tourists' perceptions of destinations, travel cycle, travel experience, visual impairment, wellness, tourist journey, and the last is revisit intention [4, 22, 48, 49].

As the Smart tourism aspects and Visitor aspects are our findings and analysis of the model proposed in this research, the detailed information of the smart tourism aspect and visitor aspects is shown in Fig. 2 as the baseline information and bits of knowledge proposed in this research. The primary role is presented in the requirements of the smart tourism destination.

4.1.7. Deep analysis and priority rank of aspects in smart tourism

Based on the data in Table 3, detailed aspects related to the requirements for smart tourist destinations have been described and analysed. Based on the deep analysis and previous literature, the detailed aspects are divided into several categories:

economic growth, which is categorized into socio-economic development, and driving economic development. Besides, the dimension aspect of environmental preservation is categorized into environmental development, plan-strategy, and innovation development. As well as socio-cultural impact aspects categorized into cultural and heritage site development and social factor development.

Moreover, the smart tourism detail aspects were divided into three categories: ICT and digital technology development, green technology, and infrastructure development, and fundamentals of smart tourism and continuity development. The last is the visitor aspects, divided into visitor and local community development and visitor data continuity development categories. In addition, Table 5 shows the top priority of requirements of the smart tourism destinations based on the calculations of the detailed aspects of the requirements of the smart tourism aspects. It is found that the top priority of the requirements for smart tourism destinations was the fundamentals of smart city and continuity development, followed by the ICT and digital technology development, green technology and infrastructure development, visitor data continuity development, plan, strategy, and innovation development, socio-economic development, environmental development, cultural and heritage site development, driving economic development, visitor and local community development, social factor development. The details of smart tourism are shown in Fig. 2.
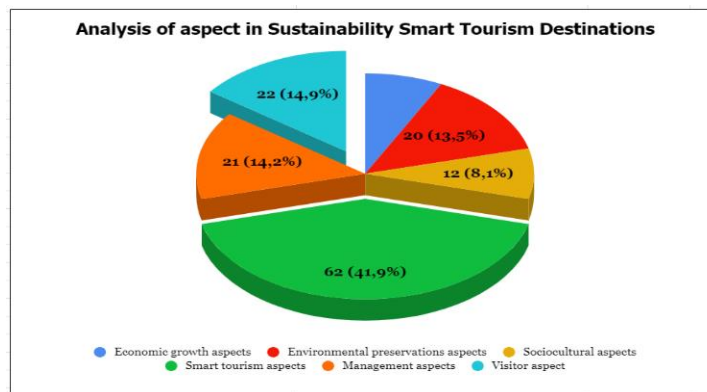

Fig. 2. Analysis of smart tourism and visitor aspect trend.

4.2. Proposed model and analysis

To answer the RQ2 related to the aspects or components related to the requirements for smart tourism destinations, a proposed model was built based on the analysis found in this research and then combined with the government regulations as well as regional and national regulations. Also, the proposed model analysis was designed in reference to ISO regulations due to the requirements of smart tourism destinations [4]. Related to the regulations of smart tourism destinations, several government regulations have been raised because of very vital factors in the rules of tourism, such as tourist behavior factors, environmental damages, and natural deterioration factors [36, 52]. Several regulations related to smart tourism destinations are presented in Table 3, including Indonesian government regulations and international standards and regulations due to the tourism sector and smart tourism destinations.

Table 3. National and international regulations of the tourism sector.

No.	Regulations.
1.	Minister of Tourism of Indonesian Government Regulation: No. 14/2016. (Sustainable Tourism Destination Guidelines)
2.	Indonesian National Standard (SNI) 9042: 2021. (Financing facilities towards Indonesian national standard certification: Hygiene, Health, Safety, and Environmental Sustainability
3.	The Sustainable Development Goals (SDGs) Report 2022. (International regulation-UNEP 2022)
4.	The UNWTO Tourism Data Dashboard. (International regulation-UNTWO)
5.	International Organization for Standardization. ISO 21401: 2018. (Tourism and related services — Sustainability management system for accommodation establishments — Requirements)
6.	International Organization for Standardization. ISO 21902: 2021. (Tourism and related services — Accessible tourism for all Requirements and recommendations)
7.	Sustainable Development Goals No.8 United Nations. (Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all)
8.	Sustainable Development Goals No.11 United Nations. (Make cities and human settlements inclusive, safe, resilient, and sustainable)

This study combined the systematic and non-systematic literature review (SLR and non-SLR) methods because the non-SLR supports this study's analysis results. Table 4 categorizes the detailed aspects into several groups that impact the development of the tourism destination aspect.

