

Authors	Publications aim	publication methodology	geographical zoon	Sustainable Development Goals	Main Contribution/Outcomes
Al Sarrah et,al (2020) [1]	<p>Investigate stakeholders' role in the relationship between the civil aviation sector and sustainability by considering it.</p> <p>These stakeholders include the government, represented by the civil aviation authority, the passengers, the airlines, and airport management companies</p>	<p>This study uses stakeholder theory to define sustainability indicators, publishes a qualitative research design that collects data through multiple focus groups, and considers stakeholder views towards key sustainability indicators.</p>	Emirates	<p>1- Decent work and economic growth,2- Climate action,3- Sustainable cities and communities .4- Promote inclusive and sustainable economic growth, employment, and decent work for all</p>	<p>The study illustrated that each stakeholder holds a unique perception of sustainability in all three dimensions. That shows that the conception and identification of sustainability in the civil aviation sector is a complicated and multidisciplinary issue</p>
S. Sreenath et,al (2021) [2]	<p>This research aims to establish the characteristics of sustainability and assess sustainable practises at selected ASEAN airports.</p> <p>The environmental elements include energy management, emissions management, water and wastewater management, and solid waste management.</p>	theoretical study	International	all sustainability goals	<p>The study reveals that ecologically friendly practises are more important in the airport setting than social and economic activities that give quantitative advantages to airports in the long run.</p>
sharifi et,al. 2021 [3]	<p>This paper identified key indicators for assessing the sustainability performance of airport construction projects.</p>	<p>The research data used in the analysis was collected from a survey questionnaire submitted to three groups of experts, including the employer, consulting engineers and contractors on Iranian airport construction projects.</p>	Iran	<p>1- Climate action,2- Sustainable cities and communities,3- Decent work and economic growth.4- Ensure sustainable consumption and production patterns</p>	<p>The research results demonstrated the importance of sustainability knowledge and indicators as a positive step toward assessing sustainability in airport projects.</p>

Chutipongdech,Thanavutd&Vongsaroj, Rugphong (2021)[4]	improve a framework for designing local and regional airport business models	The Political, Economic, Social, Technological, Environmental and Legal (PESTEL) Analysis and Analytical Hierarchy Process (AHP) were incorporated under the structure–conduct–performance paradigm to analyze the local and regional airport industry.	Thailand	1-Decent work and economic growth,2- Climate action,,3- Industry, Innovation, and Infrastructure	The framework for establishing business models should centre on an airport's long-term viability. Although the BMC provided an accurate portrayal of general airport operations, problems of sustainability should be given more attention.
Kroesen, M. (2013).[5]	This study aims to objectify people's subjective viewpoints toward air travel and climate change	Using an online questionnaire, a series of data about aviation and the environment were recorded by 491 people in the Netherlands.	Netherlands	Climate action	It appears that air travel behavior is not closely related to general environmental Awareness
Jacobson, L., Åkerman, J., Giusti, M., & Bhowmik, A. K. (2020).[6]	The objectives of this study is to give a more integrative approach to air travel behavior—particularly purposeful reduction of flying—by integrating human, societal, and political elements that may initiate a process to decrease or cease flying, as well as the interactions between those components.	this study used semi-structured qualitative interviews with a hypothetical approach Interviews were conducted in the fall of 2017 and early 2018	SWEDEN	Climate action,	The result shows that the relationship between internal knowledge about climate change and the impact of air travel and behavior change.
					also Awareness elicits negative emotions that lead to a personal tipping point where a decision is made to limit or quit flying.
					However, this process is often negated by the personal values and political structures that underpin air travel.
					Even individuals with a strong drive to reduce flying feel trapped in social practices, norms, and infrastructures.
Güner, S., Ibrahim, H., Junio, J., Antunes, M., & Wanke, P. F. (2021)[7]	Analysing the sustainability drivers efficiency in Eurasian airports	From 2000 to 2018, a novel Fuzzy Double-Frontier Network DEA (FDFNDEA) model is proposed to investigate the relationship between desirable (freight and passenger turn-overs) and undesirable	International	Decent work and economic growth, growth,	The main results of the study are as follows. Entropy levels of production factors at Eurasian airports are very heterogeneous with ambiguity in runway length and passengers being higher than in the terminal area and cargo handled, respectively. It showed that private participation is a key driver of sustainable productivity in the Eurasian airport industry.

		<p>(pollutant emission levels caused by aircraft movements) outputs and the respective infrastructure USAge, fuel consumed, and movements performed at each of the 23 Eurasian airports.</p> <p>This geographical and temporal balance between desired and unwanted outputs develops as a result of the growth of the airport system's productive resources in each of the Eurasian nations throughout the examined timeframe.</p> <p>Shannon's entropy is employed as a foundation to quantify the input and output vagueness of this development in Triangular Fuzzy Numbers (TFN), allowing for the precise construction of alternate optimistic and pessimistic double-frontier efficiency.</p>			
Gaca, R., Gluszek, M., & Konowalczyk, J. (n.d.)2019 [8]	this research aims to measure the impact of the airport on residential property prices and to evaluate the impact of airport noising and land use barriers on them.	theoretical study	poland	1-Sustainable cities and communities.2-decent work and economic growth	the results show that the hypothesis "the introduction of an LLUA has a significant effect on real estate prices" is not accepted.

