




Article

Airport Sustainability Awareness: A Theoretical Framework

Ahmed Eid ^{1,2,*} , May Salah ¹, Mahmoud Barakat ¹  and Matevz Obrecht ² 

¹ College of International Transport and Logistics, Arab Academy for Science, Technology and Maritime Transport, Alexandria 1209, Egypt

² Faculty of Logistics, University of Maribor, 3000 Celje, Slovenia

* Correspondence: ahmed.eid@aast.edu; Tel.: +20-100-199-6314

Abstract: Recently, society has had a growing concern about the sustainability of airports in social, economic, and environmental terms and a perception that stakeholders have not adequately addressed this concern. The importance of sustainability awareness, especially in the airport sector, has recently increased as its operations increase greenhouse gas emissions and energy consumption and cause other environmental issues. Hence, applying sustainable airport practices can allow airports to improve their economic and social effects and reduce their harmful environmental impact. In response to the growing concern regarding the quality of sustainability practices, this paper aims to allow researchers to investigate airport sustainability awareness (ASA) by studying the relationship between airport sustainability knowledge, attitudes, and behavior of airport sustainability practices and illustrating the gap in the literature on the related topics through a systematic review. Additionally, the study provides a bibliometric method to examine the keywords' relation. The results focus on developing a theoretical framework to investigate ASA and reveal the need to investigate the relationship between knowledge and attitude to improve sustainable behavior for achieving sustainable development goals. This contributes to the literature gap regarding ASA. The research limitations are open issues for future researchers to promote sustainability awareness.

Keywords: airport sustainability awareness; knowledge; attitude; behavior; sustainability management; sustainability performance; framework; systematic review



Citation: Eid, A.; Salah, M.; Barakat, M.; Obrecht, M. Airport Sustainability Awareness: A Theoretical Framework. *Sustainability* **2022**, *14*, 11921. <https://doi.org/10.3390/su141911921>

Academic Editors: Sanaz Vatankhah and Pavlos Arvanitis

Received: 13 July 2022

Accepted: 15 September 2022

Published: 21 September 2022

Publisher's Note: MDPI stays neutral with regard to jurisdictional claims in published maps and institutional affiliations.



Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

1. Introduction

The aviation sector is a vital industry globally; it significantly impacts urbanization and long-term economic growth. Airports have developed from mere flight hubs to complexes that include hotel logistics centers and conference halls [1]. However, airports can negatively affect the three aspects of the sustainability triple bottom line (TBL) [2]. According to the TBL approach to sustainability, project success is determined not only by financial performance (conventional bottom line) but also by balanced accomplishments in environmental stewardship, economic growth, and social responsibility [3]. This strategy must be implemented in airports to satisfy present needs without jeopardizing the resources of future generations. However, improving operational expenses, decreasing environmental consequences, and concurrently delighting customers are enormous tasks for airports. Airport sustainability is about the assurance of the environmental protection and conservation of natural resources while simultaneously considering the conditions of airport officials and the public's needs [4]. This stresses the importance of sustainability awareness as it is considered a prerequisite for applying sustainability operations [5]. It improves the airport community's awareness of the impact on the environment caused by airport operations and reduces this negative impact on the environment [6]. In addition, it promotes equality in employment, a corporate culture that guarantees human well-being, and safe and healthy working conditions [7]. It refers to stakeholders' sustainability knowledge, attitudes, and behavior toward practices, reflecting on improving their behavior to this end.

Knowledge is the perception of something as an object of one's information or understanding. Attitudes are mental attitudes, feelings, or emotions associated with and towards a fact or situation. Behavior is the way an organism acts, including anything an organism does in response to a stimulus and an individual's, group's, or species' response to its environment [8]. In general, sustainable knowledge will affect the general attitude toward sustainability [9]. Consequently, attitude significantly influences the individual's behavior, which means how a person behaves. In other words, attitude is an essential factor influencing behavior in achieving sustainable airport practices [10,11].

This study aims to pave the way to investigate the ASA concept by creating a theoretical framework through the relationship between sustainability knowledge, attitudes, and behavior of sustainable practices. In addition, it aims to show the gap in the literature on the related topics by conducting a systematic literature review that focuses on sustainable airports, sustainability knowledge, sustainability awareness, and airport sustainability attitudes, behavior, and practices. The framework will help address the concern of the airport community with sustainability issues by applying sustainability as a cultural and attitudinal interaction, which will enhance the conduct of sustainability practices in airports. The airport sector needs to investigate the psychological acceptance of the behavior of airport sustainability practices, whether at the individual or organizational level. This study will help bridge the knowledge gap in determining the extent of sustainability awareness for airport stakeholders. It also emphasizes that the awareness of sustainability-related issues should increase regarding the airport business modeling framework [12,13].

Meanwhile, sustainability initiatives play an essential role in different areas of social activity [14], such as business, transportation, and various sustainability literacy efforts, especially in the forthcoming decades. However, few psychometrically sound tools are available to investigate this kind of literacy, and no one covers the holistic framework of sustainability development. In addition, there is a need to shed light on the environmental awareness of airports [15]. Although many studies have focused on airport sustainability issues, e.g., sustainability aspects, environmental issues, waste management, energy consumption, and sustainability indicators, there is a lack of studies that investigate the awareness of airport sustainability and, hence, the relationship between sustainability knowledge, sustainability attitudes, and their influence on the behavior of airport sustainability practices.

Based on a literature review, the research gap will be identified in a way that clarifies how this research will contribute to current knowledge. Additionally, based on this review, the foundation of the research framework will be created, and the best-suited data collection techniques for this research will be selected to develop the theoretical framework to investigate ASA elements. This study will help airports manage and improve their supply chains' social, economic, and environmental performance [16]. Accordingly, improving sustainability through enhancing sustainable knowledge will allow airports to decrease waste, improve operations, discover new product innovations, reduce costs, increase productivity, and promote sustainable development in the national economy [13,17]. The study is structured as follows: Section 2 presents a background of the studies related to airport sustainable awareness in terms of sustainable attitudes, emotions, and the behavior of sustainability practices (BSP) for airports; Section 3 clarifies the research methods; Section 4 is a research analysis; Section 5 provides the discussion; Section 6 provides the conclusion.

2. Background

2.1. Awareness of Sustainability

Awareness of sustainability in airports is essential as it relates to stakeholders' sustainability knowledge, attitudes, and conduct regarding practices as well as their reflection on how to improve their behavior in this regard. Therefore, the level of sustainability awareness is reflected in the level of sustainable performance of airports through its influence on stakeholders' emotions, moving them towards changing and modifying their attitudes towards the BSP [6,18]. Luiz Boca et al. (2020) [19] have referred to the lack of sustainable

guidance for planning airports as a significant policy gap that requires immediate attention. In addition, Norhan et al. (2012) [6] have discussed how an environmentally sustainable airport is achieved through educating and training customers, staff, stakeholders, and the public on sustainability and its various practices. Therefore, stakeholders' knowledge will move them towards changing and modifying their attitudes towards improving the sustainability behavior of practices [14], which is vital to improving ASA.

2.2. Sustainability Knowledge

Knowledge is an essential key to helping a community better understand sustainability. Knowledge enables participants to understand sustainability as an environmental, social, and economic issue related to ecosystems and society. Both in-depth and holistic knowledge is needed to understand the multiple interacting social, economic, and environmental systems that sustainability entails [20–22]. Moreover, knowledge creation results from interaction.

2.3. Sustainable Attitude

Thus, people's beliefs in sustainability shape their attitudes towards their practices, and, therefore, people's understanding of sustainability affects their behavior [23]. The beneficiaries must accept the ideas of sustainable projects; otherwise, the stakeholders face failure. On that account, the attitude of the beneficiaries towards any application of sustainable practices must be studied, along with its implications for changing behavior [24].

The environmental position is related to knowing stakeholders' attitudes towards the behavior of environmental practices, such as determining the airport community's position on the use of recycled water or their position on paying to mitigate environmental impacts. Knowing social situations is related to stakeholders' attitudes towards social behaviors and practices, analyzing employees' internal feelings and their sense of job security [23]. The economic position is the position on sustainable economic practices at the airport. Accordingly, education for sustainability is required for all stakeholders and the public to develop sustainable airports.

2.4. Sustainable Behavior and Practices

Sustainable behavior means that stakeholders (airport staff, passengers, civil aviation authorities, airlines, etc.) within the airport will reflect their knowledge, attitude, and awareness of the importance of sustainability by implementing sustainable practices [25]. In general, the behavior is either individual or organizational. Individual behavior refers to the actions of each airport stakeholder based on the person's knowledge and beliefs about sustainability concerns. On the other hand, organizational behavior refers to the organization's required behavior to carry out some sustainable practices as a general rule, whether at the level of its assets or the level of its community. Both sustainability behaviors are reflected in sustainability practices. The practices are divided into environmental, social, and economic practices, as displayed in the next section. The practices are shown in Table 1.

According to the review of the literature, it can be argued that there is a lack of studies regarding the level of awareness of airport sustainability and its impact on airport sustainable practices, in addition to a lack of studies on sustainable airport behavior or attitudes in various aspects. Therefore, many studies have investigated airport energy performance, water consumption, waste management, and noise reduction. However, there is a lack of sustainable practices related to increasing knowledge, sustainable behavior, and sustainability perception. A lack of studies in the research area of interest has motivated us to perform an in-depth systematic review. Therefore, the contribution of this article is to fill the research gap by conducting the following systematic literature review.

Table 1. Airport sustainability practices.

Practices Categories	Description	Types of Practices	Refs.
Environmental Practices	Practices support strategies to reduce the use of raw or physical resources (such as fossil fuels), reduce atmospheric emissions, minimize waste production and water pollution, mitigate flooding from rainwater runoff, and protect against biodiversity loss; they have the potential to produce a natural and quantifiable reality.	Waste Management Practices	[26–28]
		Water Consumption and Waste	[2,29–32]
		Airport Building and Facilities	[19,33–38]
		Energy Consumption	[19,34,39–42]
		Biodiversity Conservation	[19,43,44]
		Emissions Management	[45–47]
Social Practices	Airport sustainability social practices relate to the impact of a company's business on employees, suppliers, investors, customers, and local and global communities.	Noise Reduction	[48–51]
		Employee Development	[52,53]
		Safety Practices	[54]
Economic Practices	Airport sustainability economic practices aim for an economically viable operational environment with adequate profitability to investors and a high level of passenger satisfaction and safety that will positively contribute to the nation's growth.	Airport Sustainable Reporting	[55,56]
		Passenger Satisfaction	[17,19,30,57]
		Smart services	[16,58,59]

3. Methodology

This paper conducts a systematic review to collect and explore the literature on the knowledge, attitudes, and behavior of airport sustainability practices. The research uses various scientific published papers that are available on different databases. The analysis is conducted in the following steps regarding the methodological strategy.

This study adopts a review protocol from Trimfeld et al. (2003) [60]. This method allows researchers to collect the required information and compare and evaluate numerous sources through an unbiased approach. This method also conducts a transparent and reliable evidence-based exploration of knowledge. It is a straightforward, systematic, and reproducible method that identifies, investigates, and reports on the current literature. The review protocol applies five main stages: (1) the formulation of questions, (2) locating studies, (3) study selection and evaluation, (4) analysis and synthesis, and (5) the reporting of results. The five stages were conducted as steps:

Step (1) Question Formulation: Appropriate research questions are developed before the review begins. An approach called CIMO (context, interventions, mechanisms, and outcomes) is applied to accommodate business management and organization research.