Table 4. Category of variable detail aspect.

Dimension aspects	Detail aspects	Category of detail aspects	References -Year	Cit.	Σ (References)
Economic growth	Blue economy, socio-economic, hospitality businesses, Muslim-friendly tourist destination	Socio-economic development	Cuesta-Valiño et al., 2020 Elshaer et al., 2023 Fu et al., 2023 González-Reverté et al., 2020 Ivars-Baidal, et al., 2023 Koens et al., 2021 Li et al., 2020 Pranita et al., 2023 Sedarati et al., 2021 Branstrator et al., 2023	[31] [13] [48] [41] [5] [43] [23] [14] [33] [36]	10
	Eco-innovation, equitable economic development, Gross Domestic Product (GDP) per capita	Driving economic development	Amendola et al., 2022 Bhaduri et al., 2020 Coca-Stefaniak et al., 2020 Fu et al., 2023 Hussain et al., 2020 Koens et al., 2021 Li et al., 2022	[38] [39] [22] [48] [21] [43] [23]	7
Environmental preservations aspects	Agritourism activity, biocultural conservation, carbon dioxide (CO_2) emission, environmental factor, environmentally responsible, rural ecological environment, place attachment, mountain rural environment	Environmental development	Bhaduri et al., 2020 Branstrator et al., 2023 Ciolac et al., 2020 Elshaer et al., 2023 Fu et al., 2023 Koens et al., 2021 Li et al., 2020 Sedarati et al., 2021	[39] [36] [51] [13] [48] [43] [23] [33]	8
Sociocultural impacts aspects	Cultural identity, cultural heritage place, tourists' behaviour, resident/local community well-being	Cultural and heritage site development	Shen et al., 2020 Chung et al., 2019 Dabeedooal et al., 2019 Fu et al., 2023 Gomez-Oliva et al., 2019 Hussain et al., 2020 Li et al., 2022	[52] [49] [40] [48] [25] [21]	8

			Ramos-Soler et al., 2019	[23]	
				[10]	
Management aspect	Disregard for the local context, halal tourism, Muslim-friendly tourist destinations, mutual relationships in rural communities	Social factor development	Cuesta-Valiño et al., 2020 Dabeedooal et al., 2019 Fu et al., 2023 Gomez-Oliva et al., 2019 Hussain et al., 2020 Li et al., 2022	[31] [40] [48] [25] [21] [23]	6
	Destination Management Organizations, Government Regulation, Tourism Big Data, Regional innovation strategies, rural revitalization strategy, territory and economic districts, urban planning, urban renewal processes, urban sustainability	Plan, strategy, and innovation development	Amendola et al., 2022 Balletto et al., 2020 Fistola et al., 2019 Gomis-López et al., 2020 González-Reverté et al., 2019 Ivars-Baidal et al., 2023 Li et al., 2020 Meyer et al., 2022 Ortega et al., 2020 Wan et al., 2021	[38] [8] [19] [34] [41] [5] [23] [6] [32] [15]	10
Smart Tourism aspect	Digital Technology, Gamification, Internet of Things (IoT), mobile applications, Immersive Technology/Immersive experience, Augmented Reality (AR), Virtual Reality (VR), Tourism Big Data	ICT and Digital Technology development	Afolabi et al., 2021 Cuesta-Valiño et al., 2020 Fernández-Díaz et al., 2022 Gomez-Oliva et al., 2019 Huang et al., 2020 Ivars-Baidal et al., 2023 Li et al., 2022 Meyer et al., 2022 Ortega et al., 2020 Pranita et al., 2023 Ramos-Soler et al., 2019 Revilla et al., 2022 Shen et al., 2020 Vizuete et al., 2021	[7] [31] [9] [25] [42] [5] [26] [6] [32] [14] [10] [11] [52] [12]	14
	Green infrastructure, green mobility services, green technologies, blockchain technology, technology-based Eco-innovation	Green technology and infrastructure development	Amendola et al., 2022 Balletto et al., 2020 Chung et al., 2019 Fernández-Díaz et al., 2022 Gomez-Oliva et al., 2019 Hussain et al., 2020 Ivars-Baidal et al., 2023 Li et al., 2022 Meyer et al., 2022 Ortega et al., 2020 Pranita et al., 2023 Revilla et al., 2022	[38] [8] [49] [9] [25] [21] [5] [26] [6] [32] [14] [11]	12
	Smart city, smart attractions, digital accessibility, amenities, ancillary, activities, available packages, smart destinations, smart governance	Fundamentals of Smart Tourism and continuity development	Balletto et al., 2020 Branstrator et al., 2023 Ciolac et al., 2020 Dabeedooal et al., 2019 Gomez-Oliva et al., 2019 González-Reverté et al., 2019 Hussain et al., 2020 Ivars-Baidal et al., 2023 Li et al., 2022 Li et al., 2020 Meyer et al., 2022 Ortega et al., 2020 Ma, 2020 Pranita et al., 2023 Shen et al., 2020 Wan et al., 2021	[8] [36] [51] [40] [25] [41] [21] [26] [26] [23] [6] [32] [17] [14] [52] [15]	16
Visitor aspect	Communication channel, tourist engagement with the local community, improving the quality of life for residents and visitors, destination information accessibility	Visitor and local community development	Allawi et al., 2022 Coca-Stefaniak et al., 2020 Gomez-Oliva et al., 2019 Gomis-López et al., 2020 González-Reverté et al., 2019 Hussain et al., 2023	[18] [22] [25] [34] [42] [20]	6

