



Journal of Airline Operations and Aviation Management

The Netherlands Press

Article

THE WORLD AIRPORT AWARDS AS A QUALITY DISTINCTIVE AND MARKETING TOOL FOR AIRPORTS

Lázaro Florido-Benítez

Lecturer, Department of Economics and Business, Málaga University, Spain

Orchid Id: <https://orcid.org/0000-0003-3360-6423>

E-mail: lfb@uma.es

DOI: <https://doi.org/10.56801/jaoam.v1i2.4>

Abstract.

This study aims to analyze the World Airport Awards as a quality distinctive and marketing tool by airports. It is a benchmarking study, and it uses secondary data from Skytrax, World Airport Awards, Airports Council International, International Air Transport Association, airport official websites and apps, App Store, and Google Play, to support research results. The method includes airport website benchmarking, communication, and marketing strategies by airports with the aim of analyzing the degree of utilization of the prize awarded by Skytrax. The study's findings indicate that when an airport wins the Skytrax's prize or it is positioned very good in the Skytrax's ranking, this airport cites the achievement on its official app and website, with the aim of advertising and promoting the quality services and brand image worldwide. Furthermore, this study demonstrates that there is a high correlation between airport ranking and digital channels usage like airport's website.

Keywords: Airport, Quality, Marketing, Benchmarking, Brand image and Management.

Journal of Airline Operations and Aviation Management Volume 1 Issue 2

Received Date: 26 October 2022

Accepted Date: 11 November 2022

Published Date: 25 December 2022

1. Introduction

During the pandemic airports became authentic graveyards of airplanes. Unfortunately, most airlines are being affected by a temporary lack of liquidity and transparency hindering the efficient allocation the necessary public and private investments, to ensure fair, free, and equitable access to airlines by government aid schemes. From a business and operational standpoint, it is necessary to increase accounting transparency on aviation activity and regulatory processes by public and private organizations, because this transparency could have positive consequences for shareholders. Indeed, according to Jordão (2009) [1] claims that investors will know better how the airport management is using the financial resources and how is managing all risks related to their operations. Departing from the above literature indicate that these actions are well suited for measuring the efficiency of airport investments based on resource input measures and performance output measures, these processes do not address the effectiveness issue with respect to the overall quality level of airport passenger services [2]. For instance, Wang et al. (2022) [3] found that an airport with high service quality can promote its operation, and it will help to improve its position in the classification of Skytrax airport service quality awards. One of the main gaps identified by researchers and practitioners was that to measure airport's performance through operational approaches is not sufficient. For this reason, it is important to measure the level of passenger' satisfaction at airports, with the aim of providing valuable information to airport operators. As stated by Volo and D'Acunto (2021) [4] the power of digital service ecosystems lies in technological innovation, and forward-looking leaders.

Airport operations are dramatically changing the industry towards modern technology adaptation, such as airport applications into passenger terminal process, applications and demand for airborne drone operations, including urban air mobility, are growing rapidly in regional and metropolitan areas [5-8]. Airports play an active role in the promotion and delivery of tourism products and services in their host cities. Furthermore, airports are the gateway where tourists enjoy and fulfill their dreams in the desired tourist destination, but the COVID-19 pandemic is accelerating the change of the rules of the game at air transport and tourism around the world [9, 10].

According to a study carried out by Straker and Wrigley (2018) [11] suggested that airport's technology usage does influence the overall service ranking, highlighting airports which are using digital channels as a communication tool are higher ranked compared to those that currently do not utilize them to their full extent. For instance, Hamal et al. (2021) [12] 'propose that these operational strategies are heavily focused on enhancing consumers' travel experience at airports and airlines.' These operational and technological strategies implemented by airports are highly valued by passenger surveys in the Skytrax World Airport Awards, these are the most prestigious quality in the air transport, and they are known as 'The Olympics of the aviation industry'. Skytrax is a consultancy firm based in London, United Kingdom.

The Skytrax World Airport Awards are voted by customers in the largest, annual global airport customer satisfaction survey. The awards are based on 13,25 million airport survey questionnaires completed by 106 different nationalities of airline customers during the survey period. Skytrax is a specialized advisor in research and quality to the air transport industry. It advises airports and airlines around the world on quality improvements and quality leadership [13, 14]. As stated by Rhoades et al. (2000), and Trischler and Lohmann (2018) [15, 16] airport operators need to tackle and respond

the needs of stakeholders and passengers at airports, thus is, they must clearly adapt to the new challenges of aviation. Air transport faces the challenge of improving the processes of information communication and transmission, customer experiences and relationships, based on real-time information exchange [17]. This study serves to emphasize the importance of airports at cities, because they provide air connectivity at destinations and improving the regional economy [18]. Although, the tourist development within a destination and airport provides a context where goals and economic interests overlap by (Destination Marketing Organizations, airport, airlines, and stakeholders), and sometimes is very hard to advance a common set of interests [19].

Moreover, the previous studies did not investigate the impact of adopted strategies on the service quality and marketing by airports. To fill this gap, the main challenge of this study is to analyze the World Airport Awards as a quality distinctive and marketing tool for airports. Skytrax awards are often cited by the winner airports for publicity and marketing, the management of social media activities by airports is an emerging issue, and existing empirical literature on the measurement of brand perception in the airport industry is lacking [20, 21]. As stated by Graham (2019) [22] competition in the airport industry assumes three different levels: competition among groups of airports, competition among airports and competition inside airports. With increasing competition between airports, perceived quality and consumer satisfaction have become a key focus of management and the most important tool to maintain a competitive advantage, measuring Airport Service Quality (ASQ) is vital to airport management nowadays [23, 24].

2. Literature Review

2.1 Airport Service Quality as a Distinctive to Empower the Brand Image of Airport

The first and last perception of quality in a tourist destination takes place at the airport [25]. Airport service quality perceived by passengers at airports, has gained increasing interest among scholars and practitioners owing to its close link to customer satisfaction, airport efficiency, non-aeronautical revenue. Nevertheless, airport service quality surveys are now widely used by both airport operators and regulatory authorities [16, 23, 26-31]. Airport operators' managers understand the importance of passenger's perceptions of airport service quality [26, 32, 33]. For passengers, aircraft cleanliness is non-negotiable and serves as a fundamental component of service quality. Passenger perceptions of airline cleanliness correlate with their impression of overall airline service quality and satisfaction [12, 34]. For instance, in 2021 Tokyo's Haneda airport has been awarded the global 5-Star airport quality rating for the sixth consecutive year in the World's Cleanest Airport category [35]. This award truly demonstrates the commitment of the airport operator and operational equipment of maintaining hygiene and cleanliness of the infrastructure, and which has become a global benchmark in this category.