Step (2) Identification of Studies: Discovering relevant existing studies to answer the research questions by familiarizing the researchers with search databases and search strings, including three search techniques: search terms, databases for literature search, and inclusion and exclusion criteria.

Step (3) Study Selection and Evaluation: Using the keyword groups, the broad skimming of citation titles from the literature search is derived by defining the search scope within which the number of keywords used in online databases is determined.

Step (4) Analysis and Synthesis: A descriptive overview of the information from the articles related to the research questions in the review process.

Step (5) Discussing the Results: The results of the paper analysis are summarized after rigorous examination of the studies that pass the inclusion criteria in the previous stages to clarify how they were supported, developed, extended, or derived from each other and prepared to classify and select the most appropriate and relevant data to the current research topics.

- a. Each stage contributes to reducing errors and biases in the review evaluation.

The review in this paper uses predefined methodological structures and the contributions of researchers in the field. At the end of the analysis, the review will comprehensively summarize the key literature identified, revealing a structured compilation of the definitions and knowledge contained in a sparse set of studies; this will allow us to bridge the current gap in ASA. This paper examines the literature related to reviewing ASA knowl-

edge, emotions, behavior, and sustainable practices at airports. It also shows whether previous studies have discussed these topics or not and what these studies have suggested.

Furthermore, the research focuses on creating and visualizing bibliometric networks using VOSviewer, enabling the analysis of the keywords' relationships.

Based on the previous discussion, the research questions are formulated as follows:

(1) Questions' formulation

Q1: How do previous studies discuss ASA?

Q2: What are the relationships between the elements of ASA?

Q3: What are sustainable development goals related to ASA?

(2) Locating studies

This research includes papers published in the Web of Science and Scopus databases. Thus, using the two databases expands the search quality and results. After reviewing the combinations of terms and keywords, it can be concluded that the focus of the search is better covered if the research is by topic [61]. The following keywords' synthesis is used in both Web of Science and Scopus: (airport OR aviation) AND (sustainable OR sustainability*) AND (awareness OR knowledge OR meaning OR practice* OR attitude OR emotion OR behavior OR behaviour*).

The difference in search terms and keywords used enhances the possibility of including as much relevant literature as possible. Moreover, the choice of the keywords mentioned above originates from the current research topic. This reduced the possibility of missing the research aim of this sub-section, which could be relevant to this study.

(3) Study selection and evaluation: The selection of articles is according to the following criteria:

Language, the paper must be written in English.

Study Topic: The remaining research papers must meet the aim of the study. Therefore, articles irrelevant to the research question will be excluded from the final selection.

Time Frame: The investigation period of existing literature is set from 1987 until January 2022.

Total search strategy outcome: The results are retrieved from the literature search.

(4 and 5) Analysis and Discussion

The authors screens the full text of the selected papers in the previous step and chooses the papers most relevant to the topic, which includes in-depth content related to ASA through the electronic databases (Scopus, WOS), as demonstrated in Figure 1.

Furthermore, the research focuses on creating and visualizing bibliometric networks using VOSviewer, enabling the analysis of the keywords' relations.

The research steps are shown in the following diagram in Figure 1.

This study includes 768 papers related to sustainability in the airport industry. After removing duplicate papers, the researchers selected 216 papers. The authors selected 116 papers that were more focused on airport sustainability awareness. Finally, the authors selected 80 papers that were more focused on the research area. The selected papers are shown in the Supplementary Materials.

The authors also investigated the relation of analyzed papers with SDGs. After selecting the relevant papers included in the review, all papers were linked with one or more specific goals of the 17 SDGs to define the priorities addressed by the researchers.

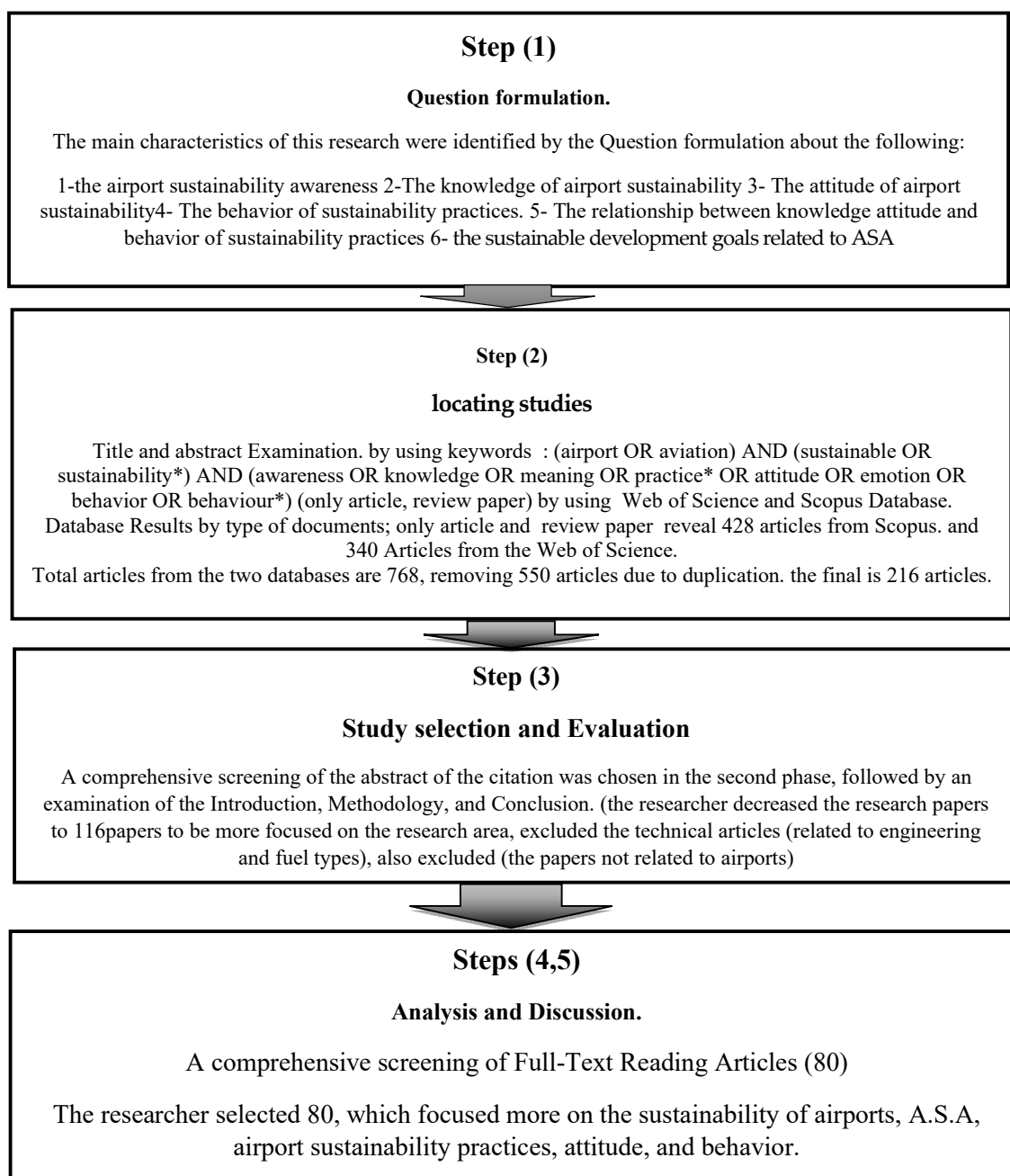


Figure 1. Describing the processes selected for refining in the different steps of the systematic review.

4. Analysis

Airport sustainability represents a combined decision-making method and several actors' engagement in economic, environmental, and social matters. Therefore, raising awareness of sustainability issues is essential to improving sustainability behavior. Whenever there is a concern with sustainability efforts from the governments of countries worldwide, the natural resources for humanity are enhanced.

The analysis is divided as follows:

- The number of publications per year, determining the methodology types and the geographical range, with index sources in Table 2.

To identify the quality of the studies and determine which common methodologies are used within a year of publication.

- Analyzing the critical outcomes.

To shed light on the most important outcomes of the studies.

- Integration and focus of SDGs in ASA-related studies.

To mention the link between the studies and SDGs and investigate the studies that cover the most SDGs.

- Bibliometric analyses for all keywords.

To examine keyword relations and demonstrate the most used keywords.

Analyzing the number of publications per year by determining the methodology types and geographical range with index sources.

Paying attention to sustainability issues must be the priority of the countries interested, as sustainability has been a more important issue recently. In Table 2, the paper analyzes the publications related to the topic as follows: by year to emphasize the importance of sustainability awareness; by an inventory of the research methods used in previous studies to investigate the most commonly used methods, whether qualitative, quantitative, mixed method, or electronic method; by region to determine the countries most concerned about the awareness of sustainable airports; and then by index sources.

Table 2. The number of publications per year, determining the methodology types, geographical range, and index sources.

Pup. Years	Publication Methodology	Index Sources	Geographical Region	Refs.
2021	quantitative method = 8	Scopus, WOS = 5 WOS = 1 Scopus = 2	Japan; international; Iran; United States of America; international; Switzerland; international; Iran	[58,62–68]
	qualitative method = 6	Scopus = 3 Scopus, WOS = 3	International; United States of America; international; United States of America; international; Thailand	[2,13,28,69–71]
2020	quantitative method = 10	WOS = 1 Scopus, WOS = 6 Scopus = 3	(Poland, Slovakia); Sweden; Poland; Republic of Korea; international; Indonesia; Italy; China; Brazil; international	[25,27,72–79]
	qualitative method = 7	Scopus = 4 Scopus, WOS = 3	Italy; United States of America; United Kingdom; not specified; Australia; international; Emirates	[17–19,80–83]
	mixed method = 1	Scopus, WOS = 1	not specified	[84]
	electronic method = 1	Scopus = 1	Portugal	[85]
2019	quantitative method = 6	Scopus, WOS = 5; Scopus = 1	Turkey; Iran; Republic of Korea; Sweden; International; Seween	[55,86–90]
	qualitative method = 1	Scopus = 1	Poland	[50]
	mixed method = 1	Scopus = 1	Denmark	[32]
	simulation method = 1	Scopus = 1	Austria	[91]
2018	quantitative method = 4	Scopus = 1; Scopus, WOS = 3	Greece; United Kingdom; Australia; Italy	[59,92–94]
	qualitative method = 2	Scopus, WOS = 2	International; not specified	[15,24]
	mixed method = 4	Scopus = 4	Denmark; Japan; Denmark; Japan	[26,40,95,96]
2017	quantitative method = 4	Scopus, WOS = 4	India; Taiwan; Turkey; Spain	[39,51,97,98]
2016	quantitative method = 4	Scopus = 2; WOS = 1 Scopus, WOS = 1	Indonesia; United States of America; United States of America; United States of America	[23,38,99,100]
	qualitative method = 1	WOS, Scopus = 1	International	[37]
2015	quantitative method = 2	Scopus, WOS = 1; WOS = 1	(India, United States of America)Australia	[29,101]
	qualitative method = 1	Scopus = 1	United Kingdom	[44]

Table 2. Cont.