Tourist immersive experience, tourist satisfaction, tourist knowledge increase, tourist revisit intention.	Visitor data & continuity development	Afolabi et al., 2021	[7]	
		Allawi et al., 2022	[18]	
		Coca-Stefaniak et al., 2020	[22]	
		Fu et al., 2023	[48]	
		Gomez-Oliva et al., 2019	[25]	10
		Gomis-López et al., 2020	[34]	
		Huang et al., 2020	[42]	
		Li et al., 2020	[23]	
		Ramos-Soler et al., 2019	[10]	
		Shen et al., 2020	[52]	

**Table 5. Top ranks based on priority
of requirements of smart tourism destinations.**

Dimension aspects	Category of detail aspects	∑ Papers	Top rank priority
Smart tourism aspects	Fundamentals of Smart Tourism and Continuity Development	16	I
Smart tourism aspects	ICT and Digital Technology Development	14	II
Smart tourism aspects	Green Technology and Infrastructure Development	12	III
Visitor aspect	Visitor Data and Continuity Development	10	IV
Management aspects	Plan, Strategy, and Innovation Development	10	V
Economic growth	Socio-economic Development	10	VI
Environmental preservations aspects	Environmental Development	8	VII
Sociocultural impacts aspects	Cultural and Heritage Site Development	8	VIII
Economic growth	Driving Economic Development	7	IX
Visitor aspect	Visitor and Local Community Development	6	X
Sociocultural impacts aspects	Social Factor Development	6	XI

Figure 3 is the model of the sustainability of smart tourism that is proposed in this research. The main model was produced by combining several of the fundamental aspects of sustainable smart tourism: management, economic growth, environmental preservation, and socio-cultural impact, with the two essential dimensions: smart tourism and visitors. The essential aspects were found after the review process of this SLR research. The details of the additional dimension aspects that involved smart tourism and visitor aspects are shown in Table 4.

Furthermore, the components supporting our model for sustainable smart tourism destinations were combined with the regulations related to the tourism sector, even though the local or national government regulation and international regulations. After analyzing the regulations on the tourism sector, several regulations on the local government were chosen, namely: Minister of Tourism of Indonesian government regulation: No. 14/2016 related to the sustainable tourism destination guidelines, Indonesian National Standard (SNI) 9042: 2021 related to facilities for financing the certification of Indonesian national standards in hygiene, health, safety, and environmental sustainability.
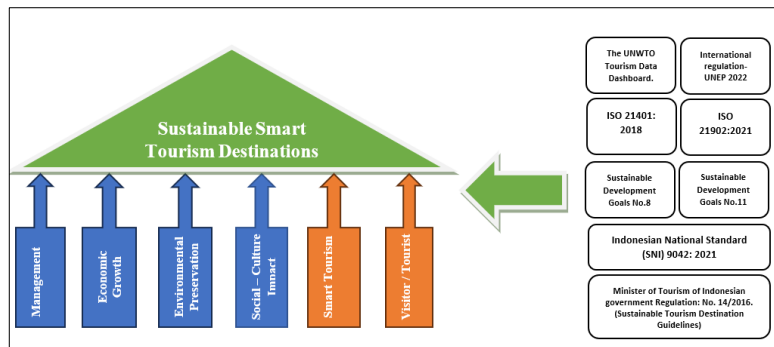
Fig. 3. Proposed model of sustainable smart tourism destinations.