The specific situation on tourism and aviation sectors requires new challenges and future opportunities [36]. In 2021, the Skytrax awards has been different due to the pandemic, with major airports falling rank and an entirely new awards category (i.e., COVID-19 Airport Excellence Awards) dedicated to the incredible efforts made by the aviation industry introduced (see Figure 1). Skytrax assessment is very important, because this is an independent institution recommended by the global air transportation industry [37]. As regards the evaluation of airport service quality, literature review includes both qualitative and quantitative data, to ensure consistency of this study. Following Jiang et al. (2015) [38] showed that there were significant differences of service quality between passengers' expectations and perceptions.

Moreover, Bulut and Aydogan (2020) [39] revealed that the decision-makers should improve the passenger service quality. It helps decision-makers where to focus as a strategic priority.

Airports face several challenges when serving passengers, for instance, the involvement of multiple staff and service providers, and fragmented passenger segments that have diverse expectations regarding service quality [40]. Airport operators need to be aware of the importance that certain demographic and situational characteristics play in the decision-making process of purchasing products and services offered on their web page or app [41-43]. Nevertheless, Florido-Benítez (2021b; 2021d) [9, 44] detected an interoperability deficit between public and private organizations. Among the many decisions involved in internationalization of companies, one of the first ones to take is the choice of location of an airport. Airports must be multimodal and multifunctional, to attract new business models and customers. Marketing yourself as a tourist or cargo airport is a big mistake, because you are closing a multitude of commercial and non-commercial opportunities and income [45].

Previous studies on airport service quality have showed a link between quality of services and passenger’s satisfaction as well as brand image. More recent research on airport service quality has also brought in big data and public reviews, such as those from Google Review or Twitter to tackle quality services at air transport and tourism industries [20, 46-51]. Moreover, an adequate level of service quality makes the airport more attractive and can contribute to the development of the surrounding territorial context [52]. Some awards can be powerful tools to promote accessibility in the built environment, such as the Access City Award, the Accessible Airport Awards, the UIA Friendly, and Inclusive Spaces Award [53].

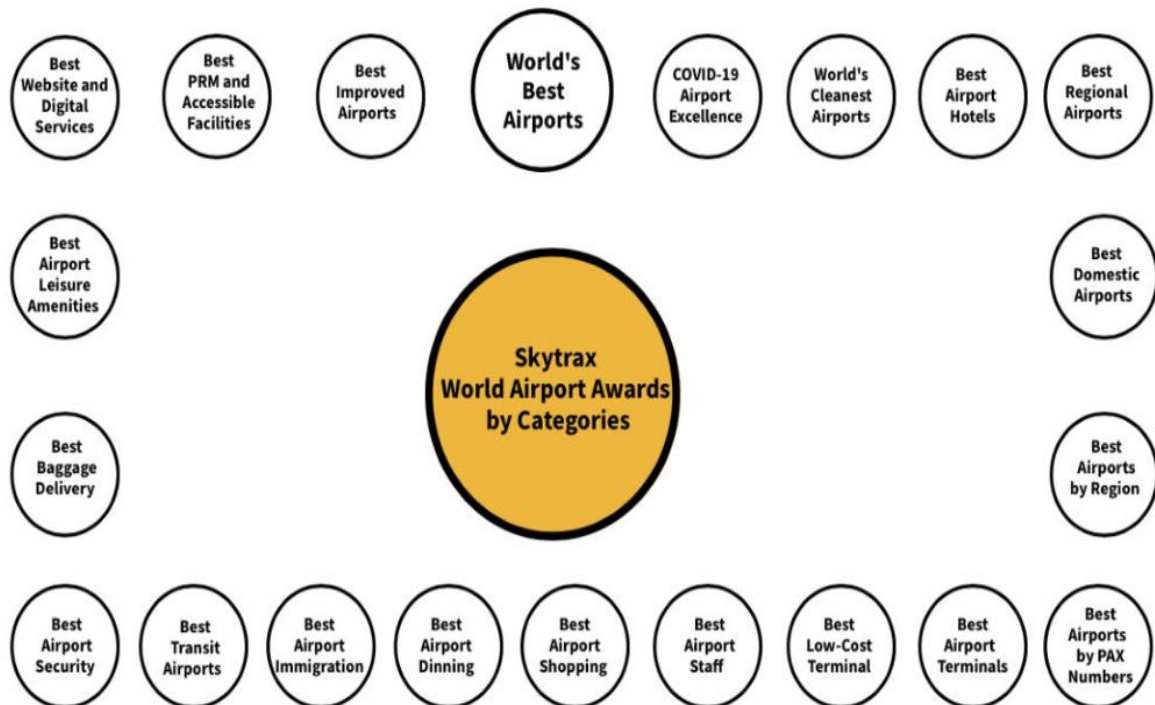


Figure 1: Skytrax World Airport Awards by categories in 2021.
Source: Own elaboration from World Airport Awards (2021a).

2.2 Airport Marketing in the Digital Age

Marketing has become a core activity at many airports, and one that is vital for success of airport operators [54, 55]. The two main customers of airports are airlines and passengers. Marketing techniques used for these two types of customers vary depending on the needs of each client [25]. Nevertheless, as stated by Florido-Benítez (2021d; 2021e) [44, 45] airports are adapting to new business models and new collaborations, especially in the commercial activities (e.g., e-commerce, start-ups, transport and logistic activities and new technologies). In this same line, Alabsi and Gill (2021) [56] claim that there is an increasing interest in the use of various digital technologies for interacting with passengers at airports, because advances in the Internet of Things (IoT) and aviation sector have resulted in the emergence of smart airports (Koroniotis et al., 2020) [57]. The airport industry is characterized by the usage of a large amount of technology, so innovation is a necessary component for improving day-to-day commercial activities. Following Coca-Stefaniak (2019) [58] suggests that smart innovation initiatives will help tourism cities and air transport to develop new digital marketing strategies.