Sulawesi, et , al (2016).[9]	This study aims to evaluate the existing condition of the sustainability of the Sultan Hasanuddin International Airport in Makassar, South Sulawesi, Indonesia, as being environmentally friendly eco-airport	by using the rapid appraisals airport (RAP-BSHas) model. The research was conducted as a survey using multi-dimensional scaling techniques to measure the value of the sustainability index and the sustainability status. The process was undertaken to identify sensitivity attributes that affect the sustainability index in several dimensions: environmental, socio-cultural, economic, technological and knowledge, and to analyse the dominant attributes that affect the indicators of eco-airport.	Indonesia	1- Climate action,2- Sustainable cities and communities,3- Decent work and economic growth.4- Ensure sustainable consumption and production patterns	this study analysed the current state of the co-sustainability of Sultan Hasanuddin International Airport. The results illustrate that providing public understanding and knowledge of airports, the benefits to five of these attributes would increase the sustainability.
Karagiannis I, Vouros P, Skouloudis A, Evangelinos K. (2019) [10]	the aim of this study is to illustrate the operational aspects of the airport industry of "greatest physical importance and the extent to which the airport sector is responsible for revealing company information related to its physical aspects".	This two-dimensional assessment was accomplished by reviewing CSR reporting practices in the airport industry and correlating the evolution and comprehensiveness of the GRI with reporting completeness and level of accountability.	International	Decent work and economic growth, growth	the findings of this research show that product and service responsibility in terms of customer health and safety, service quality and customer satisfaction as an operational aspects are the top priority airport hierarchy.

Payán-sánchez,et.al.(2018)[11]	this paper is discussing the sustainability problems from inclusion theory perspective, and identifying the main tools (stakeholder engagement, open innovation, and alliances) to develop a sustainable solutions	This paper is a theoretical study.	International	1- Sustainable cities andcommunities,2- Climate action, ,3- Ensure sustainable consumption and production patterns	This paper examined the problem of sustainability from the perspective of inclusion theory and identified the main tools (stakeholder engagement, open innovation, and alliances) for generating new knowledge and developing new sustainable solutions.
Louise ,s et.al.(2020)[12]	This research aims to propose a sustainable airport model by analyzing many categories that will include passenger, admission and airport patio station	The qualitative approach, in order to determine the properties of sustainable airport. Use publications for analysis and literature review..	united kingdom(UK	1-Climate action, 2- Sustainable cities andcommunities,3- Decent work and economic growth.	This research suggests a sustainable airport model by analyzing many categories, including passenger, administrator and airport patio. Leadership and environmental design standards (LEED) and the way of building environmental assessment (BREEAM) were also considered.it also obviouse The lack of sustainable guidelines for planning and certifying a sustainable airport is a political gap that requires immediate attention.
PISHDAR1, et.al.(2019) [13]	This research tries to determine what factors encourage managers to consider airport sustainability in long-term and different situations.	survey	Iran	1- climate action,2- Influence Responsible Consumption and Production, 3- Increase Industry, Innovation, and Infrastructure.4- Decent work and economic growth.	the study's purpose was if passengers comprehend the efforts of managers in making airports more resilient and sustainable, consider the ethical identity of it important, and try to advertise the services.it also recommended setting a conceptual framework for airport resilience or airport sustainability and prioritizing the factors. Strategies can be determined based on the importance of airport resilience and sustainability factors in this regard.
(Sebastian&louis(2021). [14]	extract the airport waste management, moreover the management practices, the opportunities and challenges have been mentioned	this paper conduct systematic review	Inernational	Ensure sustainable consumption and production patterns	this research shows that there is a little attention given to the waste management at airports as the airport one of the waste generators. The study considers different sizes airports in different area.
TŁOCZYŃSKI ET ,AL .(2020)[15]	The main objective of the article is to evaluate the implementation of ongoing projects related to environmental protection in selected Polish airports.	survey was conducted at Polish airports in March 2020.	Poland	1- Climate action,	Although most airports recognize the need for an environmental management strategy, few regional airports have set specific goals for their environmental performance.

Longhurst, J.,et,al.. (1996).[16]	This research test the possibility of applying the sustainable development principles in airports as a global development path that achieves economic and environmental goals.	this paper conduct theoratical study	The united kingdom (UK)	1- Climate action, 2- Sustainable cities andcommunities,3- Decent work and economic growth	the researcher was impliminted for stating the requierment for sustainbale airport. And, to presenting an emparical indicators that would achive sustainability goals.
SOMerVille, A et,al. (2015)[17]	In order to assess the rainwater potential of "Mildura Airport"	the airport needs to be measured the total roof area to determine the available area of rainfall . This involved writing an image processing script in Matlab.	Australia	1- airport sustainable city 2- . Clean water and Sanitation	this work has presented a novel and rel- atively simple method of estimating potable water har- vesting potentials of airport structures. For Mildura Airport, an average potable water harvesting potential of 3.964 megalitres per year was estimated using the method
Nicholas S. Bardell & Michael J. Ashton (2018)[18]	This paper has provided the knowledge of Sustainable aviation fuel (SAF)s and the motivation for airlines and airports to support their commercialization and widespread adoption.	survey	Australia	1- Climate action, 2- Sustainable cities, and communities,3- Decent work and economic growth	this research illustrated that there are serious practical limitations that challenge ambitious targets that have been set by IATA, such as carbon-neutral growth from 2020, there is a need to address the two issues identified in this work: (i) it is important to find ways to enable on-airport SAF storage and into-plane fuel transfer whilst respecting the joint venture management and physical limitations of the JUHI infrastructure, and (ii) the importance of reducing the cost of SAF to make it cost-competitive with existing Jet A-1 fuel.

Solutions, I. (2021)[19]	The aim of this paper is to analysis the smart airport as it is one of the new and advanced technological body.	quantitative study by using survey	Sweden	1- Sustainable cities andcommunities,2- Climate action, ,3- decent work and economic growth	The results of this study have implications for both the carbon pricing of air travel in general and the specific policy of air ticket taxes in Sweden. The first policy relevant finding is that there is a significant amount of WTP for a mandatory surcharge on air travel emissions.
Kivits, R., Charles, M. B., & Ryan, N. (2010).[20]	this paper figures out the new development of sustainable technologies and howtheyt can affect the airport infrastructure	A simulation study using an arena program	not specified	1- Climate action,2- Increase Industry, Innovation, and Infrastructure.3- affordable clean energy.	The findings make clear that major paradigm shifts cannot be sufficiently supported by airports alone, and that the airline industry, as a whole, will need to be responsible for ascertaining the best way forward. This can only be achieved by coordinating the efforts of the various stakeholders in a well-established aviation field. This arena's format must be established before any technology's actual implementation.
Gu, Yue& Johnson Mary E.(2020)[21]	This study explored the understandings of airport operational sustainability among GA airports and the performance metrics used by GA airports and then generalized a definition of airport operational sustainability and a set of performance metrics for measuring operational sustainability for GA airports	A qualitative study analyses the multiple-case method	United State Of America (USA)	1- Climate action, 2- Sustainable cities, and communities,	this study found the sustainability operational definition is a supplement for a meta understanding of report sustainability and is a tool that may help these airports to include an operational dimension into their sustainability planning.
Caroline K. Marete&Mary E. Johnson1(2021)[22]	The aim of this study is to better understand the adoption of social sustainability practices in small hub airport planning in the United States.	The study identifies sustainability planning frameworks used by each of the six small hub airports identified for the study.	USA	Sustainable cities andcommunities	This study contributes to the body of knowledge on airport sustainability and may be used
					as a guide for airports that wish to incorporate social sustainability practices in airport master