4.3. VOS Viewer analysis approach for Sustainability smart tourism destinations requirement

Furthermore, related to the analysis of the requirements of the smart tourism destination, the Scopus data were also researched and analysed, then provided, and analysed with the VOS Viewer software. The steps were performed to find out the bibliography of the paper journal, which led to the discovery of current research trends in smart tourism destinations and the novelty of research in smart tourism destinations. In the analysis and graph presented by the VOS Viewer analysis, we found that the research still categorized as new research in the smart tourism destination are Sustainable Tourism, Strategy Approach, and Smart City. Figure 4 shows the overlay visualizations, which means that the second priority of research in smart tourism destinations is Sustainability, Tourism, Ecotourism, Climate Change, Cultural Heritage, and Tourism Management. In addition, the previously popular research in smart tourism destinations is Tourism Development and tourism destination. The data of this analysis was provided from 2019 to 2023.

Furthermore, we also provided the analysis graph based on the author's keywords and the index keywords for the other VOS Viewer analysis. We found that the terms and concerns that categorized newest in terms of smart tourism destination research requirements are Sustainable tourism, Climate change, Tourism, and Smart Cities. Based on the trends research from analysis, we can conclude that referring to our findings and models, "Smart City" is the detailed aspect of the Smart Tourism Aspect we proposed in this research. Besides, most journal papers highlighted the Smart City aspects because they were intended for the Smart Tourism aspects. The other detailed aspects that support the Smart City aspects are Smart city initiative, Smart dashboard, Smart tourism city concept, Smart tourism innovation, Smart tourism paradigm, Smartness of the destination, Smart specialization strategies, and Smart system initiatives [14, 52].

Moreover, the other detailed aspect found in the VOS Viewer analysis is "Sustainable Tourism." Sustainable tourism is also a vital aspect related to the requirements of the smart tourism destination because sustainable tourism is directly connected to national income and economic growth [20, 26]. The detailed aspects most discussed and highlighted in the journal paper are Local government tourism strategy, action plan and strategy, the potential for sustainability, Sustainability management paradigms, livelihood sustainability index, and the city's destination competitiveness [7, 9, 25, 36]. In addition, from the graph in VOS

Viewer analysis, we found the other highlighted aspect was "Climate Change." Climate change is also an aspect discussed in smart and rural tourism, Biocultural conservation, Agrotourism, and Agricultural tourism activity, and the last is the destination that has blue economy values such as the beach, sea, and other things related to the blue economy factors. Figures 4-6 show the graph analysis of the VOS Viewers related to the requirements of the smart tourism destinations.
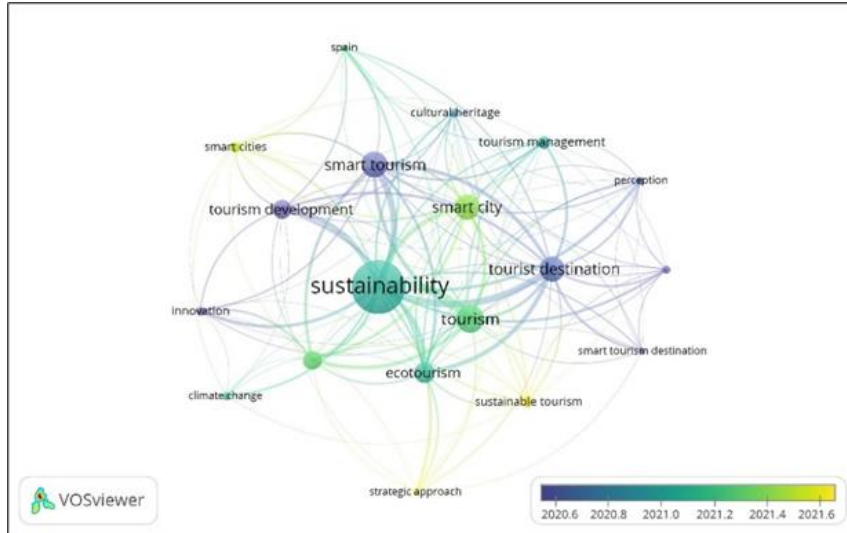