The digital marketing literature and research streams are in a stage of developed maturity, and this is only the beginning of mobile phone data still have great potential to further advance international business [59, 60]. As stated by Buhalis and Volcheck (2021) [61] the integration of technology in business strategy increases the complexity of marketing communications and urges the need for advanced marketing performance analytics. Destination marketers should construct an appealing image by improving the tourism infrastructures and the quality of the services and products that a destination offers [62]. Passengers evaluate the experience within the airport with the promotion of the destination they received in their country of origin. For this reason, the efficiency of managing tourism promotion is the key to the growth of arrival of tourists and encouraging the actual and potential tourists to travel a destination through the spreading of information, especially, when the COVID-19 pandemic has had a catastrophic impact on the tourism and air sector worldwide [63]. In this regard, Florido-Benítez (2022c) [64] indicates that new variants of the coronavirus, Brexit, and the conflict between Ukraine and Russia have once again set off alarm bells, as international tourism is the basis of all tourist destination. Tourist destinations and airports should extend their efforts to discover the needs and follow necessary promotional strategies to raise interest among the potential tourists. It is imperative for the decision makers to understand how tourists acquire information for tourism related to products and services [65]. Tourist communication is an important factor to have a positive image about the tourist destination and the decision-making process of tourists. Digital and mobile marketing, infrastructure, branding, quality, accessibility, and information factors about a specific destination which are mostly demanded by tourists are considered as an important mean of promotion for the tourism and aviation industries. According to Wang et al. (2020) [66] revealed that appreciation leads to intention to visit the promoted destination when the branded promotion is offered. Moreover, the rise of online channels requires airport operators to change sales strategies, reinforcing emotional promotion to stimulate impulse buyers' willingness-to-buy [43].

2.3 Airport Branding as a Marketing Tool

This research project highlights the importance of developing airport marketing strategies at airport international context, and this helps to satisfy the needs of the different passenger's segments, thanks to the information provided by airport websites and apps about the products and services showed. For instance, in mobile marketing campaigns,

everything is measured and monitored, from the media, optimization of the corporate website and the application, emails, SMS, MMS channels to the final evaluation of the customer of the product received. Mobile apps have been developed to solve the everyday problems of users. This implies a stronger interaction between the brand and the consumer [59, 67, 68]. Airport operators have placed greater emphasis on airport marketing and branding [69]. The destination image influences in the trip quality, trip value, and tourist satisfaction [70]. The image is a differentiating element with respect to your main competitors [71]. According to Hosany et al. (2006) [72] revealed that destination image and destination personality are related concepts.

Airports and companies that coexist in their microenvironment are being transformed into e-commerce driven companies that are willing to use mobile devices as their new direct sales channel or commercial information adders to favor and improving the sale of products to users [59]. Following Florido-Benítez (2016b) [73] indicates that large airports are taking advantage of the consolidation of smartphones to create airport applications' brands and communication strategies (see Figure 2). As stated by Bennet and Rundel-Thiele (2005) [74] 'brand managers may need to update their understanding of the nature and role of brand loyalty'. Mobile marketing contributes to improve higher levels of satisfaction among airport clients. However, for mobile marketing infrastructure to achieve long-term success, it must provide benefits to airports and airlines through the mobile applications [75]. For instance, in 2016 a research project was conducted by International University of Bad Honnef, Florido-Benítez and Düsseldorf airport, with the aim of improving the app of this airport in communication, management, screen interface and loyalty program terms. Nowadays, the Düsseldorf airport app has become an indispensable tool for passengers and this airport was awarded as the second-best regional airport in Europe and fifth best regional in the world in 2021. Leiper (1979) [76] indicates that the willingness to travel and seek new experiences is based on profit generation orientated towards the wants and needs of tourists [77].



Figure 2. Airport brand apps.

Source. Own elaboration from App Store (2021) and Google Play (2021).

Available online at: <https://www.apple.com/app-store/> (accessed on 4 October 2021).

Available online at: <https://play.google.com/store/apps> (accessed on 6 October 2022).

3. Data Collection and Airport Website Benchmarking

3.1 Data Collection

This study collects data from the Skytrax World Airport Awards website, which each year awards the best airport in the world, where air travellers voice their opinions about their airport experience after the screening process and verification [1, 7, 11, 14, 50, 78-82]. As stated by Lubbe et al. (2011) [83] claim that the main measure of assessment of airport operations is the opinion of passengers. This study employed web crawling technique to collect the review dataset from Skytrax. The reviews were collected from the World Best Airport ranked 1st-100th, larger airports compete internationally, as they perceive themselves to be intercontinental air transport hubs [50, 69]. On the contrary, Lee and

Yu (2018) [20] indicate that Skytrax focuses more on ranking airports and presenting World Airports Awards, but the growth in the number of airport's reviews has been slow and there is substantially lesser chance for casual visitors than aviation professionals to leave reviews in Skytrax, potentially leading to a strong self-selection bias. In addition, the temporal scope correspondent to this study has been from 2012 to 2021, this temporary scope has a particular evolutionary purpose for airports, especially the implementation of new technologies and IoT. "The service quality and passenger experience at airports can be enhanced by applying big data analytics and IoT" [84, 85]. The survey operated from 2012 to 2021, covering 700 airports worldwide and evaluating traveller experiences across different airport service and product key performance indicators, from check-in, arrivals, transfers, shopping, security and immigration through to departure at the gate (see Table 1). According to Airports Council International 'ACI' (2021) [86] claims that these indicators help compose an updated, accurate list of both amenities and services provided at each airport. Skytrax divides airport service quality evaluations into six dimensions: website design, ground transport, security and immigration service, passenger arrivals, departure and transit, terminal comfort and terminal facilities, and shopping, food and beverage. For this reason, the airport's priority should be promoting its service quality [87, 88].

The data for this study is secondary data drawn from Skytrax, and passengers can rate their airline, seats, lounges, and airport experiences for a variety of attributes and share their reviews as text comments via the Skytrax mechanism. The reasons for using this data source in the analysis are: first, Skytrax requires passengers to verify themselves prior to leaving a review. And second, Skytrax compiles highly representative data from a global network of airports [89].