Dobrowolska, M , et.al. (2020)[23]	The article's main objective is to evaluate the implementation of ongoing projects related to environmental protection in selected Polish airports.	Survey was conducted at Polish airports in 2020.	Poland	Sustainable cities and communities	Although most airports recognize the need for an environmental management strategy, few regional airports have set specific goals for their environmental performance.
(Chourasia et al.(2020)[24]	the main aim of this research is to look for the factors that make the airport sustainable.	The in-depth systematic literature review is conducted to analyze and to draw inferences from the studies of the development of sustainable airports	not specified	1-decent work and economic growth,2-climate action, 3-Industry and innovation infrastructure	the results show that sustainability is very important in airports through integrate it in the airport strategic plan and the study also show that airport components are (Policymaking, Commerce, Social responsibility, Environmental,Service quality)
Cremer, et al. (2015)[25]	The research aims to test the relationship between an individual's perceived commitment to sustainability and their desire to use recycled water at an airport facility. It also aims to examine whether there are differences in risk perceptions towards the use of recycled water between different cultures. Airports are a large user of water.	This research conducted quantitative method by using questioner relating to the attitude toward the use of recycled water	India , USA	responsible consumption and production	The results demonstrate that there are differences between cultures regarding attitudes toward water reuse and attitudes toward water reuse. The results can enhance make environmental firms more aware of the public's perception of the use of recycled water at airports.
Bal, H. T., & KucUK Yllmaz, A. (2019)[26]	Determine the values that provide a reference for the day-to-day actions and decisions taken by managers of private airport operations in Turkey. This research also focuses on individual values that pose vital risks to shaping managerial behavior.	The research sample consisted of middle and upper-level managers who were among the decision-makers in Turkish airports. An online survey has been sent to the managers	Turkey	Sustainable cities and communities	This study contributes to improving Awareness of the effects of values on business administration, both in theory and practice, as well as its limitations. The analysis shows that there is an agreement between organizational and individual values.

Ortega et, al. (2017)[27]	this study used key factors to understand airport energy use and consumption behavior.	this study conducted a theoretical study by revising the previous studies	Spain	Influence Responsible Consumption and Production 2- affordable, reliable, sustainable, and modern energy	the results presents that the daily energy demand is variable each year, in addition the airport building and construction has a big role to determine the overall consumption for electric consumption
Moreno et,al. (2014)[28]	this research is tackling the possible consequences of not understanding the air side and the land side that come from the unsustainable air transport system	this study conducted semulation methodes	International	Increase Industry, Innovation, and Infrastructure	the results show that not understanding sustainability would lead to economic and environmental sanctions and some possible negative social impact.
Drljača, M., Štimac, I., Vidović, A., & Petar, S. (2020)[29]	this paper presents Air Cargo Handling Process and its complicated structure in the safety and sustainability context.	induction and deduction were used, too.	not specified	1- Climate action, 2- Decent work and economic growth.	the research findings show a significant effect on the environmental and safety factors of certain Air Cargo Handling processes activities.
Wang ,H. et al. (2016)[30]	This study aims to analyze the energy and environmental impact of runway pavement design alternatives using a life cycle assessment approach	Life cycle inventory data was aggregated from the literature database and field surveys to contractors.	USA	1-Decent work and economic growth,2- Climate action,3- Sustainable cities andcommunitie	The results of the research seek to raise Awareness among airport authorities about the impact of pavement type on energy consumption and greenhouse gas emission
Nguyen et al.(2021).[31]	The study aims to: (1) get to know the opinions of people living around NBIA Noi Bai International Airport regarding their environmental and noise Awareness, effects of aircraft noise and airport operations, their suitability for life, and attitudes regarding environmental protection,	1- Survey sites and test participants	Japan	1- Sustainable cities andcommunities, 2- Climate action	The results showed that there is a large variation in attitudes towards the airport and the natural environment among residents in different regions.
Lister, Beverley,(2008). [32]	This paper aimed to evaluate the development of some sustainability criteria during the construction of Terminal 5 at Heathrow Airport to establish environmental Awareness at every stage of design and decision-making	theoretical study	united kingdom	1-Decent work and economic growth,2- Climate action,3- Industry, Innovation and Infrastructure	The main purpose of this study was to evaluate the process of designing, building and operating T5 sustainably along with program, cost, health, safety, and quality requirements. Strong leadership, concise and effective risk management, and pioneering partnerships with regulators and suppliers helped achieve this

cindy (2020)[33]	This research deals with educating travelers and improving decision-making, by directing them towards more sustainable transportation options to reach the airport grounds through the use of digital media, marketing strategy and educational entertainment.	case study	Portugal	1-Sustainable cities and communities, 2- Climate action	the finding ilustared that using digitalmedia to choosing the land transport means inside the airport ,will help the local outhorte to mitigate the invirnomital impact by provid the traviler with information related to public transportation as an alternative to private car or taxi
Forster, J., & Pansinger, S. (2019)[34]	<p>The aim is to integrate the Graz airport and its environment not only through environmental, economic and technological interdependence but also through the creation of an innovative spatial quality that provides Gestalt sustainability and thus yields potential for further urban and regional development.</p> <p>Moreover, the goal is to locate a sustainable (timeless and time-related) spatial organization that balances appearance (gestalt) and its utility and establishes a framework in which people feel life and present.</p>	simulation of electronic vehicle performance is an essential tool that will provide us with the information that will use during the process of measuring and improving the system.	Austria	1- Sustainable cities and communities, 2- Climate action 3- Industry, Innovation and Infrastructure	SmartAIRea will provide insights into the player-specific attitudes and behaviour in the airport environment of medium-sized cities as well as a new basis for strategic orientation of cities with airports in terms of energy and climate awareness. SmartAIRea represents a present method of dealing with the different levels of planning concerning society, economy, planning and politics. The critical reflection of development directions of cities and surrounding communities, based on cooperation and communication, is the primary prerequisite for energy and climate-conscious regional and urban planning