Pup. Years	Publication Methodology	Index Sources	Geographical Region	Refs.
2014	quantitative method = 1	Scopus = 1	United Kingdom	[102]
	simulation = 1	Scopus, WOS = 1	Europe	[103]
2013	quantitative method = 4	Scopus, WOS = 1; Scopus = 3	The Netherlands; United Kingdom; United Kingdom; United States; international	[30,63,104,105]
2012	qualitative method = 2	Scopus = 1; WOS = 1	United Kingdom; Turkey	[6,106]
2011	quantitative method = 1	Scopus, WOS = 1	United States of America	[107]
2010	qualitative method = 1	Scopus = 1	The Netherlands	[108]
	simulation = 1	WOS, Scopus = 1	not specified	[42]
2008	theoretical study = 1	Scopus = 1	United Kingdom	[109]
2007	simulation = 1	Scopus, WOS = 1	Spain	[110]
2006	qualitative method = 1	Scopus, WOS = 1	not specified	[111]
2004	qualitative = 1	Scopus, WOS = 1	United Kingdom	[112]
1996	theoretical study = 1	Scopus = 1	United Kingdom	[113]

The sustainability of airports has become more critical in recent times. This is confirmed by the results of the analysis in Table 2. It demonstrates the division of research papers according to the year of publication and the type of methodology to investigate the most commonly used methods, whether qualitative, quantitative, mixed-method, or electronic method, in addition to determining which paper is national or international and the index sources of the papers. It is noted from the analysis that research papers on sustainability have increased significantly in the last three years. The number of publications in 2021 reached 13; in 2020, the number of publications reached 16; in 2019, there were eight publications. This proves that the investigation of this topic has dramatically developed interesting index sources in recent years.

Concerns about airport sustainability vary across geographies, according to the topic of the current paper. The United Kingdom (UK) and the United States of America (USA) are the countries most concerned about the sustainability of airports. The USA has contributed 11 publications: 6 quantitative studies, 4 qualitative studies, and 1 simulation method. These are distributed in five publications indexed on Scopus and WOS, five on Scopus, and one on WOS. The UK has contributed nine publications, within five quantitative studies and four qualitative studies. These are distributed in two publications indexed on Scopus and WOS, two on Scopus, and four on WOS.

Therefore, it is clear from the analysis that the few studies that have dealt with the sustainability of airports by topic of study are in the regions of Africa, the Middle East, and South America. This confirms the importance of investigating this topic in this region. Moreover, the importance of investigating this topic in general is confirmed; nevertheless, more research needs to be done. In addition, the figure illustrates that most studies related to this topic are conducted at the national level, which means that this topic needs to be investigated at the international level.

4.1. Analyzing the Critical Outcomes

Many researchers have mentioned airport sustainability issues. They have found some significant points that need to be investigated. We highlight the most critical facts from previous study outcomes in Table 3.

Airport sustainability development is the trend in airport planning; hence, the article's primary purpose is to make airport stakeholders more accepting of this thinking. Table 3 summarizes the main findings of sustainability awareness, knowledge, attitudes, and behavior. Moreover, it demonstrates the area of focus of each study. These studies have been divided into different categories.

Table 3. Previous studies on airport sustainability awareness.

Location and Year	Focusing Area	Main Contribution/Outcomes
Emirates 2020	sustainability knowledge	Each airport's stakeholders perceive sustainability differently in three dimensions: economic, social, and environmental. Hence, there is a necessity for a holistic system approach to reform as this systemic approach will provide the sector with the solid ethical, administrative, and organizational strength necessary to overcome sustainability problems in the civil aviation sector at the national and global levels [83].
Iran 2020	sustainability knowledge	The emphasis on the importance of sustainability knowledge is a positive step toward assessing sustainability in airport projects [68].
China 2020	sustainability knowledge	Raising awareness of corporate social responsibility (CSR) improved the performance of Chinese airports. Therefore, awareness of CSR activities and CSR activities should be the primary concern of the Chinese airport industry, something which will benefit other countries [79].
United Kingdom 2020	sustainability knowledge	There is a lack of sustainability guidelines for planning a sustainable airport, a wide gap that demands intensive immediate attention [19].
Not specified 2018	environmental knowledge	The importance of enhancing aspects of the international debate that have received little or no attention, such as (i) promoting awareness of the aviation industry's environmental impacts beyond exhaust pipe emissions, (ii) improving knowledge of current and future climate impacts on the air transport sector, and (iii) seeking to achieve compatibility with the goals of the United Nations 2030 Agenda for Sustainable Development [15].
Italy 2020	social knowledge	Airports must effectively include practices for creating more awareness and being more involved in the SDG framework. There is also a need for better engagement with the 2030 Agenda for Sustainable Development launched in 2015. Airports need more time to participate and commit to the SDGs and gain awareness about these ambitious goals and how to achieve them [17].
Indonesia 2016	environmental knowledge and behavior	Public understanding and the knowledge of the airport's community of the following attributes would increase sustainability: 1—waste; 2—the terms of eco-airports; 3—water; 4—labeling the names of trees; 5—plants in open spaces [99].
Iran 2019	sustainability knowledge and sustainability behavior of practices	Awareness of the airport's sustainable activities and ethical principles makes travelers consider it more popular, and travelers will be willing to reuse the airport's services on future trips. Moreover, this consideration can help airport managers understand the travel behavior of airport passengers, contributing to the profitability of the airport system, the public, and the environment [87].
International 2020	knowledge and behavior	Conducting a comprehensive procedural analysis of airport stakeholder participation in environmental sustainability is essential. There is a lack of airport environmental sustainability research on water conservation, climate change resilience, waste management, and climate change adaptation [82].
International 2021	environmental knowledge and behavior	The development of knowledge of waste generation trends and management models and their challenges by various airports and aircraft companies will serve as a basis for decision-makers and policy analysts. A few studies have looked at the stages of sustainable waste management at airports, from generation to end-of-life disposal [28].
United Kingdom 2012	knowledge and behavior	Encouraging stakeholder inputs at the early stages of planning processes would help produce documents that build consensus on the most acceptable and sustainable forms of airport development. This change in airport behavior could enhance the process of stakeholder participation, facilitate social learning and more proactive and inclusive engagement, and, thereby, enable more sustainable planning outcomes [106]
United States 2016	knowledge and behavior	The airport authorities need to be aware of the impact of pavement type on energy consumption and greenhouse gas emissions. Additionally, a life cycle assessment is necessary to select sustainable design alternatives in airport planning [38]

Table 3. Cont.

Location and Year	Focusing Area	Main Contribution/Outcomes
Turkey 2012	environmental awareness and knowledge.	For achieving airport sustainability, decision-makers should include sustainability education as a concept involving the incorporation of key pillars of sustainability. The key pillars of environmental education are: (i) awareness of the environment and its challenges, (ii) knowledge and understanding of sustainability and environmental challenges, (iii) attitudes and motivation toward improving or maintaining environmental quality, (iv) ability to determine environmental challenges and strive to find solutions, and (v) stakeholder participation in activities that aim to resolve environmental challenges [6].
India and United States 2015	attitude and behavior	There are differences among cultures regarding attitudes towards water reuse in the airport. The results can enhance airport decision-makers' awareness of the public's perception of recycled water at airports [101].
Poland, Slovakia 2020	attitude and behavior	The airport authorities should consider the human factor as the main element of sustainable development, which means caring for the quality of life of the employees on the economic level as well as considering the degree of satisfaction of the people's needs related to their sense of safety at work [54].
United Kingdom 2021	behavior of practices	Airport operators must understand the concept of sustainable aviation growth, its challenges, and the strategies and measures that airports are currently using to help achieve this [70].
United States 2021	behavior of practices	Applying sustainability values to infrastructure planning, design, and management, including making resource allocation decisions for airports, will improve the infrastructure and services for passengers, communities, and society [71].

Since sustainability awareness consists of realizing the concept of sustainability and analyzing stakeholders' knowledge, attitudes, and emotional tendencies towards the BSP, this will be reflected in improving their sustainable behavior when implementing sustainable practices. Some studies have dealt with the issue of sustainability awareness by focusing on the concept of airport sustainability. Only Ngo et al. (2020) [79] discussed the awareness of corporate social responsibility (CSR) of the leading Chinese airport during the period 2013–2017, as well as its impact on the performance of the airport. Wang et al. (2016) [25] and Jacobson et al. (2020) [38] discussed the knowledge of climate change.

Previous studies have also mentioned sustainable attitudes. e.g., consumer attitudes toward environmental sustainability practices in airlines and airports. Some examples are the attitudes of airport passengers to reusing water and the attitude of airport workers towards their sense of safety within the airport [24,72,101]. The researchers also focused on the BSP at airports. Most of the research papers have concentrated on sustainable and environmental practices, such as the behavior of waste management practices, water waste management, and recycling and energy patterns. On the other hand, some authors have demonstrated intelligent airport and administrative practices that seek to improve service and customer satisfaction [58].

In conclusion, the previous study confirms the gap in the research on the awareness of airport sustainability through the relationships between knowledge, attitudes, and behavior of sustainability practices.

4.2. Integration and Focus of SDGs in ASA-Related Studies

Sustainable development goals (SDGs) are plans for a better future. It is essential to emphasize the awareness of SDGs of airport stakeholders to improve sustainability behavior in general, which will need more time [17]. According to Baledón (2018) [15], seeking to achieve compatibility with the United Nations 2030 Agenda for Sustainable Development goals is a significant matter. The sustainable development goals are global environmental, economic, and social guidelines. The sustainable development goals are worldwide principles that address global issues confronting the international community. It is about better conserving the natural foundations of life on our planet and preserving

the people's abilities to live in dignity and wealth. The 17 goals address all three aspects of long-term development: environmental, economic, and social.

As the main objective of all sustainable practices is to be sustainable, the airport must effectively include practices for being more involved in the SDG framework. According to Di Vaio (2020) [17], there is a need for better engagement with the 2030 Agenda for Sustainable Development, launched in 2015. Figure 2 shows that most studies on the awareness of airport sustainability tend to be about the goal (climate action; by 27%), as most of the studies revolve around the environmental trend. Next comes the sustainable city and society goal (by 24%), which is addressed by studying the issue of airport sustainability in urban society. After that comes the organization of the work environment in proportion to the environment surrounding employees and workers and improving their attitudes and behavior towards the work environment to achieve the goal of decent work and economic growth (by 20%). This goal is related to energy consumption. The study concentrates on airport waste and discusses studies related to these topics. This study also seeks to achieve SDG 12 (airport infrastructure and innovation), which was also given attention in the studies related to the objective (increasing industry, innovation, and infrastructure by 10 %); lastly, there are a few other sustainable goals (by 7%) in the papers.