The survey also contained a specific COVID-19 section [11, 90]. From this survey, the top one hundred airports, this study focused on world's top 25 airports, listed in Table 2). The format of airport audit that Skytrax conducts at airports worldwide is identical in approach for every type of airport covered whether major, regional, or domestic, but the key to the debate should be what would be best for airports and its users. Sometimes many decisions are made for reasons that do not relate to quality service [15, 87]. Connectivity and information sharing under the mediation effect of top management commitment are positively related to big data and predictive analytics acceptance [91, 92]. Following Gunasekaran et al. (2017a) [91] suggest the need for decision support system to understand break-even analysis of new design procedures and verify in terms of quality and cost effectiveness. For researchers, the method presented here can be used to facilitate more studies to investigate the relationships between the service quality and other aspects like airport's marketing. Moreover, this the proposed model did not examine the impact of quality on other performance indicators, for instance, financial performance, and market share [14]. The top 25 airports vary significantly according to the perspective they have been analysed. An airport that performs very well according to stakeholder expectations might not perform satisfactorily by sustainability reporting investigation on empirical findings [79].

Table 1. Airport indicators to assess by customer' surveys in the Skytrax World Airport Awards

Source. Own elaboration based on data from World Airport Awards (2021b).

* These are some topics and methodological indicators used in monitoring and evaluation of airports by Skytrax.

General Topics	General Topics	COVID-19 Topics	Survey's Methodology
Getting to and from the Airport, Ease of Access	TV and Entertainment facilities	COVID-19 information signage	Survey screening: All entries screened to identify each IP / user information, with duplicate or ineligible entries deleted.
Public transport options, efficiency and prices	Quiet areas, Day rooms, Hotel facility, rest areas	Face mask usage enforced	Survey costs: The costs of operating the survey are paid entirely by Skytrax.
Taxi availability and prices	Children's play area and facilities provided	Visibility and availability of hand sanitiser	Survey languages: Customer surveys were provided in English, Spanish, and Chinese
Availability of luggage trolleys (airside & landside)	Airport's app	Social distancing markings / signage	Airports covered: Over 500 airports are featured in the survey results.
Terminal comfort, ambience and design	Airport's website	Enforcement of social distancing	Survey payment: No payment or reward of any type is made to survey respondents, with all submissions on a voluntary basis.
Terminal cleanliness, floors, seating and public areas	Information received though physical and digitally	Seating / F&B social distancing	Membership subscription: No membership subscription, registration or any charge for an airport to be included in the survey.
Seating facilities throughout terminals	User's experience at airports	Hygiene procedures at security	Trade association: The customer survey is not connected to any type of trade association.
Immigration - queuing times / system	Client's level of satisfaction.	Social distancing at security / immigration	Survey dates: The survey was conducted from August 2020 until July 2021
Immigration - staff attitude	Ubiquity's information	Terminal cleanliness	Respondent nationalities: Over 100 customer nationalities participated in the survey.
Waiting times at Security screening	Choice of Shopping - tax free and other outlets	Washroom cleanliness	Survey hosting: The online survey was hosted at www.worldairportsurvey.com
Crowding in lounge area	Prices charged in retail outlets	Digital COVID Certificate (DCC)	Award logo usage: Award winning airports are able to use the Award logos at no charge
Seating in lounge area (quality and availability)	Choice of bars, cafes and restaurants		Awards event: The awards event has no charge for airports to attend.
Courtesy and Attitude of Security staff	Prices charged in bars, cafes and restaurants		Member airports: The customer survey is not restricted to member airports. Any airport in the world can be nominated in the survey.
Quality of security search process	WiFi service		Third parties: No third party survey involvement or sponsorship of the Survey process.
Check-In facilities, queuing systems and seating	Power charging facilities		
Wayfinding and Terminal signage	Telephone and fax locations		
Clarity of Boarding Calls and Airport PA's	Bureau de change facilities		
Flight Info Screens - clarity / quality of information	ATM facilities		
Friendliness of Airport Staff	Smoking policy / Smoking lounges		
Language skills for Airport Staff	Standards of disabled user access and facilities		
Ease of Transit through Airport	Baggage Delivery times		
Location of Airline Lounges	Priority Baggage Delivery efficiency		
Washroom and Shower facilities in terminal	Lost luggage services		
Cleanliness of Washroom facilities	Perception of security and safety standards		

Table 2. World's top 25 airports from 2012 to 2021.

Source. Own elaboration based on data from World Airport Awards (2021b)