Dobrowolska, M., Flakus, M., Slazysobol, M., & Wawoczny, A. (n.d.). (2020)[35]	This paper aims to performance of workers in the aviation sector.	The sample included 326 individuals working in the aviation industry (for example, airport land Personnel, in particular persons working within the scope of aircraft yard service, aircraft cabin service, service in the supply of lubricants, fuels and other technical materials, flight operations and management service, as well as operators of machinery and equipment).	Poland, Slovakia	Decent Work and Economic Growth.	The study's findings underscore the relevance of personality resources in lowering psychological and emotional costs such as stress and danger.
Cherie Lu,(2017)[36]	This research aims to assess the potential economic benefits of airport operations and compare them with the environmental impact of airport emissions and aircraft noise.	this paper use a quantitative method (by using hestorical data)	Taiwan	1-Decent work and economic growth,Climate action,2-Sustainable cities andcommunities	The paper found that the operation of Taipei Songshan Airport generated more economic benefits than environmental costs, yet sensitivity analysis of emissions and social cost-noise criteria shows that environmental costs may have outweighed economic benefits in 2008 and 2009 in some high-emission and social-cost noise situations.

Fontela,P et.al. (2007)[37]	This research aims to design and build a prototype for a hybrid electric vehicle for the airport sector, which includes a new propulsion system based on an electric motor and a hydrogen fuel cell, which provides advantages over current vehicles in terms of autonomy, charging time, efficiency and emissions.	Simulation of electronic vehicle performance is an essential tool that will provide us with the information that will use during the process of measuring and improving the system.	Spain	Industry, Innovation and Infrastructure 2- energy consumption	this paper aim to assess using hypred car in airport to reduce the emissions
Ngo, T., & Tian, Q. (2020)[38]	. The main objective of this research is to test the Awareness of corporate social responsibility (CSR) of the main Chinese airport during the period 2013-2017 as well as its impact on the performance of the airport	The research used content analysis to determine the extent of CSR awareness of the screened airports, reflecting annual and CSR reports. Besides other characteristics such as location and size,	China	1- Sustainable cities and communities,2- climate action, 3- responsible consumption and production	There is evidence that raising Awareness of CSR positively contributes to improving the performance of Chinese airports. Therefore, Awareness of CSR activities and CSR activities should be the main concern of the Chinese airport industry in the future.

Santos et al. (2020).[39]	This study provides a fuzzy mathematical model to support and evaluate airport waste management	This study aims to develop a waste management indicator to support airport waste management issues, focusing on a case study of a Brazilian public airport.	Brazil	1- Sustainable cities and communities, 2- climate action, 3- responsible consumption and production	The results showed concern on the airport's part about waste management, which is reflected in the results of the Foggy Waste Management Index (FWMI). They also indicated that there was an improvement in waste management in 2015 compared to 2014, as a result of increased accountability for recyclables and increased awareness of the airport community. The developed model has proven to be an important tool to support decision-making by airport managers, including aspects related to waste management steps, and there may be adjustments that can be made to include new indicators.
Baledón, N. & Kosoy (2018)[40]	the paper's objective is to improve the understanding of ICAO's strategy for alternative aviation fuels. By using Carol Bacchi's what's the problem represented to be?	Using Carol Bacchi (2009) what's the problem? The Methodological Framework (WPR) for Building Analysis and the implications of the problem-solving paradigm underpinning ICAO's work in environmental protection.	not specified	1- Sustainable cities and communities, 2- climate action, 3- responsible consumption and production	This paper contributes to advancing aspects of International discussions that have received little or no attention, such as: (1) increasing awareness of aviation's environmental impacts beyond tailpipe emissions, (2) improving understanding of current and future climate impacts on the air transport sector, and (3) restoring Assessment of the sectoral approach to the sustainable development goals to achieve alignment with the goals of the United Nations 2030 Agenda for Sustainable Development.

Flouris 2017[41]	the aim of this paper is to create a framework of implementation for the selection of ideal airport managers using the multi-criteria decision-maker method AHP.	this paper use mixed mthodes (by using AHP method) analytical Hierarchy method	Turkey	Decent work and economic growth	this paper creates a framework for ideal airport manager
Schennings et.al.(2019)[42]	This paper aims to explore the potential of a more transparent emissions declaration system, in order to a) facilitate the selection of environmentally conscious consumers for low-emissions flights, and b) provide data for a future emissions trading system in which the costs of aviation industry emissions are calculated.	The paper creates an algorithm designed for "Flight CO2 Emissions Comparisons," developed and implemented on Sweden's largest airline ticket price comparison website that compares flights to CO2 emissions in kilograms per passenger and flight.	Sweden	1- climate action , 2- eenergy consumption.	
					the algorithm need emission reduction policies and/or the introduction of a fair emission taxation system, to be act as a catalyst for emission reductions in the aviation sector .
Kim, C., Lee, K. C., & Costello, F. J. (2020).[43]	This paper aimed to explore the relationship between perceived risks, perceived benefits, initial use intent, and intent to repeatedly use biometric security measures at airports.	A survey was conducted on 362 participants from an online research agency in the Republic of Korea From 7 to 15 September 2019	The Republic of Korea	Sustainable cities andcommunity	The results show that both perceived benefits and risks have a significant impact on passengers' intention for initial and repeated use of biometric security. Therefore, for all practitioners involved in the sustainable management of airports, the strong interest from this research should help create value for travelers while mitigating the risks of biometric security adoption within airport security settings.
Young Kyung Ryu & Jin-Woo Park (2019).[44]	The aim of this paper is to recognize the relation between the four dimensions of experience presented by Payne and Gilmore (entertainment experience, educational experience, aesthetic experience, and escape experience.) and pleasure, satisfaction, and airport image derived from airport users.	This study use a quantitative study by using survey	The Republic of Korea	Sustainable cities andcommunity	The results show that airport passengers value experiences that allow them to refresh themselves more than instructional and entertaining events in the airport. Second, it was established that enjoyment has a good impact on contentment and airport image. The more pleasure airport passengers gain, the more satisfied they are with the airport, and this increased degree of pleasure instils a strong impression of IIA. As a result, this can aid in the creation of a distinct airport image that distinguishes it from other airports..