Fig. 4. VOS Viewer analysis of trend requirements of smart tourism destination.
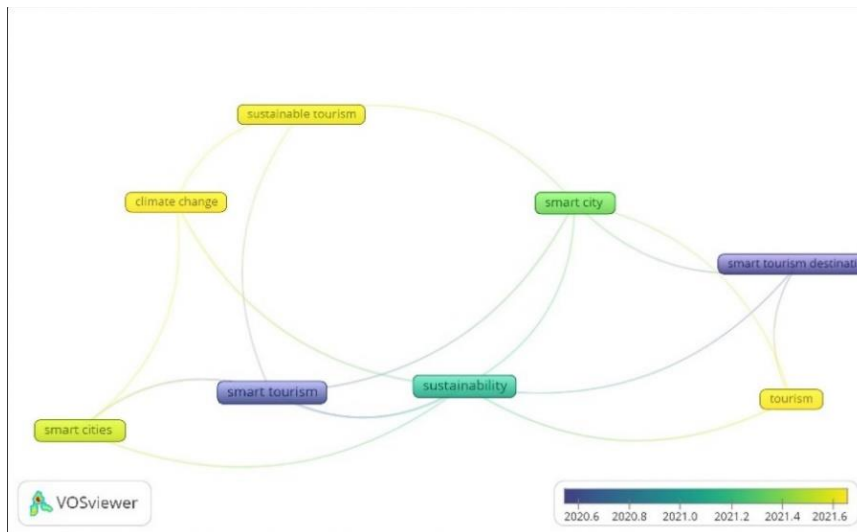
**Fig. 5. VOS Viewer analysis of trend requirements
of smart tourism destination (based on author's keywords).**
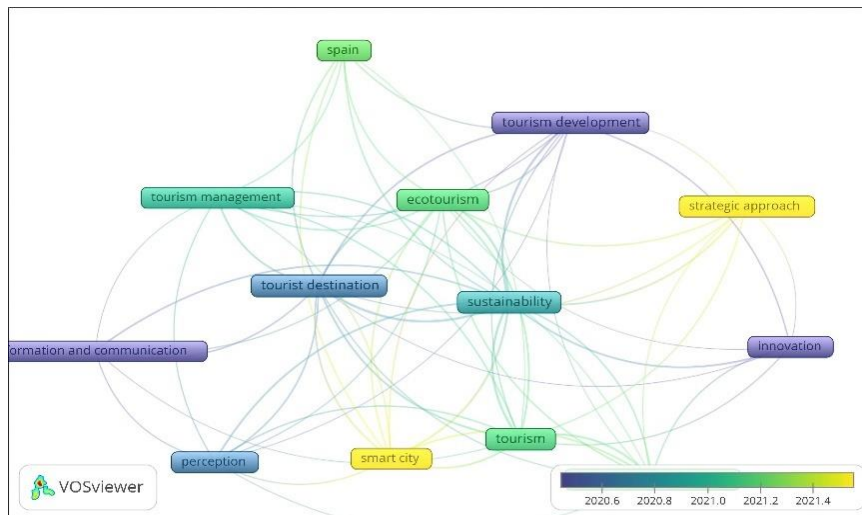
**Fig. 6. VOS Viewer analysis of smart tourism
destination trend requirements (based on index keywords).**

5. Conclusions

Based on our review of the journal paper related to the requirements of the smart tourism destination, findings related to the research topics, and discussion of results, we draw several conclusions related to the requirements of the analysis of smart tourism destination. Firstly, we found several detailed aspects related to the requirements of the smart tourism destination. Those aspects contain details, such as the blue economy, driving economic development, eco-innovation, equitable economic development, and hospitality business related to economic growth. Besides, the other aspects we found in our review related to environmental preservation include agritourism activity, biocultural conservation, pro-environmental behavior, and other detailed aspects of environmental preservation. In addition, we constructed a theoretical model of cultural identity, mutual relationships in rural communities, cultural heritage tourists, and disregard for the local context's detailed aspects of the sociocultural. In addition, for the sustainable management of smart tourism destinations, we discovered several detailed aspects such as action and strategy, local government tourism strategy, sustainable tourist destinations, and other related aspects. Secondly, we found two main aspects besides smart tourism and visitor aspects. Both aspects were categorized as new requirements for smart tourism destinations. We discovered that the smart tourism aspect was prominent, and the majority was highlighted in our review paper. The smart tourism aspect contains smart city concepts, smart city applications, ICT, green technology, and other aspects that support smart city concepts. The visitor aspects contain tourist experience design, improving the quality of life for residents and visitors, resilience and mental health, tourist journey, revisit intention, and other detailed aspects of visitor treatments. Finally, this research also proposed a new model of our analysis related to the requirements of smart tourism destinations that might concern the new concepts of sustainable smart tourism destinations.