TOP 25	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
1	Seoul Incheon	Singapore Changi	Singapore Changi	Singapore Changi	Singapore Changi	Singapore Changi	Singapore Changi	Singapore Changi	Singapore Changi	Doha Hamad
2	Singapore Changi	Seoul Incheon	Seoul Incheon	Seoul Incheon	Seoul Incheon	Tokyo Haneda	Seoul Incheon	Tokyo Haneda	Tokyo Haneda	Tokyo Haneda
3	Hong Kong	Amsterdam Schiphol	Munich	Munich	Munich	Seoul Incheon	Tokyo Haneda	Seoul Incheon	Doha Hamad	Singapore Changi
4	Amsterdam Schiphol	Hong Kong	Hong Kong	Hong Kong	Tokyo Haneda	Munich	Hong Kong	Doha Hamad	Seoul Incheon	Seoul Incheon
5	Beijing Capital	Beijing Capital	Amsterdam Schiphol	Tokyo Haneda	Hong Kong	Hong Kong	Doha Hamad	Hong Kong	Munich	Tokyo Narita
6	Munich	Munich	Tokyo Haneda	Zurich	Centrair Nagoya	Doha Hamad	Munich	Centrair Nagoya	Hong Kong	Munich
7	Zurich	Zurich	Beijing Capital	Centrair Nagoya	Zurich	Centrair Nagoya	Centrair Nagoya	Munich	Tokyo Narita	Zurich
8	Kuala Lumpur	Vancouver	Zurich	London Heathrow	London Heathrow	Zurich	London Heathrow	London Heathrow	Centrair Nagoya	London Heathrow
9	Vancouver	Tokyo Haneda	Vancouver	Amsterdam Schiphol	Kansai	London Heathrow	Zurich	Tokyo Narita	Amsterdam Schiphol	Kansai
10	Centrair Nagoya	London Heathrow	London Heathrow	Beijing Capital	Doha Hamad	Franfurt	Franfurt	Zurich	Kansai	Hong Kong
11	London Heathrow	Franfurt	Auckland	Vancouver	Tokyo Narita	Amsterdam Schiphol	Tokyo Narita	Kansai	Zurich	Centrair Nagoya
12	Copenhagen	Auckland	Centrair Nagoya	Kansai	Franfurt	Kansai	Amsterdam Schiphol	Franfurt	London Heathrow	Amsterdam Schiphol
13	Auckland	Centrair Nagoya	Franfurt	Franfurt	Amsterdam Schiphol	Vancouver	Kansai	Taiwan Taoyuan	Vancouver	Helsinki-Vantaa
14	Tokyo Haneda	Kuala Lumpur	Kansai	Tokyo Narita	Vancouver	Tokyo Narita	Vancouver	Amsterdam Schiphol	Franfurt	Guangzhou
15	Franfurt	Helsinki-Vantaa	Shanghai Hongqiao	Auckland	Helsinki-Vantaa	Copenhagen	Taiwan Taoyuan	Copenhagen	Helsinki-Vantaa	Paris CDG
16	Shanghai Hongqiao	Tokyo Narita	Tokyo Narita	Copenhagen	Beijing Capital	Brisbane	Helsinki-Vantaa	Shanghai Hongqiao	Vienna	Franfurt
17	Tokyo Narita	Copenhagen	Copenhagen	Taiwan Taoyuan	Brisbane	Helsinki-Vantaa	Vienna	Vancouver	Melbourne	Istanbul
18	Abu Dhabi	Kansai	Taiwan Taoyuan	Helsinki-Vantaa	Copenhagen	Shanghai Hongqiao	Shanghai Hongqiao	Brisbane	Taiwan Taoyuan	Copenhagen
19	Kansai	Shanghai Hongqiao	Helsinki-Vantaa	Kuala Lumpur	Cologne / Bonn	Cape Town	Copenhagen	Vienna	Copenhagen	Dubai
20	Sydney	Abu Dhabi	Kuala Lumpur	Brisbane	Taiwan Taoyuan	Dubai	Sydney	Helsinki-Vantaa	Paris CDG	Madrid Barajas
21	Barcelona	Brisbane	Sydney	Sydney	Auckland	Taiwan Taoyuan	Cape Town	Sydney	Brisbane	Shanghai Hongqiao
22	Helsinki-Vantaa	Cape Town	Abu Dhabi	Doha Hamad	Cape Town	Auckland	Brisbane	Cape Town	Shanghai Hongqiao	Melbourne
23	Seoul Gimpo	Seoul Gimpo	Brisbane	Cologne / Bonn	Sydney	Sydney	Dubai	Melbourne	Cape Town	Vienna
24	Cincinnati/Northern Kentucky	Taiwan Taoyuan	Melbourne	Johannesburg	Kuala Lumpur	Vienna	Auckland	Dubai	Hamburg	Vancouver
25	Bangkok Suvarnabhumi	Lima	Dubai	Melbourne	Melbourne	Beijing Capital	Hamburg	Cologne / Bonn	Dubai	Houston George Bush

Furthermore, this study introduced airport website benchmarking, with the aim of analyzing the degree of utilization of the prize awarded by Skytrax (The World's Top Ten Airports from 2012 to 2021, see Figure 3), and communication and marketing strategies. This second stage collected information on each airport and the digital communications that they were showing in their website. The data collection for each airport began with a search of the airport's website, and from there, information and promotional content about awards obtained by Skytrax were analyzed in order to gain an overview of existing digital channels. According to Merkert et al. (2012) [93] claim that benchmarking of airports has gained considerable interest in both the academic literature and within the practitioner community.

This approach has long been used by researchers interested in examining communication such as advertisements and media stories, to explore and gain a clearer understanding of digital channels and their usage [11, 94-97]. On the contrary, Benchmarking airports is currently popular both in the academic literature and in practice but has proved rather problematic due to the heterogeneity inherent in any reasonably sized dataset [98]. Although there are a wide range of airport benchmarking studies for large airports and in particular hubs, much less has been investigated at the local and regional level [99].

This analysis will help airport operators to manage promotion communications through airport apps and websites, to ensure airports have adequate resources to enhance capacity and meet the needs of their partners and companies, empower the airport brand image, and identifying best practices for the benefit of passengers. This study shows also as airport operators manage the prize awarded in their digital channels (website and apps), because online communications and promotion strategies are important information sources of passenger experience towards services provided at airports. Previous research claimed that 'travelers consider the re-views of past tourists in deciding on their trips' [100].

4. Results of Research

4.1 The World's Top Ten Airports from 2012 to 2021

The perspective analyzed in this research project indicates that the best airports scored in the same category according to the World Airport Awards should be carefully analyzed before being considered by their features and qualities, their role in relation to the territory or tourist destination, budgets, management, direct or indirect government aid provided to airports and airlines, among many others. As stated by Jordão (2009) [1] some airports might not perform in a satisfactory way in employees, suppliers, local communities, and Destination Marketing Organization terms. Following indicate that Skytrax's airport rankings and World Airport Awards are used for promotional purposes and competitive advantage by most of the world's airports [101].

The rating of the World's Top 100 airports from 2012 to 2021 were voted by air travelers around the world by Skytrax's survey. The Table 2 shows only the World's top 25 airports from 2012 to 2021, and within the Top Ten airport of Table 2 from this period, this study has selected and classified the World's Top 10 airports in the last ten years. The method used to classify the best airports was apply a quantitative rating system (10 points for the first position until 1 point for the tenth position), according to this study, results showed that the best airport in the world was Singapore Changi airport with 97 points from 2012 to 2021, and its IATA code is (SIN); followed by Seoul Incheon airport (ICN) with 85 points; Tokyo Haneda airport (HND) 72 points; Hong Kong airport (HKG) 62 points; Munich airport (MUC)

61 points; Doha Hamad airport (DOH) 37 points; Zurich airport (ZRH) 32 points; Centrair Nagoya airport (NGO) 30 points; Amsterdam Schiphol airport (AMS) 25 points, and tenth place London Heathrow airport (LHR) with 20 points (see Figure 3). Each of these airports offer unique passenger experiences and provide consistent quality, basic services that satisfy customer priorities as well as their needs and expectations [102].