Budd, Thomas Ryley, Tim Ison, Stephen,(2014).[45]	this research aims to determine the segments of airport passengers which has less probability to use their cars through using psychosocial approach	The questionnaire conducted by the interviewer was used to collect the required data. This basically consists of 44 position statements related to constructs in the theory of planned behavior, modular activation theory,	united kingdom	1- Sustainable cities and communities, 2- climate action	The findings reveals the need for decision makers to address the current attitudes and behavior 'gap' that can prevent positive environmental attitudes from being translated into the use of more sustainable methods while also addressing the perceived difficulty some occupants associate with using these situations.
Peneda,M.et.al.(2011).[46]	this paper aims to identify the critical, underlying factors in airport cities.	The paper provides a framework for illustrating the factors that shape the development of an airport city and the relationships among them. A key informant survey was then conducted with 30 participants and supplemented with personal interviews of eight of them.	USA	1- Sustainable cities and communities, 2- climate action	The results indicate that there is no consensus on the definition of the airport city concept. In addition to noting that there are four critical factors for the development of the airport city: the connection of the airport and its surroundings, the economic potential of the surrounding area, the context of sustainable development, and the commercial location of the airport operator.
Rice, et al (2020)[47]	this research is aiming to examine to what extent the passenger has willingness to pay additional fees to reduce the amount of greenhouse emissions through the flight.	QUANTITATIVE APPROCH	International	1- climate action , 2- Decent work and economic growth	the study show that customer (female) would pay extra fees in order in order to help in reducing GHGs compared with men.The current study adds to this literature by showing that more reductions in greenhouse gases increase willingness to pay an additional ticket price

Stefan Gössling a,b,c & Chris Lyle(2021)[48]	This paper illustrates potential aviation emissions mitigation policies against the background of emerging complexities, such as the large share of radiative forcing not covered by any policy agreement, as well as highly skewed demand distributions.	the paper develops a specific methodology To assess reduce aviation emission policy options that here takes the form of a three-step procedure to (i) identify available mitigation policies that can be implemented by nation-states (accountability), (ii) assess these policies' effectiveness in supporting system change (comprehensiveness, future-proofing), and (iii) evaluate their public acceptance (common goals). (qualitative	International	1- climate action , 2- energy consumption	The paper emphasized that eliminating fossil fuels and related subsidies is a priority, supported by a mix of policies that include fees (CO2, frequent flyer, premium classes) and a feed quota for selected final sustainable aviation fuels.
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Kantenbacher, J. et al. (2018)[49]	the paper's aim is to assess the acceptability of a broad range of aviation climate policy options to the British public.	this paper uses a quantitative method (by using questionnaire)	UK	1- climate action, 2- energy consumption	The findings support UK citizens strongly support policy approaches that place a financial burden on industry rather than individuals directly and support taxation of jet fuel to support railways. also, the paper stresses the reluctance of the British to accept government regulations, such as taxes, that simply pass from industry to consumers; They emphasized that the airline industry must bear much of the economic burden of carbon taxes.
Riley et al. (2013)[50]	This paper examines public attitudes towards air transport and sustainability to find out how individuals value sustainability in air travel	questionnaire	UK, USA	1- climate action , 2- sustainable cities and communities	the findings illustrate that Most respondents showed an unwillingness to pay more to fly to offset the negative environmental effects of aviation and only a small minority were trying to fly less for environmental reasons.
Sonnenschein, J., Smedby, N., & Smedby, N. (2019)[51]	this study measures to what extent are the Swedish passengers able to pay more in order to be more greener weather in short or long distance	a quantitative study by using survey	Sweden	1- climate action , 2- energy consumption, 3- increase industry innovation and infrastructure	A strong behavioral change is not expected, and the Swedish tax is expected to reduce the number of trips by only about 3%,
Riley, T., et al. (2013)[52]	this research aims to support the environmental behaviour for passenger whether while travelling or in airport	a quantitative study by using survey	United Kingdom	1- climate action , 2- energy consumption	The paper shows that airports do not control all of the associated surface access, with a range of stakeholders with special interests (eg public transport operators and external tenants at airports).
					Telepresence contributes to technology that can reduce the level of airport disembarking/collecting flights, such as increased market presence and lower installation and usage costs.