6. Limitations and Implications

6.1. Limitations

Because this research only reviewed paper journals (SLR) from the Scopus website and enriched with non-SLR references, adding other sources or references could improve the value of this research and make it possible to gain deeper information and essences related to sustainable smart tourism destinations.

6.2. Implications

This research is emphasized in academia, government, regulators, policymakers, business owners, and Destination Management Organizations (DMOs).

References

1. Antara, M.; and Sumarniasih, M.S. (2017). Role of tourism in economy of Bali and Indonesia. *Journal of Tourism and Hospitality Management*, 5(2), 34–44.

2. Nguyen, H.Q. (2021). Impact of investment in tourism infrastructure development on attracting international visitors to Vietnam: A nonlinear panel ARDL approach. *SSRN Electronic Journal*, 9(3), 1-20.

3. Shahzalal, M. (2016). Positive and negative impacts of tourism on culture: A critical review of examples from the contemporary literature. *Journal of Tourism, Hospitality and Sports*, 20(1), 30-35.

4. Zhang, X.; Sun, Y.; Gao, Y.; and Dong, Y. (2022). Paths out of poverty: Social entrepreneurship and sustainable development. *Frontiers in Psychology*, 13(1), 1-13.

5. Baidal, J.A.I.; Bernabeu, M.A.C.; Serra, F.F.; Ribes, J.F.P.; and Vera-Rebollo, J.F. (2023). Smart city and smart destination planning: Examining instruments and perceived impacts in Spain. *Cities*, 137(1), 1-15.

6. Meyer, C.; Gerlitz, L.; and Klein, M. (2022). Creativity as a key constituent for smart specialization strategies (S3), what is in it for peripheral regions? Co-creating sustainable and resilient tourism with cultural and creative industries. *Sustainability*, 14(6), 1-31.

7. Afolabi, O.; Ozturen, A.; and Ilkan, M. (2021). Effects of privacy concern, risk, and information control in a smart tourism destination. *Economic Research-Ekonomska Istraživanja*, 34(1), 3119-3138.

8. Balletto, G.; Milesi, A.; Ladu, M.; and Borruso, G. (2020). A dashboard for supporting slow tourism in green infrastructures. A methodological proposal in Sardinia (Italy). *Sustainability*, 12(9), 1-23.

9. Díaz, E.F.; Maldonado, C.J.; Sánchez, P.P.I; and Pedrosa, C.D.L.H. (2023). Digital accessibility of smart cities-tourism for all and reducing inequalities: Tourism agenda 2030. *Tourism Review*, 78(2), 361-380.

10. Soler, I.R; Sala, A.M.M.; and Alhama, C.C. (2019). ICT and the sustainability of World Heritage Sites. Analysis of senior citizens' use of tourism apps. *Sustainability*, 11(11), 1-17.

11. Revilla, M.R.G.; Burgos, J.P.; Einsle, C.S.; and Moure, O.M. (2022). Proposal of new strategies for smart tourism destinations in the challenging new reality:

A commitment to the technology–sustainability binomial. *Sustainability*, 14(10), 1-15.

12. Vizuete, D.D.C.; Montoya, A.V.G.; Jácome, E.A.M.; Velásquez, C.R.C.; and Borz, S.A. (2021). An evaluation of the importance of smart tourism tools in the Riobamba Canton, Ecuador. *Sustainability*, 13(16), 1-22.

13. Elshaer, I.A.; Azazz, A.M.; and Fayyad, S. (2023). Green management and sustainable performance of small-and medium-sized hospitality businesses: Moderating the role of an employee's pro-environmental behaviour. *International Journal of Environmental Research and Public Health*, 20(3), 1-17.

14. Pranita, D.; Sarjana, S.; Musthofa, B.M.; Kusumastuti, H.; and Rasul, M.S. (2023). Blockchain technology to enhance integrated blue economy: A case study in strengthening sustainable tourism on smart islands. *Sustainability*, 15(6), 1-24.