Competition between airports and airport operators are being fierce, especially in these difficult moments of pandemic, because ‘this crisis is longer and deeper than anyone could have expected, and international passenger traffic remained 86.6% down on pre-crisis levels over the first two months of 2021’, this situation is forcing the transformation of airports in shipping centers, in order to increase non-aeronautical revenue [103]. Many airports have transformed their terminals in shopping malls offering a great variety of commercial activities such as Singapore Changi airport, Korea Incheon International airport, Doha Hamad airport, London Heathrow airport, amongst many others. Following suggest that larger airports that provide the infrastructure for airport cities, including shopping malls, hotels, and other commercial activities, may have relatively greater opportunities to collect revenues than their smaller counterparts [98].



Figure 3. World’s top 10 airports by the Skytrax World Airport Awards (2012-2021).

Source. Own elaboration based on data from World Airport Awards (2021b).

***Top ten airports have been scored during the period from 2012 to 2021 (Table 2. Top one with 10 points until top ten with 1 point).**

Airport operators pay more attention to offering passengers and airport visitors plenty of benefits related to entertainment. Changi Airport is a living example of good management, where the airport operator continually pays close attention to creating enjoyable experiences to the passengers [104]. Bock (2015) [105] claims that Singapore’s Changi airport has achieved a degree of prominence and singularity amongst international audiences to the point that it is frequently invoked and emulated as a ‘model’. Singapore Changi airport has won over 250 awards. Its customers and stakeholders recognized to airport operator its efforts to improve the conditions of all passengers and companies [102]. These good passenger experiences directly influence satisfaction surveys conducted by airport operators and public and

private organizations. Following showed that perceived service quality is the consumer's judgement about a firm's overall excellence or superiority [106, 107].

4.2 Recent Airport Website Benchmarking Results

Benchmarking should start being more widely practiced by airports and airlines worldwide to obtain better standards [108, 109]. To provide airport services characterized by high levels of quality make the travel more pleasant for the passengers, with the final objective to attract more users [52, 86]. In this study, we suggest that Benchmarking is used like a management tool by airports to determine strengths and weaknesses, and as method in future research in this area of knowledge [110-112]. Benchmarking within the airport industry can be divided into two types of evaluation: First, self-Benchmark: an airport compares its performance with itself over time; and second, external-Benchmark: an airport compares its performance with other airports either at a single point of time or during a period [113]. For improved managerial benchmarking, disaggregated data regarding non-aeronautical activities would help to identify successful strategies on the commercial side [98]. Following suggest that developing a single indicator that captures the state of infrastructure is difficult because it must consider a certain number of indicators like quality services and how users value the services provided [114].

The Figure 4 shows airport website Benchmarking of the World's Top Ten airports by the Skytrax from 2012 to 2021. This study examined and compared websites of airports, and every one of them promoted the prizes in their websites and apps. In this section, we reflect on the relationship between the results and the literature review in order to offer insight into how World Airport Awards are currently being promoted online and provide some ways in which airports in these countries can improve their online presence.

Results show that airport' websites perform well in providing content that highlights the World Airport Awards: World's Best airport, World's Cleanest airports, World's Best Domestic airports, among others. Airport operators use a variety of marketing strategies to establish their credibility among foreign companies and customers, including profiling their international certifications and links to accreditation bodies. In these ten airports' websites, they are promoting the quality of their services and positioning the airport brand image around the world. According to Wu (2018) [97] revealed that the promotion of tourism has been interrelated with the branding of destinations, because the tourism website is regarded as the most important communication tool for destination marketing in the information age. As stated by Law et al. (2010) [112] a benchmarking approach combines user perceptions with website performance to help owners identify the strengths and weaknesses of their own websites. Online reviews have been used as secondary data in many areas of marketing applications, ranging from pricing to brand management [66, 115, 116]. Passengers share their service experiences on online platforms such as Trip Advisor and Skytrax. These platforms, it is always possible to access online reviews that are independent of time and place and have a high spread rate and contributes to the growth of electronic word of mouth [117, 118]. The best airlines in the world highly recognize Skytrax's quality awards. When an airline is awarded a 'Skytrax star-ranking' or advances to a higher ranking, they immediately announce this news by publishing press releases and posting it on their websites' most visible spots. Both overall star rankings and detailed quality assessment results are publicly available on the Skytrax website [119-121]. Numerous airports are investing in digital solutions such as mobile applications, website, and wayfinding maps to improve customer experience issues. This study

provides a benchmarking tool for airports, by building upon existing research into the usage, purpose and content of digital channels [11].