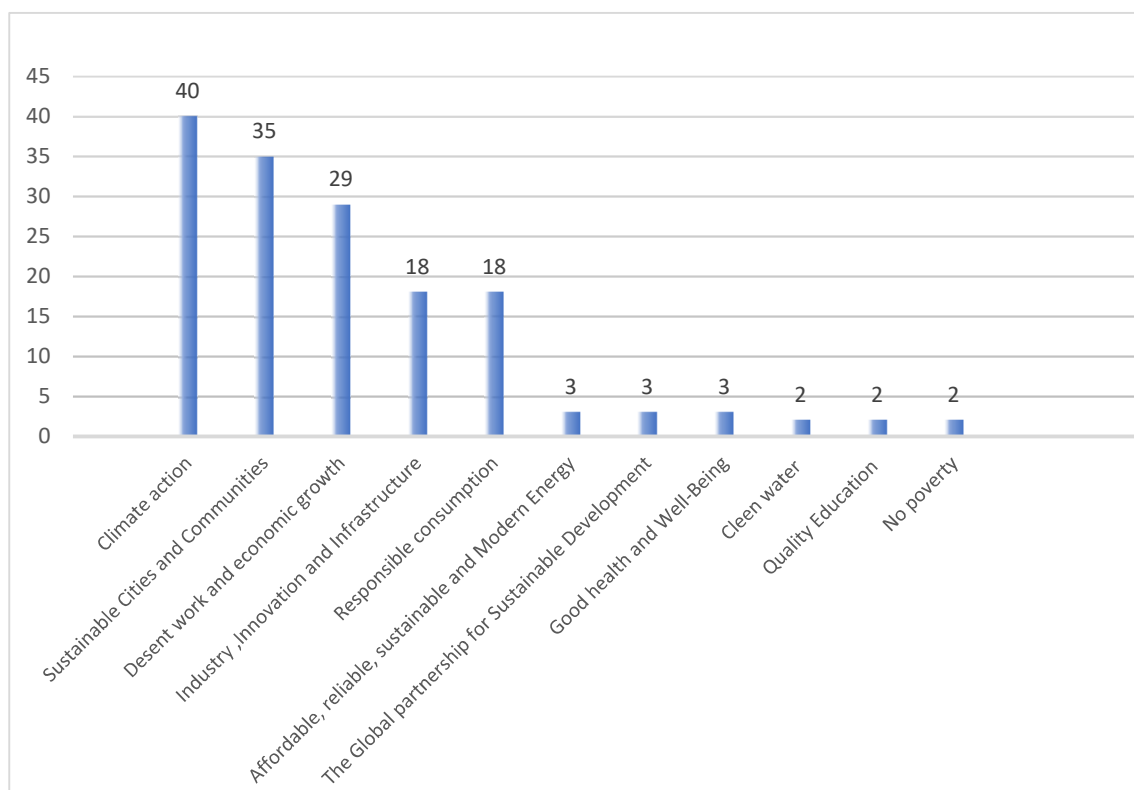


Figure 2. Frequency of studies with dimension goals of the previous studies.

There are a lot of publications in this current paper that focus solidly on achieving more than one sustainable development goal. For example, the work of Al Sarrah et al. 2020 [83] was related to SDG 1 (decent work and economic growth), SDG 2 (climate action), SDG 3 (sustainable cities and communities), and SDG 4 (global partnership for sustainable development). They highlighted the importance of social sustainability indicators that value equitable development in pursuing business goals. In addition, the authors clarified the value indicators of economic sustainability that focus on changing consumption patterns and increasing conservation.

Moreover, the research has focuses on environmental sustainability indicators that promote environmental efficiency and renewable energy. Furthermore, the work of

Budd et al. (2015) [44] was related to SDG 1 (climate action), SDG 2 (sustainable cities and communities), and SDG 3 (affordable, reliable, sustainable and modern energy). The authors examined how UK airports have responded to the challenge to mitigate the environmental impacts of airport operations for which they are directly responsible by implementing green and sustainable energy and working practices.

It is noted that researchers on airport sustainability have only focused on some of the sustainable development goals, especially the SDGs related to the environment, e.g., climate action goals, reasonable consumption, and sustainable cities and communities. They have also neglected some of them. Therefore, a future study should consider the remaining SDGs.

Consumption and production patterns can explain the indicators of sustainability evaluation.

4.3. Bibliometric Analysis

This method analyzes all types of research, such as books, articles, and other publications. It is used to confirm specific indicators, such as the related keywords and the rate of the annual publication of this topic. This technique supports the researcher with research interests and gaps and the most related research publications [114]. Therefore, this method will allow the researcher to determine the originality and importance of a specific concept. This study uses the bibliometric analysis made with VOSviewer. Thus, according to the Scopus database, this paper creates a network of the most frequently occurring keywords through the co-occurrence analysis of all keywords, showing the importance of a keyword as a component of the research effort in determining the research activities distribution in different segments of the universe of knowledge and enhancing the gap of knowledge through the related topic keywords [114]. Figure 3 shows keyword co-occurrence network analyses for all keywords, repeated at least twice. In the keywords, co-occurrence network links represent the co-occurrence of a term or a keyword, while the items refer to the keyword. The lines between the two keywords show their appearance together. Hence, the thickness of a link indicates the number of publications in which two terms occur together [114]. Larger circles and map labels represent greater significance. There are 681 keywords; 106 keywords are repeated twice. The VOS viewer divided them into eight clusters. Keywords with similar colors belong to the same cluster.

Cluster 1, highlighted in red, has 20 items. The main keyword of this cluster is the “environmental sustainability” item. It has six occurrences. Next comes, in parallel, Cluster 2 with 20 items, highlighted in green. The main keyword, “aviation”, occurs in eight cases. Next, Cluster 3 is highlighted in blue, with 17 items. Its main keyword is “sustainability”, which has 26 occurrences. This is followed by Cluster 4, marked in yellow, with 15 items. The main keyword for the cluster is “sustainable development”, with 30 cases. Cluster 5, in violet color, has the main keyword of “environmental impact”, which has a co-occurrence for nine cases. Cluster 6 is marked by light blue color, with 11 items. The main keyword is “United Kingdom”, with five occurrences. Finally, Cluster 7 is highlighted in orange, and its main keyword is “air transportation”, with 16 co-occurrences. Additionally, the common keywords of Cluster 7 are: “civil aviation”, “environmental awareness”, and “emission control”. “Environmental awareness” is a keyword having two occurrences. It has a relation to the “sustainable development” keyword, with two links, and the “airports” keyword, with one link from Cluster 3. Additionally, it relates to the “aviation” keyword from Cluster 2, with one link.

It is inferred from the above that the most common keyword is “sustainable development”, which is repeated 30 times; “sustainability” is repeated 26 times and “airports” 25 times. On the other hand, “environmental awareness” is mentioned just two times. “Knowledge”, “attitude”, and “BSP” are mentioned once in different shapes. Moreover, “sustainable awareness” or “sustainability awareness” is not mentioned, which confirms that the gap of knowledge in investigating ASA and the relationship between sustainability knowledge, attitudes, and behavior of practices needs to be further researched.

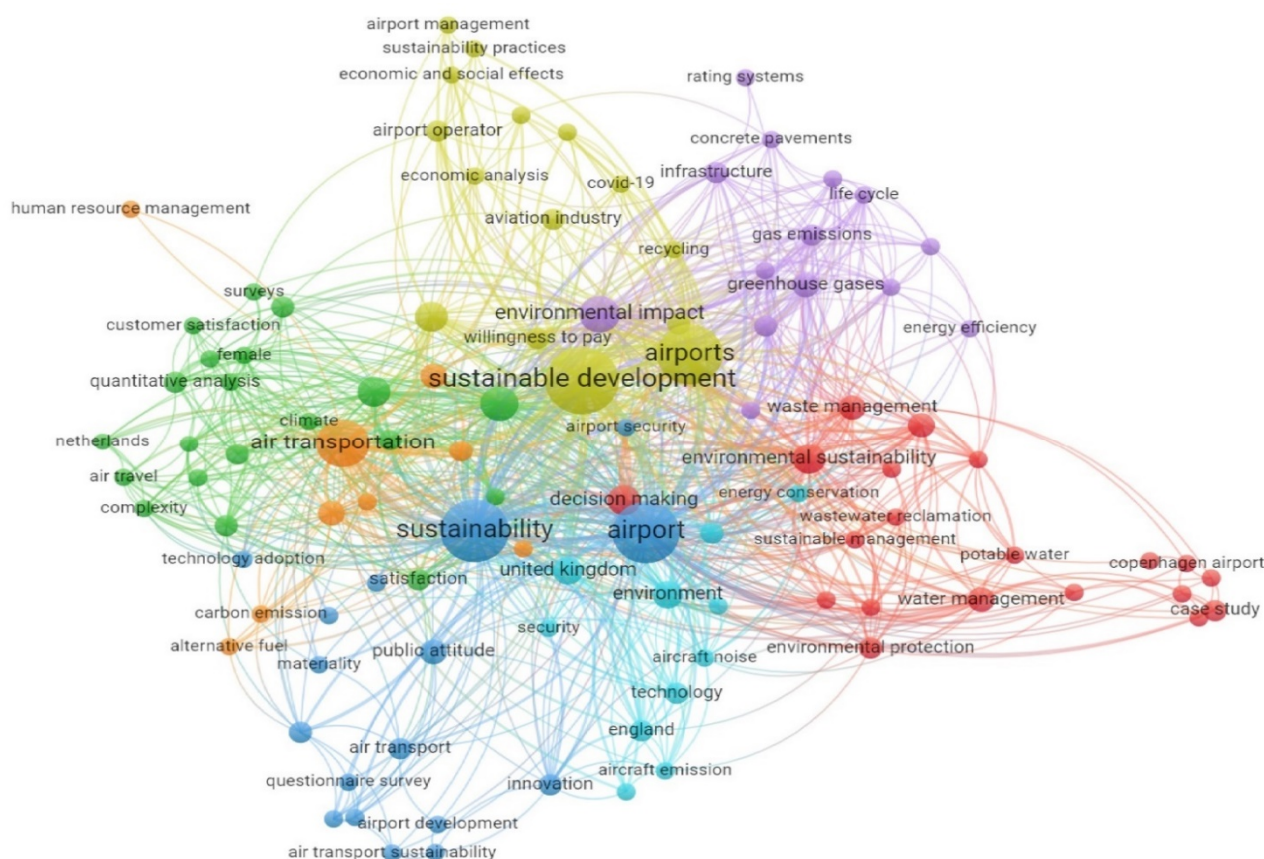


Figure 3. Visual presentation of bibliometric analysis for all identified keyword clusters.

5. Discussion

After conducting this study using a systematic literature review, several findings are reached on the degree of adaptation to the ASA concept. This study has highlighted ASA by investigating sustainability knowledge, attitudes, and behavior toward sustainability practices, reflecting on improving sustainable behavior. The study highlights the importance of sustainability knowledge, which makes a positive step toward promoting sustainability in airport projects [68]. Therefore, airports need to include practices to create more awareness [17].

In recent years, it is well known that sustainability is considered an effective way of overcoming differences, solving environmental struggles, and working for community prosperity. Airports are considered a significant sector of long-term economic growth and development of international tourism. They play a significant role in the humanitarian support of countries during natural disasters, famines, and wars. Given the rapid changes in economic aspects, social needs, and environmental impacts, sustainability practices are essential for airports to deal with these struggles.

The International Civil Aviation Organization (ICAO) emphasizes that sustainability is “a complex idea that aims to recognize environmental impacts and the balance between these impacts and ongoing social and economic development goals” (ICAO, 2011). Hence, sustainability in airports includes sustainable practices that will maintain economic growth, reduce environmental impacts, and provide social progress. It also satisfies the needs of the surrounding communities [68,83].