Rawson, et, al. (2012)[53]	This paper provides an initial qualitative exploration of the UK airport's master planning processes, drawing on two airport case studies to examine the ability of master plans to facilitate effective stakeholder participation and thus contribute to a more sustainable air transport industry.	this paper used document analysis and qualitative semi-structured interviews.	united kingdom	1- Sustainable cities and communities, 2- Influence Responsible Consumption and Production, 3- the global partnership for sustainable development, 4- Decent work and economic growth.	the paper illustrated that Encouraging stakeholder inputs at the early stages of planning processes would help produce documents that build consensus as to the most acceptable and sustainable form 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
Winter et, al.. (2021)[54]	The research proposed a model of factors impacting willingness to pay for climate change and the corrective action toward it	this paper uses a quantitative approach	USA	1- climate action. 2- climate action.	The findings show that there is a positive relationship between willingness to pay and perceptions of climate change. it also shows that willingness to pay mediates the relationship between perceptions of climate change and intent to take action against climate.
Rotaris, L., et, al. (2020).[55]	This paper aims to test whether Italian air travelers are willing to contribute to the financing of reducing or offsetting all emissions generated not only from their International flights but also from their domestic flights, and whether their willingness to pay depends on reducing or offsetting all emissions.	this paper uses a quantitative approach	Italy	1-Sustainable cities and communities, 2- climate action	The paper found willingness to pay less for frequent flyers, people traveling for work, men, the unemployed, and people with a lower educational degree, as predicted by the International Civil Aviation Organization. Their willingness to pay for each ton will cover a large part of the value of the damage they cause because of their choice of transportation
Martin Thomas Falk, Eva Hagsten (2020)[56]	This study aims to determine the internal and external factors of empirical importance for the airport's participation in emission reduction programs	Estimates of the Cox proportional hazard model based on almost 600 airports for the period 2009 to 2017	International	1-Sustainable cities and communities, 2- climate action	the paper analyzed that large and fast-growing airports and those in a group are more likely to contribute to the carbon reduction certification programs. the low-cost hub Airports exhibit a significantly lower probability of participation in carbon emission reduction programs. Indicators that measure the environmental progress at the country level are also aspects of importance for the decision on participation, most distinctly represented by renewable electricity generation.

Barry& Kaya (2020)[57]	This article explores how the "light travel" culture can be applied. to maintain safe and sustainable travel.	qualitative stud by using interview and the theoretical linkages between material cultures and practices of tourist travel and the resilience, sustainability, and security of global aeromobility assemblages	Australia	1- climate action. 2- influence consumption and production.	The findings point to the need to develop a culture of "light travel" tourism that includes reducing the amount of carry-on and checked baggage and self-recognition of travelers' integral role in producing safe flying.
Greer ,F.et al. (2020)[58]	this research used six categories (Energy and Atmosphere, Comfort and Health, Water and Wastewater, Site and Habitat, Material and Resources, Multidimensional) in order to assess a frame work for airport sustainability	Qualitative study ,systematic review has been conducted.	International	1-Climate action 2-Clean water3- resnable consumption and production	Research on water conservation, climate change resilience, and waste management is more limited, indicating that airport environmental accounting requires more analysis. A disconnect exists between research efforts and practices implemented by airports. Effective practices such as sourcing low-emission electricity and electrifying ground transportation and gate equipment can in the short term aid airports in moving towards sustainability goals

Hartono, M. (2020)[59]	<p>This study proposes a modified Kansei Engineering(Kansei Engineering (KE) has been applied to model the interaction between emotions (known as Kansei) and product/service attributes)</p> <p>implementation of sustainable service design with the integration of TRIZ, human factor, and ergonomics. The concept of the three elements (people, planet, and profit) has been included in the main methodology of KE, especially the social dimension which is closely related to the human elements.</p>	<p>this paper proposes modifying Kansei Engineering (KE) integrated with the Kano Model and the Theory of Inventive Problem Solving (known as TRIZ) to link the customer's emotional needs (Kansei) and responses to the properties and attributes of a product or service.</p>	Indonesia	<p>1-decent work and economic growth, ,</p> <p>2-sustainable city and community.3- Climate action</p>	<p>these studies display the importance of Kansei's role in sustainable service development in airport service, the study provides a guideline for service designers and managers in identifying which attractive-based service attributes need to be prioritized considering Kansei satisfaction</p>
Lykou,G. et.al. (2018)[60]	<p>This study investigates: (a) the rate of cybersecurity measure implementation at commercial airports; (b) malicious threats that emerge as a result of IoT and smart device installation; and (c) risk scenario analysis for IoT malicious assaults with threat mitigation activities.</p> <p>With the goal of improving operational</p>	<p>this study use questioner</p>	Greece	<p>1- Increase Industry, Innovation, and Infrastructure.2- decent work and economic growth.</p>	<p>This study presents a systematic and complete examination of malicious attacks in smart airports, with the goal of assisting the airport community in understanding risks and acting proactively by implementing cybersecurity best practises and resilience measures.</p>

	processes and developing strong cybersecurity governance in smart airports				
Baxter,G et,al. (2018)[61]	<p>The primary goal is to investigate the varied effects of energy use at Copenhagen Airport and their impact on the natural environment and nearby residents.</p> <p>The second goal is to identify the greenhouse gas emissions produced by the airport's energy sources.</p>	This study used an exploratory qualitative and quantitative case study research approach to empirically examine Copenhagen Airport,	Denmark	1-Ensure sustainable consumption and production , 2-industry,innovation and infrastrucher3-climate action	The paper identified station(s) lighting, cooling/heating, parking lot lighting, as well as airport runway lighting are key areas where sustainable energy management systems can be applied and, when managed sustainably and strategically, appear to offer excellent potential for airports to reduce CO2 emissions due to The most efficient use of energy.
Baxter, G., et,al. (2018).[62]	this study design an exploratory research to utilized in the examination of the sustainable water management strategies and systems at Kansai International Airport from 2002 to 2016.	The research was performed using an in-depth exploratory case study. Case study data were analyzed using document analysis	Japan	1- Responsible consumption and production,2- Sustainable cities andcommunities,	the paper found the airport works closely with key stakeholders to find ways to conserve water. The airport also promotes the use of reclaimed/recycled water wherever possible. Recycled or reclaimed water is used for watering, washing roadways, and toilet flushing
Babashamsi, et,al.,(2016)[63]	This research aim to discover the meaning of sustainability and to figure out the main assessment tools like cost benefit analysis, life cycle cost analysis, life cycle cost analysis, life cycle assessment, multi-criteria decision making, environmental and its negatives and positives in airports		International	1- Sustainable cities andcommunities 2-Increase Industry, Innovation, and Infrastructure	New technologies, especially for recycling materials, should come into practice to make pavements not only more eco-friendly but also more strongly-built to endure the effects of time and should be gainful and cost effective..pavement managers should focus on the long term costs rather than short term costs.