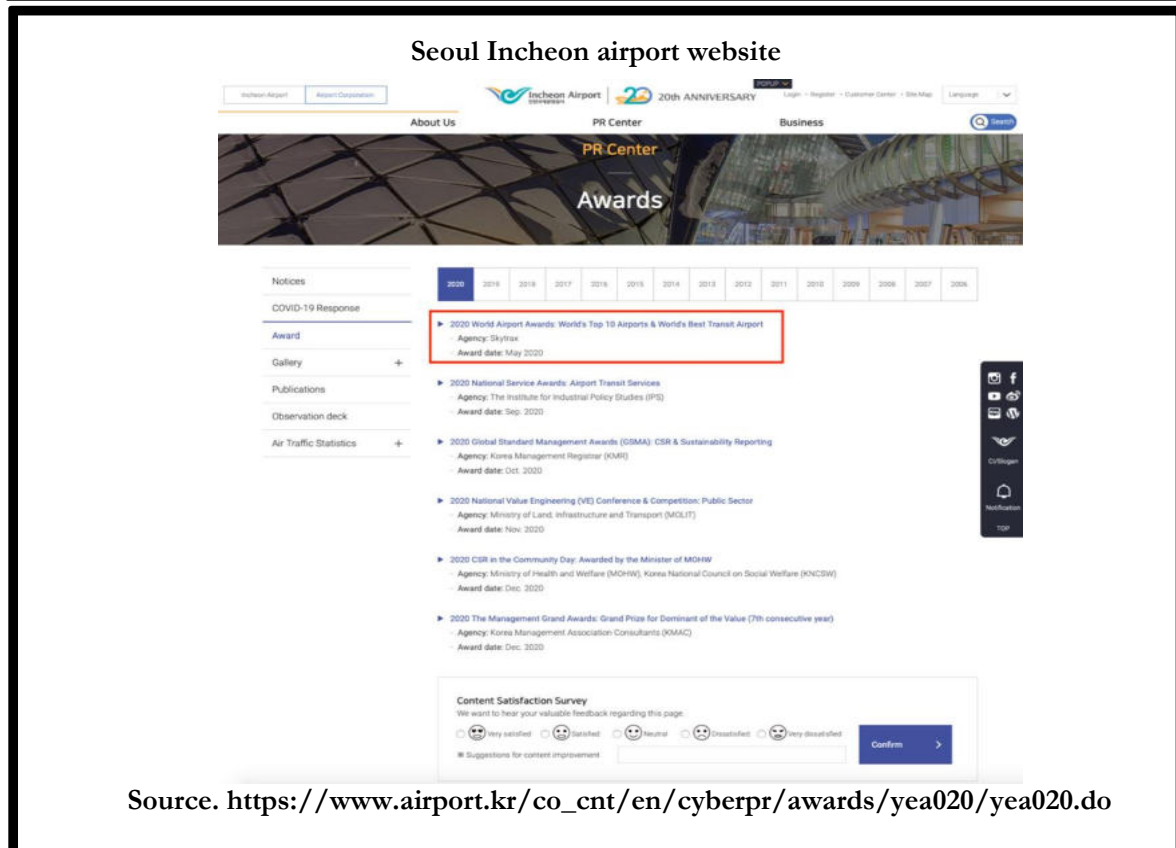
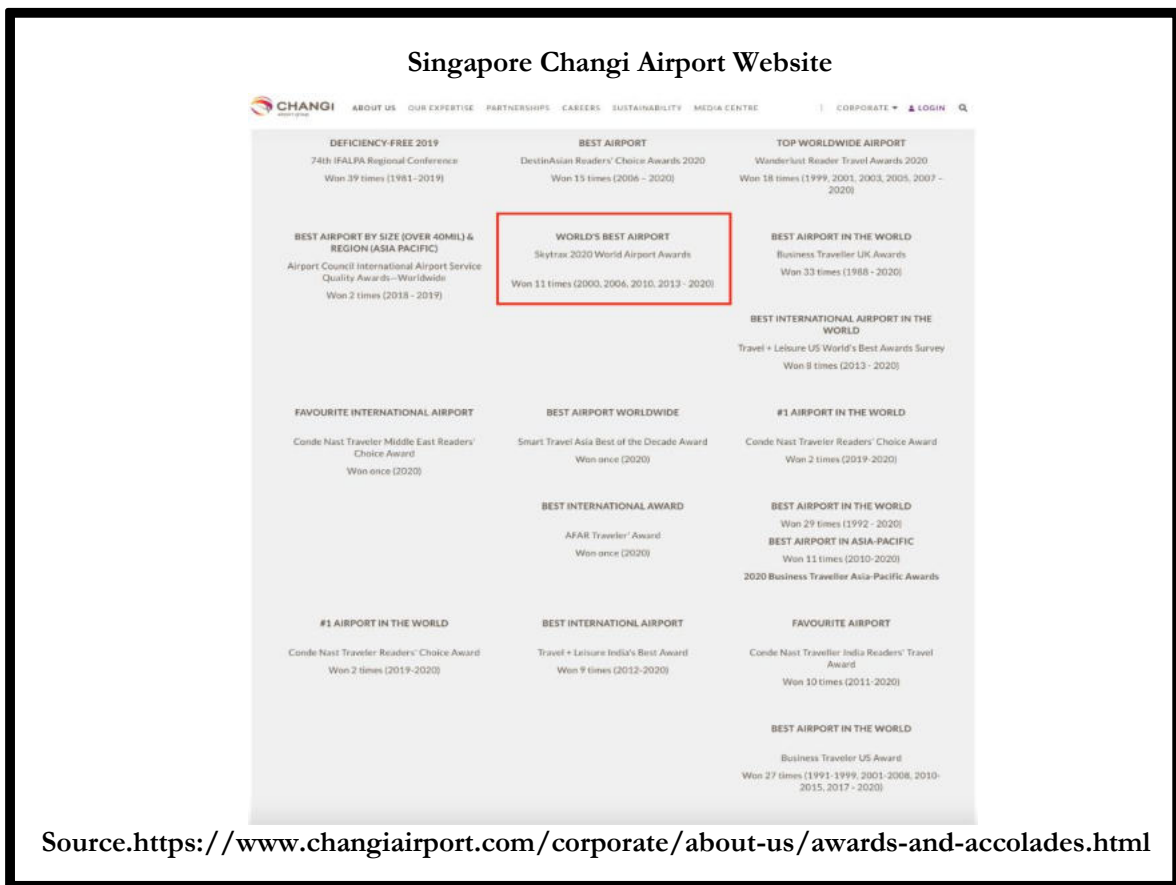


Figure 4. Communication and promotion of the World Airport Awards by airport’s website.

Tokyo Haneda airport website

Japan Airport Terminal Co., Ltd. Corporate Profile Our Business Investor Relations Safety, Environment and CS

TO BE A WORLD BEST AIRPORT

Notice

News Release

HANEDA Tokyo International Airport

News Release

August 6th, 2021
Japan Airport Terminal Co., Ltd.
Tokyo International Air Terminal Corporation

Haneda Airport receives 1st place in "Best Airports in Asia"
- Awarded winner in 4 categories total -

	"Best Airports in Asia"	First time achievement
	"World's Cleanest Airports"	6 th consecutive year
	"World's Best Domestic Airports"	9 th consecutive year
	"World's Best PRM / Accessible Facilities"	3 rd consecutive year
	"The COVID-19 Airport Excellence Awards"	First time achievement

Haneda Airport Passenger Terminals*1 have become the award winner for "Best Airports in Asia" of the 2021 World Airport Awards conducted by the UK company, SKYTRAX®2, being the first airport in Japan to ever receive this award.