15. Wan, C.; and Onuike, A. (2021). Illuminating opportunities for smart tourism innovation that foster sustainable tourist well-being using Q methodology. *Sustainability*, 13(1), 1-16.

16. Horne, B.D.; Joy, E.A.; Hofmann, M.G.; Gesteland, P.H.; Cannon, J.B.; Lefler, J.S.; and Pope III, C.A. (2018). Short-term elevation of fine particulate matter air pollution and acute lower respiratory infection. *American Journal of Respiratory and Critical Care Medicine*, 198(6), 759-766.

17. Ma, H. (2020). The construction path and mode of public tourism information service system based on the perspective of smart city. *Complexity*, 2020(1), 1-11.

18. Allawi, A.H. (2022). Towards smart trends for tourism development and its role in the place sustainability-Karbala region, A case study. *International Journal of Sustainable Development and Planning*, 17(3), 931–939.

19. Fistola, R.; Gargiulo, C.; Battarra, R.; and La-Rocca, R.A. (2019). Sustainability of urban functions: Dealing with tourism activity. *Sustainability*, 11(4), 1–23.

20. Hussain, S.; Ahonen, V.; Karasu, T.; and Leviäkangas, P. (2023). Sustainability of smart rural mobility and tourism: A key performance indicators-based approach. *Technology in Society*, 74(1), 1-18.

21. Hussain, E.; Mahanta, L.B.; Das, C.R.; Choudhury, M.; and Chowdhury, M. (2020). A shape context fully convolutional neural network for segmentation and classification of cervical nuclei in Pap smear images. *Artificial Intelligence in Medicine*, 107(1), 1-11.

22. Stefaniak, J.A.C. (2021). Beyond smart tourism cities–Towards a new generation of "wise" tourism destinations. *Journal of Tourism Futures*, 7(2), 251-258.

23. Li, H.; Nijkamp, P.; Xie, X.; and Liu, J. (2020). A new livelihood sustainability index for rural revitalization assessment—A modelling study on smart tourism specialization in China. *Sustainability*, 12(8), 1-18.

24. Choi, H.; Lee, J.Y.; Choi, Y.; Juan, Y.; and Lee, C.K. (2022). How to enhance smart work effectiveness as a sustainable HRM practice in the tourism industry. *Sustainability*, 14(4), 1–16.

25. Oliva, A.G.; Uribe, J.A; Meroño, M.C.P.; and Jara, A.J. (2019). Transforming communication channels to the co-creation and diffusion of intangible heritage

in smart tourism destination: Creation and testing in Ceutí (Spain). *Sustainability*, 11(14), 1–30.

26. Li, W.Z.; and Zhong, H. (2022). Development of a smart tourism integration model to preserve the cultural heritage of ancient villages in Northern Guangxi. *Heritage Science*, 10(1), 1-15.

27. Eduardo, F.; and Christian. (2022). Smart tourism: Mobile application with augmented reality to promote the use of virtual tourism for the Archaeological zone of Caral, Peru. *International Tourism, Hospitality and Gastronomy Congress*, 5708(10), 1-8.

28. Özkul, E.; and Kumlu, S.T. (2019). Augmented reality applications in tourism. *International Journal of Contemporary Tourism Research*, 3(2), 107-122.

29. Yung, R.; and Khoo-Lattimore, C. (2019). New realities: A systematic literature review on virtual reality and augmented reality in tourism research. *Current Issues in Tourism*, 22(17), 2056-2081.

30. Idris, I.; Adi, K.R.; Firmansyah, R.; Nadhianty, A.; Mobaroq, M.H.; Putri, P.G.; and Wahono, E.R. (2021). Developing smart tourism using virtual reality as a tourism promotion strategy in Indonesia. *Geo Journal of Tourism and Geosites*, 35(2), 332-337.

31. Valiño, P.C.; Bolifa, F.; and Barriopedro, E.N. (2020). Sustainable, smart and muslim-friendly tourist destinations. *Sustainability (Switzerland)*, 12(5), 1–13.

32. Ortega, J.L.C.; and Malcolm, C.D. (2020). Touristic stakeholders' perceptions about the smart tourism destination concept in Puerto Vallarta, Jalisco, Mexico. *Sustainability*, 12(5), 1-18.

33. Sedarati, P.; Serra, F.; and Jakulin, T.J. (2022). Systems approach to model smart tourism ecosystems. *International Journal for Quality Research*, 16(1), 285-306.