Regarding the growing data conversion of detection, processing, monitoring, and examination, it can be found that sustainability awareness in the airport sector is concrete through the impact of airport sustainability knowledge on airport sustainability attitudes and/or its impact on sustainability behavior toward sustainability practices. That means an

increase in knowledge inevitably leads to a change in the attitude to accept sustainability, which will be reflected in behavior that is likely inaccurate.

Regarding the bibliometric analyses, the co-occurrence of keywords enhances the gap in studying ASA in airports. “Airport sustainability awareness” was not in the most common keywords, which enhances the need to investigate the relationship between sustainability knowledge and sustainable attitudes and behavior of practices as there is no relationship between them in keywords.

Regarding the increasing data from detection, processing, monitoring, and examination, it is noted that the awareness of sustainability in the airport sector is created through the impact of airport sustainability knowledge, which will be illustrated by demonstrating the extent to which airport stakeholders understand sustainability. Knowing about sustainability will enhance the attitude of sustainability, and this attitude will positively impact the BSP. This means that increased knowledge inevitably leads to a change in attitude to accept sustainability, which will be reflected in behavior. Sustainability awareness will affect sustainability performance and its levels of performance (economic, social, and environmental). This will help policymakers, managers, and administrators maintain their process flows efficiently by reducing consumption and pollution emissions, cost, and time, ensuring risk assessment, productivity, speed, safety, security, flexibility, and knowledge in decision-making processes. Based on the above discussion, a conceptual framework is formulated and presented in Figure 4.

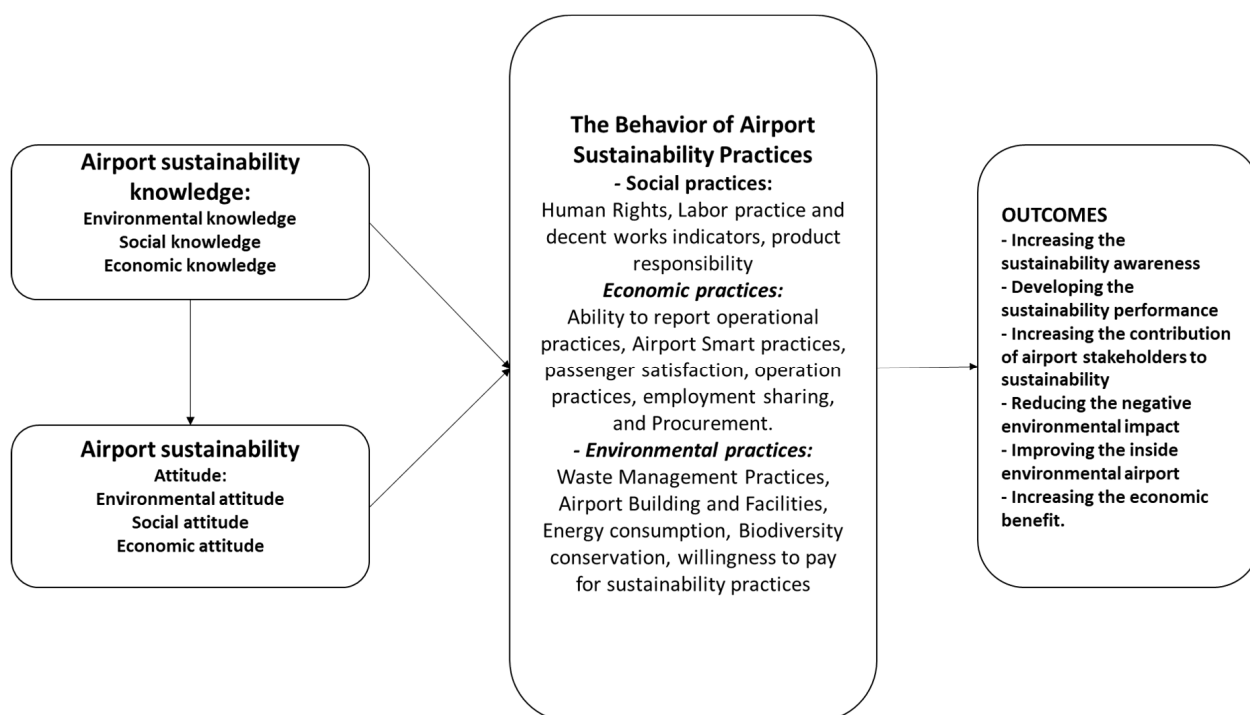


Figure 4. Airport sustainability awareness framework.

5.1. Airport Sustainability Awareness

Airport sustainability is related to protecting the environment and preserving natural resources while simultaneously considering the needs of airport officials and the public and obtaining the goal of a knowledge economy and employment growth rates; sustainability consists of three dimensions: social, economic, and environmental. The level of awareness is reflected through sustainable behavior that ensures the achievement of economic, social, and environmental goals [76]. Applying sustainability operations in airports needs sustainable knowledge. Sustainability knowledge improves the airport community’s awareness of the impact on the environment that is caused by air travel and shows them what they

can do to reduce this impact and how they can improve themselves. They should also improve this particular aim by promoting equality in employment, a corporate culture that guarantees human well-being, and safe and healthy working conditions. The importance of sustainability awareness in the airport is vital as it contributes to raising sustainability performance. Moreover, the findings of previous studies have highlighted the lack of awareness of several aspects [6,15,83].

5.2. Sustainability Knowledge

Knowledge of airport sustainability means any complete understanding of sustainability when the authority is affected by the airport and its various practices. Environmental sustainability is knowledge of the environmental impacts of airports and their effects on climate changes in the surrounding area and knowledge of sustainable environmental practices in the airport, which would reduce the negative impacts on the environment.

Knowledge of social sustainability refers to the consequent impact on the airport community and the airport's surroundings as well as the most important sustainable practices related to social aspects. Economic knowledge includes everything related to achieving economic gains for the airport. Previous studies aimed to find a different perception of sustainability for stakeholders in three dimensions: economic, social, and environmental. Therefore, necessity calls for an integrated system approach to provide the civil aviation sector with the ethical, administrative, and organizational strength necessary to overcome sustainability problems at the national and global levels [83].

5.3. Sustainability Attitude

Knowing people's motivation to behave sustainably is necessary to make the societal changes needed to avoid environmental, social, and economic catastrophes associated with natural resource depletion and climate change. Hence, attitude represents a person's general feelings towards preferring or not preferring things. People's attitudes are a result of their levels of knowledge. Research in social sciences has shown that changing attitudes depends on people's knowledge of a topic [43]. A common assumption is that unsustainable attitudes and behaviors are primarily driven by a lack of knowledge of the total societal costs of such behavior.

5.4. The Behavior of Practices

Sustainable behavior means that stakeholders (airport staff, passengers, civil aviation authorities, etc.) within the airport reflect their knowledge, attitudes, and awareness of the importance of sustainability by implementing sustainable practices [25]. In general, behavior is either individual or organizational. Individual behavior refers to the action of every person among airport stakeholders, depending on the person's knowledge and belief toward sustainability issues. In addition, organizational behavior refers to the mandatory behavior of the organization to carry out some sustainable practices as general policies of the organization. Both sustainability behaviors are reflected in sustainability practices. The practices are divided as follows:

Environmental practices:

- Waste practices: seeking to address waste. There are five ways to do so (reducing, reusing, recycling, recovering, disposing).
- Water consumption: seeking to address waste. There are five ways to do so (reducing, reusing, recycling, recovering, disposing).
- Biodiversity: seeking to save biodiversity by maintaining the environmental balance.
- Energy consumption: seeking to reduce diesel fuel.
- Airport building and facilities.

Social practices:

- Noise reduction.
- Human rights, labor practices and decent work indicators, and product responsibility.

Economic practices:

- Sustainability reporting operational practices, airport smart practices, passenger satisfaction, operation practices, employment sharing, and procurement.

The knowledge will affect the general attitude toward sustainability, which means that the more knowledge increases, the more the emotional reaction toward achieving sustainability increases. Consequently, attitude significantly influences the individual's behavior, namely, how behavior will be formulated. In other words, attitude is an essential factor influencing behavior in achieving sustainable airport practices.

Increasing sustainability awareness will improve the airport community's understanding of sustainability issues. In addition, it will increase cultural and attitudinal interaction. It also will enhance the conduct of sustainability practices in airports. Other methods will reflect on developing the airports' social and economic issues. Therefore, stakeholders' knowledge will move them towards changing and modifying their attitudes and improving the sustainability behavior of practices [12], which is vital to improving airport sustainability awareness (ASA).

Regarding the comprehensive study of ASA, the study has found that ASA is a vital contemporary topic and that sustainability initiatives are not enough to raise sustainability awareness; hence, the current research asserts that sustainability awareness studies need to investigate other considerations. Consequently, this study paves the way as a milestone in examining sustainability awareness by creating a theoretical framework through the adoption of three key pillars: first, sustainability knowledge and how the airport stakeholder understands the concept of sustainability, with an interest in considering the cooperation of all airport stakeholders in adopting an integrated approach. The second key pillar of sustainability awareness is sustainability attitudes. A sustainability attitude concerns physiological matters and airport stakeholders' beliefs about sustainability. Frequently, the stakeholder's belief depends on the level of sustainability knowledge. The third key pillar is the BSP, referred to as the action of airport stakeholders toward sustainability practices, either at the individual or organizational level. In the same context, the behavior will be based on the individuals' attitudes and knowledge toward sustainability.

Accordingly, airport sustainability knowledge and attitude domains are separately included because they are considered independent pillars. Improving knowledge will enhance the attitude toward sustainability and behavior. Meanwhile, the attitude will enhance the behavior of practices; on the other hand, the BSP is considered a dependent pillar that will improve as a result of improving sustainable knowledge and attitudes. The improvement of the BSP will be reflected in the development of ASA in airport stakeholders, the development of sustainable performance in general, the mitigation of negative environmental impacts, and the improvement in social and economic benefits.

Since sustainability awareness consists of the realization of the concept of sustainability and the analysis of stakeholders' knowledge, attitudes, and emotional tendencies towards sustainable practices, it will improve sustainable behavior when implementing sustainable practices. Consequently, drawing on organizational behavior, civil aviation authorities will adopt policies to promote sustainability practices. Regarding environmental aspects, sustainability practices include conducting environmental practices in airport buildings, waste management, fuel management, energy management and consumption, saving biodiversity, and adopting any relevant environmental practices. Social aspect practices include adopting policies that lead to employees' equality, serving the surrounding community, and noise reduction in the airport. Economic aspect practices include adopting economic practices that seek to improve financial performance, sustainable reporting, and innovative practices in the airport. As to individual behavior, ASA will reform the individual behavior of passengers, employees, and the surrounding community. These factors will contribute to achieving a sustainable community. Accordingly, sustainability performance will improve. Moreover, these will contribute to achieving the SDGs.