Budd, Thomas Budd, Lucy Ison, Stephen,(2015).[64]	this paper test the different methods to reduce the environmental impacts of operations in airports	the paper use the Information from a detailed desk-based review of industry and government reports, the academic literature, airport master plans and individual airport sustainability reports	UK	1-Climate action, 2- Sustainable cities andcommunities,3- affordable, reliable, sustainable and modern energy	this paper examines the ways in which UK airports have responded to the challenge of reducing the environmental impacts of operations for which they are directly responsible by implementing green and sustainable energy and working practices.
Carvalho, et,al.,(2013).[65]	this study focuses on how airports deal with water consumption and the best practices that could be adopted to conserve it.	quantitative approach analysed the annual water consumption of some of the main airports in the world, as well as the water consumption per passenger, calculated by dividing the total potable water consumption by the number of passengers transported in the same year. Information regarding the number of passengers and water consumption was obtained for the year 2010 for all airports, except for Fiumicino in Rome, which published its latest environmental report in2009.	International	1- Sustainable cities andcommunities , 2- Influence Responsible Consumption and Production	the paper illustrated that Airport environments consume large amounts of water to maintain infrastructure and operations, and in most cases, this volume is used to meet non-potable requirements, such as firefighting, floor and aircraft washing, landscaping, and air conditioning systems, which can largely through Alternative water sources (rainwater and treated effluent, for example).

Kaszewski, Andrea L. Sheate, William R. (2004)[66]	The study examines the feasibility of four scenarios that encourage the development of airports in a more sustainable manner, with a focus on airport building design and surface transportation. The scenarios were (1) a "business as usual" (BAU) plan for airport surface transportation and terminal building design, (2) a green transportation plan (GTP), (3) a green architecture plan (GAP) and (4) a best practice approach combining (2) and (3), using a combination of renewable energy and energy efficiency technologies.	A final representative stakeholder sample was created of 23 interviewees, all of whom are involved in work related to airport development, transportation, building design, or local government policy.	UK	1- climate action ,2- Influence Responsible Consumption and Production	the nature of stakeholder interest does not seem to influence their perception of a more sustainable scenario.the airport and airline industries would need to co-operate more fully with the CAA, government and regulatory agencies, so that the latter can set and specify in detail legally binding targets, caps and environmental capacity limits ('bubbles') for each major UK airport. There
A. Vasumathi* and Colin Crispin C.(2017)[67]	Human Resource practices in Airports	Quantitative approach (questioner)	India	doesn't work ,and economic growth	This research contributes the literature on the relationships between the organisation and employees who were working at an airlines' ground handling service in India. It also proves that the company should motivate the present employees to perform better so as to achieve organisational goals.
Baxter, G., Srisaeng, P., & Wild, G. (2018).[68]	this research studies how airports can reduce the environmental impact in airports , case study on Kansai International Airport	The research was performed using an in-depth exploratory case study. Case study data were analyzed using document analysis	Japan	1- Responsible consumption and production,2- Sustainable cities and communities,	According to the study case, the principal sources of trash created at Kansai International Airport include incinerable wastes from aeroplanes serving the airport, flight catering centres, and the airport's terminal facilities. The rubbish created by airlines accounts for around 20% of the overall waste generated at the airport. In general, the types of garbage created at Kansai International Airport are diverse. Kitchen garbage, wood waste, non-recyclable paper, rags, steel and aluminium cans, unbroken glass and plastic bottles, non-advertising newspaper, magazines, high quality paper, copier paper, paper created in workplaces, and non-confidential documents, as well as cardboard, are among these wastes. Furthermore, wood garbage, clothes, briefcases, plant clippings, wood goods, glass containers, ceramic containers, shattered glass bottles, and other items are prohibited.

Ryerson, M. S. (n.d.).(2016)[69]	this study is exploring a new methodology to estimate air traffic, investment costs, and environmental emissions from new flights.	This study provided a methodology for estimating costs and emissions from incentive programs so that these programs can be included in airport sustainability plans. However, the methodology presented shows only one side of the equation underlying airline incentive programs - the costs - and neglects the benefits to regional economic development.	USA	1- Sustainable cities and communities, 2- ,Decent work and economic growth.	The lack of a planning process for airline incentive programs keeps airport operators from learning from the experiences of their peers.
Kenneth M. Amaeshi(2006) [70]	This paper proposes a stakeholder engagement framework to assist airport corporations in developing and executing strategies for sustainable airport development, as well as a practise guide to help the framework be operationalized.	make afeamwork stakeholder engagement and sustainable airport development.	not specified	1- SUSTAINABLE CITIESAND communities.2- Revitalize the global partnership for sustainable development	The study has proposed a good practice stakeholder engagement framework for sustainable airport development, to assist airport compa nies, academics and policy makers interested in the aviation industry, in particular
Fabio Carlucci rt,al.(2018)[71]	This research used 34 Italian airports in the period 2006–2016 to analyses overall technical, pure technical,and scale efficiency and how these factors affect efficiency and economic sustainability	Through the DEA (Data Cover Analysis) method, this paper analyzes the purely technical, technical and range efficiency of 34 Italian airports in the period 2006-	Italy	Promote inclusive and sustainable economic growth, employment and decent work for all	The result reveals that the size of the airport, the presence of low-cost airlines and freight traffic have a significant impact on the technical efficiency and scale of Italian airports. In other words, the privatization and deregulation of air transport can positively affect the efficiency and sustainability of regional airports. This means that the market mechanism is a useful tool in achieving the sustainability of regional airports even if an