34. López, J.M.G.; and Reverté, F.G. (2020). Smart tourism sustainability narratives in mature beach destinations. Contrasting the collective imaginary with reality. *Sustainability*, 12(12), 1-17.

35. Purnomo, F.; and Prabowo, H. (2016). Smart city indicators: A systematic literature review. *Journal of Telecommunication, Electronic and Computer Engineering (JTEC)*, 8(3), 161-164.

36. Branstrator, J.R.; Cavaliere, C.T.; Day, J.; and Bricker, K.S. (2023). Civic reporting indicators and biocultural conservation: Opportunities and challenges for sustainable tourism. *Sustainability (Switzerland)*, 15(3), 1-20.

37. Page, M.J.; McKenzie, J.E.; Bossuyt, P.M.; Boutron, I.; Hoffmann, T.C.; Mulrow, C.D.; and Moher, D. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *International Journal of Surgery*, 88(1), 1-9.

38. Amendola, C.; La-Bella, S.; Joime, G.P.; Mascioli, F.M.F.; and Vito, P. (2022). An integrated methodology model for smart mobility system applied to sustainable tourism. *Administrative Sciences*, 12(1), 1-14.

39. Bhaduri, K.; and Pandey, S. (2020). Sustainable smart specialisation of small-island tourism countries. *Journal of tourism futures*, 6(2), 121-133.

40. Dabeedooal, Y.J.; Dindoyal, V.; Allam, Z.; and Jones, D.S. (2019). Smart tourism as a pillar for sustainable urban development: An alternate smart city strategy from Mauritius. *Smart Cities*, 2(2), 153-162.

41. Reverté, F.G. (2019). Building sustainable smart destinations: An approach based on the development of Spanish smart tourism plans. *Sustainability*, 11(23), 1-24.

42. Huang, L.; and Lau, N. (2020). Enhancing the smart tourism experience for people with visual impairments by gamified application approach through needs analysis in Hong Kong. *Sustainability*, 12(15), 1-27.

43. Koens, K.; Melissen, F.; Mayer, I.; and Aall, C. (2021). The smart city hospitality framework: Creating a foundation for collaborative reflections on overtourism that support destination design. *Journal of Destination Marketing and Management*, 19(1), 1-10.

44. Kassebaum, N.J.; Barber, R.M.; Bhutta, Z.A.; Dandona, L.; Gething, P.W.; Hay, S.I.; and Ding, E.L. (2016). Global, regional, and national levels of maternal mortality, 1990–2015: A systematic analysis for the global burden of disease study 2015. *The lancet*, 388(10053), 1775-1812.

45. Moro, S.; Rita, P.; Ramos, P.; and Esmerado, J. (2019). Analysing recent augmented and virtual reality developments in tourism. *Journal of Hospitality and Tourism Technology*, 10(4), 571-586.

46. Fan, X.; Jiang, X.; and Deng, N. (2022). Immersive technology: A meta-analysis of augmented/virtual reality applications and their impact on tourism experience. *Tourism Management*, 91(1), 1-10.

47. Lee, H.; Jung, T.H.; Dieck, M.C.T.; and Chung, N. (2020). Experiencing immersive virtual reality in museums. *Information and Management*, 57(5), 1-26.

48. Fu, Y.; and Luo, J.M. (2023). An empirical study on cultural identity measurement and its influence mechanism among heritage tourists. *Frontiers in Psychology*, 13(1), 1-13.

49. Chung, N.; Tyan, I.; and Lee, S.J. (2019). Eco-innovative museums and visitors' perceptions of corporate social responsibility. *Sustainability*, 11(20), 1–16.

50. Manzano, A.B.B.; Fernández, J.S., and Aranda, L.A.C. (2021). The past, present, and future of smart tourism destinations: A bibliometric analysis. *Journal of Hospitality and Tourism Research*, 45(3), 529-552.

51. Ciolac, R.; Iancu, T.; Brad, I.; Popescu, G.; Marin, D.; and Adamov, T. (2020). Agritourism activity—A "smart chance" for mountain rural environment's sustainability. *Sustainability*, 12(15), 1-25.

52. Shen, S.; Sotiriadis, M.; and Zhou, Q. (2020). Could smart tourists be sustainable and responsible as well? The contribution of social networking sites to improving their sustainable and responsible behavior. *Sustainability*, 12(4), 1-21.