The previous steps are to investigate and structure the theoretical framework. The research provides an original contribution to knowledge through the development of an

approach to improve the understanding of sustainability and sustainability performance. The paper focuses on theoretically connecting the concepts of ASA, the critical pillars to address airport stakeholders' lack of ASA, and an integrated approach suitable for all stakeholders. In this analysis, the systematic study investigates the relationship between sustainability knowledge, attitudes, and behavior of practices and the academic research results. According to the findings, the research questions, and the research gap analysis, it can be argued that there is a relationship between sustainability knowledge and attitudes toward the BSP. The main goal of this work is to develop a comprehensive approach to ASA, considering the integrated pillars. The scheme of the theoretical framework is represented.

6. Conclusions

Achieving airport sustainability is critical due to this sector's economic, social, and environmental importance. Hence, it is essential to investigate the awareness of airport sustainability among stakeholders. Therefore, this study aimed to develop a theoretical framework as a milestone for investigating the ASA concept by conducting a systematic review and bibliometric analysis with VOSviewer. The systematic review analyses refer to the need to investigate ASA elements and the lack of studies on recognized sustainable airports in South America, the Middle East, and Africa. It also refers to the need to investigate using a mixed method (by interviews and questionnaires). A bibliometric analysis (VOSviewer) was conducted to analyze the co-occurrence network for all keywords, repeated twice, as there is a need to investigate ASA.

6.1. Theoretical Contribution

The paper investigates airport sustainability awareness by creating a theoretical framework that includes three key pillars: sustainable knowledge, attitudes, and behavior of sustainability practices. This presents a comprehensive and holistic framework that involves the unitization of the concept of sustainability aspects for airport stakeholders and the development of the sustainable behavior of practices. Previous studies have focused on related topics, adding only one element. For example, Winter (2015) focused on the attitudes toward sustainability between Indians and Americans on water reuse [101]. Alabi et al. (2021) showed social sustainability practices in US airports [69], and Sreenath et al. (2021) showed the best sustainable practices in ASEAN countries [2]. In response to the need to understand the concept of sustainable aviation growth and the challenges facing the implementation of sustainability practices, the framework represents a novel approach to improving sustainability knowledge and performance.

6.2. Practical Contribution

This paper contributes to improving sustainability behavior in airports by investigating the psychological acceptance of the behavior of airport sustainability practices while taking into consideration sustainability literacy at the airport. This allowed us to provide guidelines for developing the behavior of sustainable airports. These guidelines are illustrated through the developed framework to respond to the need to improve the quality of sustainable behavior in the airport industry by understanding three key pillars: sustainable knowledge, attitudes, and behavior of practices. Post-COVID-19, some governments were forced to focus on creating economic success for all business sectors to recover from the pandemic's economic crisis at the expense of sustainability practices [115]. In addition, by emphasizing the knowledge, attitudes, and behavior of sustainability practices, the role of the education system is illustrated as it plays a vital role in awareness. Consequently, the framework will help governments and decision-makers to provide an understanding of sustainability in the education system [14,17,18,88]. Finally, encouraging stakeholder inputs at the early stages of planning processes would help produce documents that build consensus on the most acceptable and sustainable forms of airport development. This change in airport behavior could enhance the process of stakeholder participation, facilitate

social learning and more proactive and inclusive engagement, and, thereby, enable more sustainable planning outcomes

6.3. Limitations and Further Research

The paper has some limitations. It highlights the significance of ASA through knowledge, attitude, and behavior aspects. However, it does not mention other essential aspects, e.g., the type of education and policies that enhance sustainability awareness. The paper also focuses on publications focused on the airport's inner community. In addition, this study does not discuss the topic from a technical point of view. A further study might be designed to assess whether these framework elements may (or may not) impact the sustainability behavior of airports. The paper refers to the necessity of adopting an integrated system approach to integrate different perceptions of airport sustainability for each stakeholder. The paper also refers to the immediate need to create sustainable guidelines for planning a sustainable airport. Although many publications are related to airport environmental sustainability, some environmental aspects need to be investigated, particularly water conservation, climate change resilience, waste management, climate change adaptation, and energy generation. Investigating the airport community's awareness level is essential to enhance sustainable behavior, so further research should be conducted to measure this awareness level. Future research should involve other factors that impact the airport community's attitudes and behavior toward sustainability practices.

Supplementary Materials: The following supporting information can be downloaded at: <https://www.mdpi.com/article/10.3390/su141911921/s1>, Selected literature [2,6,13,15,17–19,23–30,32,37–40,42,44,50,51,54,55,58,59,62–112,116].

Author Contributions: Conceptualization, A.E., M.S., M.B., and M.O.; methodology, A.E., M.S., M.B., and M.O.; formal analysis, A.E. and M.O.; investigation, A.E., M.B., and M.S.; writing—original draft preparation, A.E.; writing—review and editing, A.E., M.B., and M.S.; supervision, M.O. and M.S.; project administration, M.O., M.B., and M.S. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Data are contained within the article.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Ferrulli, P. Green Airport Design Evaluation (GRADE)—Methods and Tools Improving Infrastructure Planning. *Transp. Res. Procedia* **2016**, *14*, 3781–3790. [CrossRef]
2. Sreenath, S.; Sudhakar, K.; Yusop, A. Sustainability at airports: Technologies and best practices from ASEAN countries. *J. Environ. Manag.* **2021**, *299*, 113639. [CrossRef] [PubMed]
3. Hammer, J.; Pivo, G. The Triple Bottom Line and Sustainable Economic Development Theory and Practice. *Econ. Dev. Q.* **2017**, *31*, 25–36. [CrossRef]
4. Johnson, K.; Bennett, S.E.; Highway, A.S.; Rock, L.; Potts, E.; Mckee, L. *REPORT 157 Improving the Airport Customer Experience*; Transportation Research Board: Washington, DC, USA, 2016.
5. Garbie, I.H. Sustainability Awareness in Industrial Organizations. *Procedia CIRP* **2015**, *26*, 64–69. [CrossRef]
6. Oto, N.; Cobanoglu, N.; Geray, C. Education for Sustainable Airports. *Procedia Soc. Behav. Sci.* **2012**, *47*, 1164–1173. [CrossRef]
7. Banister, D.; Hickman, R.; Stead, D. Looking over the Horizon: Visioning and Backcasting. *Build. Blocks Sustain. Transp.* **2007**, *2007*, 25–53. [CrossRef]
8. Alsaati, T.; El-Nakla, S.; El-Nakla, D. Level of Sustainability Awareness among University Students in the Eastern Province of Saudi Arabia. *Sustainability* **2020**, *12*, 3159. [CrossRef]
9. Choi, Y.; Wen, H.; Lee, H.; Yang, H. Measuring Operational Performance of Major Chinese Airports Based on SBM-DEA. *Sustainability* **2020**, *12*, 8234. [CrossRef]
10. Ramsey, C.E.; Rickson, R.E. Environmental Knowledge and Attitudes. *J. Environ. Educ.* **1976**, *8*, 10–18. [CrossRef]

11. Nahar, N.; Hossain, Z.; Mahiuddin, S. Assessment of the environmental perceptions, attitudes, and awareness of city dwellers regarding sustainable urban environmental management: A case study of Dhaka, Bangladesh. *Environ. Dev. Sustain.* **2022**, *2022*, 1–29. [\[CrossRef\]](#)
12. Janic, M. Developing an indicator system for monitoring, analyzing, and assessing airport sustainability. *Eur. J. Transp. Infrastruct. Res.* **2010**, *10*, 206–229. [\[CrossRef\]](#)
13. Chutipongdech, T.; Vongsaroj, R. Airport technical efficiency and business model innovations: A case of local and regional airports in Thailand. *Eur. J. Tour. Res.* **2021**, *28*, 1–6. [\[CrossRef\]](#)
14. Gericke, N.; Pauw, J.B.-D.; Berglund, T.; Olsson, D. The Sustainability Consciousness Questionnaire: The theoretical development and empirical validation of an evaluation instrument for stakeholders working with sustainable development. *Sustain. Dev.* **2019**, *27*, 35–49. [\[CrossRef\]](#)
15. Baledón, M.S.; Kosoy, N. “Problematizing” carbon emissions from international aviation and the role of alternative jet fuels in meeting ICAO’s mid-century aspirational goals. *J. Air Transp. Manag.* **2018**, *71*, 130–137. [\[CrossRef\]](#)
16. Di Vaio, A.; Varriale, L. Blockchain technology in supply chain management for sustainable performance: Evidence from the airport industry. *Int. J. Inf. Manag.* **2019**, *52*, 102014. [\[CrossRef\]](#)
17. Di Vaio, A.; Varriale, L. SDGs and airport sustainable performance: Evidence from Italy on organisational, accounting and reporting practices through financial and non-financial disclosure. *J. Clean. Prod.* **2020**, *249*, 119431. [\[CrossRef\]](#)
18. Chourasia, A.S.; Jha, K.; Dalei, N.N. Development and planning of sustainable airports. *J. Public Aff.* **2020**, *21*, e2145. [\[CrossRef\]](#)
19. Santa, S.L.B.; Ribeiro, J.M.P.; Mazon, G.; Schneider, J.; Barcelos, R.L.; Guerra, J.B.S.O.D.A. A Green Airport model: Proposition based on social and environmental management systems. *Sustain. Cities Soc.* **2020**, *59*, 102160. [\[CrossRef\]](#)
20. Parrish, K.; Chester, M. Life-Cycle Assessment for Construction of Sustainable Infrastructure. *Pract. Period. Struct. Des. Constr.* **2014**, *19*, 89–94. [\[CrossRef\]](#)
21. Papajohn, D.; Brinker, C.; El Asmar, M. MARS: Metaframework for Assessing Ratings of Sustainability for Buildings and Infrastructure. *J. Manag. Eng.* **2017**, *33*, 04016026. [\[CrossRef\]](#)
22. Heeren, A.J.; Singh, A.S.; Zwickle, A.; Koontz, T.; Slagle, K.; McCreery, A. Is sustainability knowledge half the battle? An examination of sustainability knowledge, attitudes, norms, and efficacy to understand sustainable behaviours. *Int. J. Sustain. High. Educ.* **2016**, *17*, 613–632. [\[CrossRef\]](#)
23. Cremer, I.; Rice, S.; Michaels, A.; Oyman, K. A brief aviation sustainable practices attitude scale: Establishing validity and reliability. *Int. J. Sustain. Aviat.* **2016**, *2*, 203–221. [\[CrossRef\]](#)
24. Payán-Sánchez, B.; Plaza-Úbeda, J.A.; Pérez-Valls, M.; Moreno, E.C. Social Embeddedness for Sustainability in the Aviation Sector. *Corp. Soc. Responsib. Environ. Manag.* **2018**, *25*, 537–553. [\[CrossRef\]](#)
25. Jacobson, L.; Åkerman, J.; Giusti, M.; Bhowmik, A.K. Tipping to Staying on the Ground: Internalized Knowledge of Climate Change Crucial for Transformed Air Travel Behavior. *Sustainability* **2020**, *12*, 1994. [\[CrossRef\]](#)
26. Baxter, G.; Srisaeng, P.; Wild, G. Sustainable Airport Waste Management: The Case of Kansai International Airport. *Recycling* **2018**, *3*, 6. [\[CrossRef\]](#)
27. dos Santos, A.J.; Mancini, S.D.; Roveda, J.A.F.; Ewbank, H.; Roveda, S.R.M.M. A fuzzy assessment method to airport waste management: A case study of Congonhas Airport, Brazil. *J. Air Transp. Manag.* **2020**, *87*, 101838. [\[CrossRef\]](#)
28. Sebastian, R.; Louis, J. Understanding waste management at airports: A study on current practices and challenges based on literature review. *Renew. Sustain. Energy Rev.* **2021**, *147*, 111229. [\[CrossRef\]](#)
29. Somerville, A.; Baxter, G.S.; Richardson, S.; Wild, G. Sustainable water management at major Australian regional airports: The case of Mildura Airport. *Aviation* **2015**, *19*, 83–89. [\[CrossRef\]](#)
30. Carvalho, I.D.C.; Calijuri, M.L.; Assemany, P.P.; e Silva, M.D.F.M.; Neto, R.F.M.; Santiago, A.D.F.; de Souza, M.H.B. Sustainable airport environments: A review of water conservation practices in airports. *Resour. Conserv. Recycl.* **2013**, *74*, 27–36. [\[CrossRef\]](#)
31. Nakamura, H.; Ii, S.; Chida, H.; Friedl, K.; Suzuki, S.; Mori, J.; Kajikawa, Y. Shedding light on a neglected area: A new approach to knowledge creation. *Sustain. Sci.* **2014**, *9*, 193–204. [\[CrossRef\]](#)
32. Baxter, G.; Srisaeng, P.; Wild, G. An Assessment of Airport Sustainability: Part 3—Water Management at Copenhagen Airport. *Resources* **2019**, *8*, 135. [\[CrossRef\]](#)
33. Kacar, B.; Turhan, E.; Dalkiran, A.; Karakoc, T.H. Green Airport building certification comparison: A practical approach for Airport Management. *Int. J. Green Energy* **2022**. [\[CrossRef\]](#)
34. Uysal, M.P.; Söğüt, M. An integrated research for architecture-based energy management in sustainable airports. *Energy* **2017**, *140*, 1387–1397. [\[CrossRef\]](#)
35. Kilkış, Ş.; Kilkış, Ş. Benchmarking airports based on a sustainability ranking index. *J. Clean. Prod.* **2016**, *130*, 248–259. [\[CrossRef\]](#)
36. Castro-Lacouture, D.; Sefair, J.A.; Flórez, L.; Medaglia, A.L. Optimization model for the selection of materials using a LEED-based green building rating system in Colombia. *Build. Environ.* **2009**, *44*, 1162–1170. [\[CrossRef\]](#)
37. Babashamsi, P.; Yusoff, N.I.; Ceylan, H.; Nor, N.G.; Jenatabadi, H.S. Sustainable Development Factors in Pavement Life-Cycle: Highway / Airport Review. *Sustainability* **2016**, *8*, 248. [\[CrossRef\]](#)
38. Wang, H.; Thakkar, C.; Chen, X.; Murrel, S. Life-cycle assessment of airport pavement design alternatives for energy and environmental impacts. *J. Clean. Prod.* **2016**, *133*, 163–171. [\[CrossRef\]](#)
39. Alba, S.O.; Manana, M. Characterization and Analysis of Energy Demand Patterns in Airports. *Energies* **2017**, *10*, 119. [\[CrossRef\]](#)