		2016 in order to investigate how a number of factors affect the efficiency and economic sustainability of regional airports			empirical analysis of the effects of privatization and deregulation is recommended for such an assessment.
Di Vaio, et.al. (2020)[72]	this study used SDGs 11 and 17 in airport industry to explain how initiatives are developed and implemented.	Qualitative Approach	Italy	1- Sustainable cities and communities, 2- Revitalize the global partnership for sustainable development	This article discusses the need of creating and improving accounting and reporting standards, such as the SBSC (Sustainable Balanced Scorecard), as well as appropriate organisational designs.
Alabi, et.al. (2021).[73]	This research focuses on the sustainability concept and its relation with investment assessment related to expansion or repair of the runway pavement	The paper used a systematic review of relevant published work by Google Scholar®, EconLit® and the ASCE Library, to create a comprehensive review of current research on sustainability considerations in runway development	USA	1- Sustainable cities and communities. 2- Increase Industry, Innovation, and Infrastructure	this research suggest a report which can be used to select the right decision based on specific criteria and to evaluate the overall investment runway paving.
Otoa, et.al. (2012)[74]	to define environmental education in the framework of environmental bioethics in the context of sustainable airport design, building, and operational efforts	This paper provides a case study, issues on education for sustainability (EfS) of Esenpoga International airport (ESB) in Ankara, Turkey In order to have a better understanding of the research concerning ducation for Sustainable Airports , literature reviewed. The review includes documents from aviation sector as well as various scholarly articles and books	Turkey	1- growth, employment and decent work for all, 2-Quality Education	For achieving airports sustainability, education for formal and informal. Sustainable airport is achieved through sustainable education and training of employees, customers, stakeholders and the public. is not just environmental bioethics education is also essential to understand and tackle environmental problems of airports. Airport operators will need to ensure that education of sustainable programs reflect the importance of an environmental bioethics for living sustainably.environmental protection but Environmental education for airports

		related to airport sustainability			
Glenn Baxter 1 , Panarat Srisaeng 1 and Graham Wild 2,*(2018)[75]	The aim of this research is to analyse the waste management strategies at Copenhagen Airport, as well as the sources, types and volumes of waste generated at the airport, in addition to the methods used to mitigate the environmental impact of the waste produced at the airport.	A qualitative longitudinal approach was used in the study	Denmark	Ensure sustainable consumption and production patterns	The environmental effect of garbage at Copenhagen Airport is reduced by recycling and incineration. The garbage that is burned is utilised for district heating. As previously stated, garbage is created both on the airside and on the ground at Copenhagen Airport. Because yearly waste data are based on aggregate trash quantities generated at the airport, it was not possible to analyse trends in these specific regions.
Ragbir, et.al.(2021)[76]	The aim of this study is to determine the mediator role factors between participants general knowledge of sustainability and the willingness to pay more to be greener	The purpose of the current study is to examine factors that would act as a mediator between a passenger's general knowledge of sustainability, their knowledge of aviation sustainability, and WTP to support sustainable practices in the aviation industry. Using an interrogation and distributing it to a sample of 514 participants	International	1-Climate action 2-Quality Education.	The study shows that there are two critical mediators which are caring and happiness. those variables are important to explain the relationship between being more sustainable and pay more for it
Wild, et.al.(2021) [77]	This study explored the impact on travelers of taxing the airline sector or increasing fuel and ticket prices, which could lead to lower CO2 emissions, with a focus on Switzerland.	The survey was created through "Findmind," a platform where data is transferred, encrypted, and hosted on Swiss servers.	Switzerland	Sustainable cities and communities	The study confirmed that market-based measures have a low impact as a reduction measure because the costs are too low to achieve a significant reduction.

Boons, et.al. (2010)[78]	This study aimed to show how the characteristics of the governance system build the boundaries and content of the debate on the sustainable development of airports.	<p>The methodology consists of four steps. First, is the current, thoughtful secondary analysis of the governance and management of SHA. In the second step, a description of the current governance system was developed based on reports from previous research</p> <p>The third step of data collection consisted of five interview sessions with a total of 34 respondents.</p> <p>The results of these sessions were used to improve the description/analysis of the governance area, and inputs were provided for recommendations to improve sustainability governance in SHA.</p>	Netherlands	1- Sustainable cities and communities .2- industry, Innovation, and Infrastructure,	<p>This Governance Area Study on Sustainability at Schiphol Airport has led to analysis and recommendations regarding complex systems. Rather than viewing controversy and prolonged conflict as deviations from "normal" attitudes, the study showed that they are ingrained in the system as it exists now. The recommendations stem from this acknowledgment and build on the system requirements to move from a passive system to a more adaptive one.</p> <p>Many characteristics of the management field of Schiphol Airport are similar to those of airports located in densely populated areas: these airports are also located at the intersection of the International aviation system where capacity growth is seen as the only way to compete, and a national area where such growth is highly contested.</p> <p>Around many of these airports, the debate about the balance between economic, social, and environmental value has been narrowed down to a debate about growth versus noise reduction. For this reason, we feel that our recommendations may serve as a basis for benefiting from the change at other airports as well.</p>
Ismael Cremer *, Stephen Rice , Michaels, Alexander Oyman, Korhan(2016)[79]	This study aims to review and validate the SUS-TAS Environmental Sustainability Scale that measures consumer attitudes toward sustainable airline and airport practices.	This study used the SUS-TAS Environmental Sustainability Scale and will be modified to meet the needs of the aviation industry,	USA	1- climate action,2- Decent work and economic growth.	The objectives of this research were achieved by implementing a multi-study approach in generating a set of valid and reliable ASPA scales, one for airports and one for airlines.

		and finally a re-validation of the scale using factor analysis and reliability metrics.			
Baxter, Glenn Srisaeng, Panarat (2019)[80]	the study conduct a pilot study of sustainable water management strategies defined and implemented by Copenhagen Airport and to examine the methods and water quality control and systems used by the airport to reduce the environmental impact of the water consumed and generated at the airport.	The study used a longitudinal qualitative research design	Denmark	responsible consumption	The result of the study found that Copenhagen Airport (CPH) is an interesting case study for sustainable water management at airports. Growth in passenger and airport operations while maintaining a steady level of water consumption demonstrates the success of water-related initiatives. The success of these initiatives is further demonstrated by the reduction in pollutants measured during the study period, again with the increased use of airports.

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