40. Baxter, G.; Srisaeng, P.; Wild, G. An Assessment of Airport Sustainability, Part 2—Energy Management at Copenhagen Airport. *Resources* **2018**, *7*, 32. [\[CrossRef\]](#)
41. Boschmann, E.E.; Gabriel, J.N. Urban sustainability and the LEED rating system: Case studies on the role of regional characteristics and adaptive reuse in green building in Denver and Boulder, Colorado. *Geogr. J.* **2013**, *179*, 221–233. [\[CrossRef\]](#)
42. Kivits, R.; Charles, M.B.; Ryan, N. A post-carbon aviation future: Airports and the transition to a cleaner aviation sector. *Futures* **2010**, *42*, 199–211. [\[CrossRef\]](#)
43. Barreda, A.B. Assessing the level of awareness on climate change and sustainable development among students of Partido State University, Camarines Sur, Philippines. *J. Sustain. Educ.* **2018**, *17*, 1–12.
44. Budd, T.; Budd, L.; Ison, S. Environmentally sustainable practices at UK airports. *Proc. Inst. Civ. Eng. Transp.* **2015**, *168*, 116–123. [\[CrossRef\]](#)
45. Ren, J.; Cao, X.; Liu, J. Impact of atmospheric particulate matter pollutants to IAQ of airport terminal buildings: A first field study at Tianjin Airport, China. *Atmos. Environ.* **2018**, *179*, 222–226. [\[CrossRef\]](#)
46. Dissanayaka, D.; Adikariwattage, V.; Pasindu, H. Evaluation of Emissions from Delayed Departure Flights at Bandaranaike International Airport (BIA). *Adv. Eng. Res.* **2019**, *186*, 143–146. [\[CrossRef\]](#)
47. Baxter, G. The Use of Aviation Biofuels as an Airport Environmental Sustainability Measure: The Case of Oslo Gardermoen Airport. *Mag. Aviat. Dev.* **2020**, *8*, 6–17. [\[CrossRef\]](#)
48. Behere, A.; Rajaram, D.; Puranik, T.; Kirby, M.; Mavris, D. Reduced Order Modeling Methods for Aviation Noise Estimation. *Sustainability* **2021**, *13*, 1120. [\[CrossRef\]](#)
49. Akdeniz, H.Y.; Sogut, M.Z.; Turan, O. Prediction and simulation of aircraft noise in the international Eskisehir Hasan Polatkan airport (LTBY). *Aircr. Eng. Aerosp. Technol.* **2021**, *93*, 171–179. [\[CrossRef\]](#)
50. Batóg, J.; Foryś, I.; Gaca, R.; Głuszak, M.; Konowalczyk, J. Investigating the Impact of Airport Noise and Land Use Restrictions on House Prices: Evidence from Selected Regional Airports in Poland. *Sustainability* **2019**, *11*, 412. [\[CrossRef\]](#)
51. Lu, C. Is There a Limit to Growth? Comparing the Environmental Cost of an Airport's Operations with Its Economic Benefit. *Economies* **2017**, *5*, 44. [\[CrossRef\]](#)
52. Varghese, L.M.; Alex, J. Impact of Employee Engagement on Employee Attrition and Job Satisfaction. *PalArch's J. Archaeol. Egypt Egyptol.* **2021**, *18*, 4847–4852.
53. Abeyrathna, A.G.G.S.; Tissera, P.V.S.; Rajapakshe, W. Usage of Information Technology on Employee Commitment: Airport & Aviation Industry in Sri Lanka (AASL). *Asian J. Econ. Bus. Account.* **2019**, *10*, 1–15. [\[CrossRef\]](#)
54. Dobrowolska, M.; Stasiła-Sieradzka, M.; Kozuba, J. Safety Attitude as a Predictor of the Sense of Threat in the Workplace, Using the Example of Airport Ground Staff. *Sustainability* **2020**, *12*, 6569. [\[CrossRef\]](#)
55. Karagiannis, I.; Vouros, P.; Skouloudis, A.; Evangelinos, K. Sustainability reporting, materiality, and accountability assessment in the airport industry. *Bus. Strat. Environ.* **2019**, *28*, 1370–1405. [\[CrossRef\]](#)
56. Karaman, A.S.; Kilic, M.; Uyar, A. Sustainability reporting in the aviation industry: Worldwide evidence. *Sustain. Account. Manag. Policy J.* **2018**, *9*, 362–391. [\[CrossRef\]](#)
57. Bezerra, G.C.L.; Gomes, C.F. Measuring airport service quality: A multidimensional approach. *J. Air Transp. Manag.* **2016**, *53*, 85–93. [\[CrossRef\]](#)
58. Carayannis, E.G.; Dezi, L.; Gregori, G.; Calo, E. Smart Environments and Techno-centric and Human-Centric Innovations for Industry and Society 5.0: A Quintuple Helix Innovation System View Towards Smart, Sustainable, and Inclusive Solutions. *J. Knowl. Econ.* **2021**, *13*, 926–955. [\[CrossRef\]](#)
59. Lykou, G.; Anagnostopoulou, A.; Gritzalis, D. Smart Airport Cybersecurity: Threat Mitigation and Cyber Resilience Controls. *Sensors* **2018**, *19*, 19. [\[CrossRef\]](#)
60. Tranfield, D.; Denyer, D.; Smart, P. Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic Review* Introduction: The need for an evidence-informed approach. *Br. J. Manag.* **2003**, *14*, 207–222. [\[CrossRef\]](#)
61. Lazar, S.; Klimecka-Tatar, D.; Obrecht, M. Sustainability Orientation and Focus in Logistics and Supply Chains. *Sustainability* **2021**, *13*, 3280. [\[CrossRef\]](#)
62. Nguyen, T.; Kuwano, S.; Yamada, I.; Yano, T.; Morinaga, M. Picture-Frustration Test to Assess Environmental Attitudes of Residents Exposed to Aircraft Noise from Hanoi Noi Bai International Airport. *Sustainability* **2021**, *13*, 2016. [\[CrossRef\]](#)
63. Kroesen, M. Exploring people's viewpoints on air travel and climate change: Understanding inconsistencies. *J. Sustain. Tour.* **2013**, *21*, 271–290. [\[CrossRef\]](#)
64. Winter, S.R.; Crouse, S.R.; Rice, S. The development of 'green' airports: Which factors influence willingness to pay for sustainability and intention to act? A structural and mediation model analysis. *Technol. Soc.* **2021**, *65*, 101576. [\[CrossRef\]](#)
65. Ragbir, N.K.; Rice, S.; Winter, S.R.; Choy, E.C. Emotions and caring mediate the relationship between knowledge of sustainability and willingness to pay for greener aviation. *Technol. Soc.* **2021**, *64*, 101491. [\[CrossRef\]](#)
66. Wild, P.; Mathys, F.; Wang, J. Impact of political and market-based measures on aviation emissions and passenger behaviors (a Swiss case study). *Transp. Res. Interdiscip. Perspect.* **2021**, *10*, 100405. [\[CrossRef\]](#)
67. Güner, S.; Cebeci, H.I.; Antunes, J.J.M.; Wanke, P.F. Sustainable efficiency drivers in Eurasian airports: Fuzzy NDEA approach based on Shannon's entropy. *J. Air Transp. Manag.* **2021**, *92*, 102039. [\[CrossRef\]](#)

68. Orkomy, A.S.; Sharbatdar, M.K. Identifying Effective Sustainable Development Indicators for Airport Construction Projects: Zahedan International Airport in Iran as Case Study. *Iran. J. Sci. Technol. Trans. Civ. Eng.* **2021**, *45*, 241–252. [\[CrossRef\]](#)
69. Marete, C.K.; Johnson, M.E. Case Study of Social Sustainability Practices in U.S. Small Hub Airports. *Transp. Res. Rec.* **2021**, *2675*, 916–926. [\[CrossRef\]](#)
70. Gössling, S.; Lyle, C. Transition policies for climatically sustainable aviation. *Transp. Rev.* **2021**, *41*, 643–658. [\[CrossRef\]](#)
71. Alabi, B.; Saeed, T.; Amekudzi-Kennedy, A.; Keller, J.; Labi, S. Evaluation criteria to support cleaner construction and repair of airport runways: A review of the state of practice and recommendations for future practice. *J. Clean. Prod.* **2021**, *312*, 127776. [\[CrossRef\]](#)
72. Dobrowolska, M.; Flakus, M.; Slazyk-sobol, M.; Wawoczny, A. Strengthening Professional Efficacy Due to Sustainable Development of Social and Individual Competences—Empirical Research Study among Polish and Slovak Employees of the Aviation Sector. *Sustainability* **2020**, *12*, 6843. [\[CrossRef\]](#)
73. Tłoczyński, D.; Wach-Kłoskowska, M.; Martin-Rojas, R. An assessment of airport sustainability measures: A case study of polish airports. *Transp. Probl.* **2020**, *15*, 287–300. [\[CrossRef\]](#)
74. Kim, C.; Lee, K.C.; Costello, F.J. The Intention of Passengers towards Repeat Use of Biometric Security for Sustainable Airport Management. *Sustainability* **2020**, *12*, 4528. [\[CrossRef\]](#)
75. Rice, C.; Ragbir, N.K.; Rice, S.; Barcia, G. Willingness to pay for sustainable aviation depends on ticket price, greenhouse gas reductions and gender. *Technol. Soc.* **2020**, *60*, 101224. [\[CrossRef\]](#)
76. Hartono, M. The modified Kansei Engineering-based application for sustainable service design. *Int. J. Ind. Ergon.* **2020**, *79*, 102985. [\[CrossRef\]](#)
77. Rotaris, L.; Giansoldati, M.; Scorrano, M. Are air travellers willing to pay for reducing or offsetting carbon emissions? Evidence from Italy. *Transp. Res. Part A Policy Pract.* **2020**, *142*, 71–84. [\[CrossRef\]](#)
78. Falk, M.T.; Hagsten, E. Time for carbon neutrality and other emission reduction measures at European airports. *Bus. Strat. Environ.* **2020**, *29*, 1448–1464. [\[CrossRef\]](#)
79. Ngo, T.; Tian, Q. Corporate social responsibility awareness and performance: The case of Chinese airports. *Int. J. Prod. Perform. Manag.* **2020**, *70*, 2131–2148. [\[CrossRef\]](#)
80. Gu, Y.; Johnson, M.E. Multiple-Case Study of U.S. General Aviation Airports for Operational Sustainability. *Transp. Res. Rec. J. Transp. Res. Board* **2020**, *2674*, 608–620. [\[CrossRef\]](#)
81. Barry, K.; Suliman, S. Practices of “travelling light” for secure and sustainable aeromobilities. *J. Sustain. Tour.* **2020**, *28*, 305–318. [\[CrossRef\]](#)
82. Greer, F.; Rakas, J.; Horvath, A. Airports and environmental sustainability: A comprehensive review. *Environ. Res. Lett.* **2020**, *15*, 103007. [\[CrossRef\]](#)
83. Al Sarrah, M.; Ajmal, M.M.; Mertzanis, C. Identification of sustainability indicators in the civil aviation sector in Dubai: A stakeholders’ perspective. *Soc. Responsib. J.* **2020**, *17*, 203. [\[CrossRef\]](#)
84. Drljača, M.; Štimac, I.; Vidović, A.; Petar, S. Sustainability of the Air Cargo Handling Process in the Context of Safety and Environmental Aspects. *J. Adv. Transp.* **2020**, *2020*, 1232846. [\[CrossRef\]](#)
85. Christensen, C. Using Digital Media to Increase Awareness for Ground Transportation and to Improve Airport Accessibility for Tourists in Portugal. *U. Porto J. Eng.* **2020**, *6*, 37–41. [\[CrossRef\]](#)
86. Bal, H.T.; Yilmaz, A.K. Values that form the business: Evidence from airport operations in Turkey. *Aeronaut. J.* **2019**, *123*, 507–522. [\[CrossRef\]](#)
87. Pishdar, M.; Ghasemzadeh, F.; Maskeliūnaitė, L.; Braziūnas, J. The Influence of Resilience and Sustainability Perception on Airport Brand Promotion and Desire to Reuse of Airport Services: The Case of Iran Airports. *Transport* **2019**, *34*, 617–627. [\[CrossRef\]](#)
88. Ryu, Y.K.; Park, J. Investigating the Effect of Experience in an Airport on Pleasure, Satisfaction, and Airport Image: A Case Study on Incheon International Airport. *Sustainability* **2019**, *11*, 4616. [\[CrossRef\]](#)
89. Sonnenschein, J.; Smedby, N. Designing air ticket taxes for climate change mitigation: Insights from a Swedish valuation study. *Clim. Policy* **2019**, *19*, 651–663. [\[CrossRef\]](#)
90. Schennings, A.; Larsson, J.; Robèrt, M. Development and implementation of an emission optimization model for passenger flight bookings. *Sustain. Environ. Res.* **2019**, *29*, 25. [\[CrossRef\]](#)
91. Forster, J.; Pansinger, S. Airport Neighbourhoods as Future Regional Development Areas for Resource Awareness and Gestalt Sustainability: Smartairia. *WIT Trans. Ecol. Environ.* **2019**, *217*, 259–268. [\[CrossRef\]](#)
92. Kantenbacher, J.; Hanna, P.; Cohen, S.; Miller, G.; Scarles, C. Public attitudes about climate policy options for aviation. *Environ. Sci. Policy* **2018**, *81*, 46–53. [\[CrossRef\]](#)
93. Bardell, N.S.; Ashton, M.J. Some issues affecting potential stakeholder uptake of sustainable aviation fuel within Australia: A case study conducted at Darwin International Airport. *Aust. J. Mech. Eng.* **2020**, *18*, S95–S107. [\[CrossRef\]](#)
94. Carlucci, F.; Cirà, A.; Coccoresse, P. Measuring and Explaining Airport Efficiency and Sustainability: Evidence from Italy. *Sustainability* **2018**, *10*, 400. [\[CrossRef\]](#)
95. Baxter, G.; Srisaeng, P.; Wild, G. An Assessment of Airport Sustainability, Part 1—Waste Management at Copenhagen Airport. *Resources* **2018**, *7*, 21. [\[CrossRef\]](#)
96. Baxter, G.; Srisaeng, P.; Wild, G. An Assessment of Sustainable Airport Water Management: The Case of Osaka’s Kansai International Airport. *Infrastructures* **2018**, *3*, 54. [\[CrossRef\]](#)

97. Vasumathi, A.; Crispin, C.C. The Impact of SHRM on Man Power Sustainability in a Manpower Agency of International Airport in Tamil Nadu, India—An Empirical Study. *Pertanika J. Soc. Sci. Hum.* **2017**, *25*, 99–118.
98. Yilmaz, A.K.; Flouris, T. Linkages Between Risk and Human Resources Management in Aviation: An Empirical Investigation and the Way Forward in Selection of Ideal Airport Manager. In *Corporate Risk Management for International Business*; Springer: Singapore, 2017; pp. 141–151. [[CrossRef](#)]
99. Sulawesi, S.; Asrib, A.R.; Abduh, M.N.; Dirawan, G.D. Environmental sustainability: The case of the Sultan Hasanuddin International Airport, Makassar, South Sulawesi. *World Trans. Eng. Technol. Educ.* **2016**, *14*, 431–437.
100. Ryerson, M. Building Air Service Sustainability: Analytical Approach to Documenting Air Carrier Incentive Programs in Airport Sustainability Plans. *Transp. Res. Rec. J. Transp. Res. Board* **2016**, 2569, 1–15. [[CrossRef](#)]
101. Cremer, I.; Rice, S.; Winter, S.R. Attitudes toward sustainability between Indians and Americans on water reuse for different purposes at airports. *Int. J. Sustain. Aviat.* **2015**, *1*, 234–244. [[CrossRef](#)]
102. Budd, T.; Ryley, T.; Ison, S. Airport ground access and private car use: A segmentation analysis. *J. Transp. Geogr.* **2014**, *36*, 106–115. [[CrossRef](#)]
103. Piera, M.A.; Ramos, J.J.; Moreno, R.; Narciso, M. Causal simulation models for facing third millennium air transport sustainability. *Simulation* **2014**, *90*, 162–170. [[CrossRef](#)]
104. Ryley, T.; Burchell, J.; Davison, L. Valuing air transportation and sustainability from a public perspective: Evidence from the United Kingdom and the United States. *Res. Transp. Bus. Manag.* **2013**, *7*, 114–119. [[CrossRef](#)]
105. Ryley, T.; Elmirghani, J.; Budd, T.; Miyoshi, C.; Mason, K.; Moxon, R.; Ahmed, I.; Qazi, B.; Zanni, A. Sustainable Development and Airport Surface Access: The Role of Technological Innovation and Behavioral Change. *Sustainability* **2013**, *5*, 1617–1631. [[CrossRef](#)]
106. Rawson, R.; Hooper, P.D. The importance of stakeholder participation to sustainable airport master planning in the UK. *Environ. Dev.* **2012**, *2*, 36–47. [[CrossRef](#)]
107. Peneda, M.J.A.; Reis, V.D.; Macário, M.D.R.M.R. Critical Factors for Development of Airport Cities. *Transp. Res. Rec.* **2011**, 2214, 1–9. [[CrossRef](#)]
108. Boons, F.; Van Buuren, A.; Teisman, G. Governance of sustainability at airports: Moving beyond the debate between growth and noise. *Nat. Resour. Forum* **2010**, *34*, 303–313. [[CrossRef](#)]
109. Lister, B. Heathrow Terminal 5: Enhancing environmental sustainability. *Proc. Inst. Civ. Eng.* **2008**, *161*, 21–24. [[CrossRef](#)]
110. Fontela, P.; Soria, A.; Mielgo, J.; Sierra, J.F.; De Blas, J.; Gauchía, L.; Martínez, J.M. Airport electric vehicle powered by fuel cell. *J. Power Sources* **2007**, *169*, 184–193. [[CrossRef](#)]
111. Amaeshi, K.M.; Crane, A. Stakeholder engagement: A mechanism for sustainable aviation. *Corp. Soc. Responsib. Environ. Manag.* **2006**, *13*, 245–260. [[CrossRef](#)]
112. Kaszewski, A.L.; Sheate, W.R. Enhancing the sustainability of airport developments. *Sustain. Dev.* **2004**, *12*, 183–199. [[CrossRef](#)]
113. Rayfield, D.; Longhurst, J.W.S.; Ramsden, P.S.; Dinsdale, J.A.; Elliott, R.M.; Conlan, D.E. The impacts of road transport on air quality in the Greater Manchester region, UK: Policies towards a sustainable transport system. *Environmentalist* **1998**, *18*, 3–13. [[CrossRef](#)]
114. Sweileh, W.M. A bibliometric analysis of health-related literature on natural disasters from 1900 to 2017. *Health Res. Policy Syst.* **2019**, *17*, 18. [[CrossRef](#)] [[PubMed](#)]
115. Sarkis, J. Supply chain sustainability: Learning from the COVID-19 pandemic. *Int. J. Oper. Prod. Manag.* **2021**, *41*, 63–73. [[CrossRef](#)]
116. Longhurst, J.; Gibbs, D.C.; Raper, D.W.; Conlan, D.E. Towards sustainable airport development. *Environmentalist* **1996**, *16*, 197–202. [[CrossRef](#)]