Source. <https://www.tokyo-airport-bldg.co.jp/en/>

Hong Kong airport website

The Airport Airport Authority Careers Sustainability Community Media Centre

Bronze Award - Services Sector
Bank Of China (Hong Kong)
BOCHK Corporate Environmental Leadership Award
May 2018

Best Global Airport
Asia Cargo News
The Asia Freight, Logistics & Supply Chain Awards 2018
May 2018
Previous years awarded: 2016, 2017

10th Anniversary Special Award
Environmental Campaign Committee
Hong Kong Awards for Environmental Excellence
May 2018

Platinum Award in the "Over 35 Million Passengers Per Annum" Category
ACI Asia-Pacific
ACI Asia Pacific Green Recognition 2018
April 2018

Smart Mobility (Smart Transport) Gold Award
Office of the Government Chief Information Officer
Hong Kong ICT Awards 2018
April 2018

Airport of the Year
Air Transport World
Airline Industry Achievement Awards 2018
March 2018
Previous years awarded: 2016

World's Best Airport for Dining
Skytrax
2018 World Airport Awards
March 2018
Previous years awarded: 2007, 2009-2012, 2014-2015, 2017

World's Best Airport for Transit
Skytrax
2018 World Airport Awards
March 2018

Source. <https://www.hongkongairport.com/en/the-airport/hkia-at-a-glance/awards-recognition.page>

Munich airport website

The screenshot shows the Munich Airport website's press release section. At the top, there is a navigation bar with the Munich Airport logo, links for 'Passengers & Visitors' and 'Company & Business', a language selector set to 'EN', and a search bar. The main headline reads '/ Press: A success at the "World Airport Awards"'. Below this, the article title is 'Munich Airport once again voted "Best Airport in Europe"'. The date is 'August 10, 2021'. The text states that Munich Airport remains at the top of European rankings, having been awarded the title of 'Best Airport in Europe' for the 14th time. It mentions that the airport was ranked sixth globally. A link to the ranking overview is provided: www.worldairportawards.com. A 'Download pictures' button is visible. To the right, there is a 'Contact us' section for the Press Department, including an email address (press@munich-airport.de) and a website link (www.munich-airport.com/press-contact). Below the main article, there are 'Similar topics' with a 'Press: Renewed certification by the London Skytrax Institute' article dated 04 Nov. 2020. A 'News of the airport' section with a 'To the newsroom' link is also present.

Source. <https://www.munich-airport.com/press-a-success-at-the-world-airport-awards-11665537>

Doha Hamad airport website

The screenshot displays the Doha Hamad Airport website. The top navigation bar includes the airport's name in Arabic and English, and links for 'AIRLINES', 'AIRPORT GUIDE', 'SHOP, DINE & RELAX', 'MEDIA', 'VISIT QATAR', and 'CONTACT'. A COVID-19 alert banner is visible. The main content area features a large banner for 'WORLD'S BEST AIRPORT 2021' with the tagline 'The airport of the future awaits you'. To the right of this banner is a circular award logo for 'AIRPORT OF THE YEAR SKYTRAX 2021'. Below the banner are navigation buttons for 'ARRIVE', 'DEPART', and 'TRANSFER'. A central section promotes the 'HIA QATAR' app, with 'DOWNLOAD OUR UPDATED APP "HIA QATAR"' and links to the App Store and Google Play. At the bottom, there is a 'FIVE-STAR AIRPORT' badge, noted as 'Rated by Skytrax as 5 Stars in the Covid-19 Airport Excellence Awards', and a 'COVID-19 AIRPORT RATING SKYTRAX' logo. The website uses a dark blue and gold color scheme.


Source. <https://dohahamadairport.com>

Zurich Airport website

Zurich Airport Flughafen Zürich AG Media & Investors Policy & Responsibility Jobs [Login](#) [EN](#) [Q](#)

Awards – for Zurich Airport

Zurich Airport is one of the world's leading airports and regularly wins prizes and awards.



[Airport Awards](#) [Thematic Awards](#)

Top marks for Zurich Airport

Zurich Airport belongs to the world's leading airports and receives various awards each year for its customer service excellence and its high-quality standards.

Skytrax Award

Skytrax is a British management consultancy that has been conducting surveys on the subjective quality of international airlines and airports worldwide since 1990. Based on the results of those surveys Skytrax presents the awards.

Rankings 2007 - 2021

Year	Rank
2021	No. 7 worldwide
2020	No. 1 in the category "Worlds Best Airport Security Processing"
2020	No. 11 worldwide
2019	No. 3 in the category "30-40 million passengers"
2019	No. 1 in the category "Worlds Best Airport Security Processing"
2018	No. 1 in the category "Worlds Best Airport Security Processing"
2017	No. 1 in the category "20-30 million passengers"
2017	No. 2 in Europe

Source. <https://www.flughafen-zuerich.ch/en/company/flughafen-zuerich/about-us/awards>

Centrair Nagoya airport website

centrair HOME GREETINGS RANKING [Language](#)

WORLD AIRPORT AWARDS 2021

Centrair was selected as the world's Best Regional Airport by the World Airport Survey.



SKYTRAX WORLD AIRPORT AWARDS 2021

The World's Best Regional Airport 1st place for 7 consecutive years	Best Regional Airport-Asia 1st place for 11 consecutive years
Best Airports: 2-5 million passengers 1st place	The COVID-19 Airport Excellence Award

Source. <https://www.centrair.jp/en/special/skytrax/award/>

Amsterdam Schiphol airport website

Latest information on the coronavirus and Schiphol

Schiphol's awards

AMS: an award-winning airport

We could tell you about our accomplishments but prefer to let our customers sing our praises. For 30 years, Amsterdam Airport Schiphol has won almost 200 European and global airport awards from both airline and passenger organisations. A few recent examples:



Best airport awards

- Best Airport in Western Europe - Skytrax World Airport Awards 2020
- Favourite International Airport Award - Canadian Travel Agent's Awards 2018
- Highly Commended (category > 50 million passengers) - World Routes 2014, 2016, 2017, 2018, 2019
- Agents' Choice Award for favourite international airport 2012 and 2016 (Baxter Travel Media)
- Best Airport in Europe 2012, 2013 and 2016 (Business Traveller)
- Europe's Best Airport Award 2013 (ACI EUROPE)
- Best Airport Western Europe 2014 (SKYTRAX)
- Best International Airport (Blue Insurance Travel Media Awards: 2014)
- Best Airport 2015 (Zooover Award)
- Best Airport in Europe 2015, 2016, 2017 and 2018 (Business Traveller UK)
- Best Airport in the world 2016 (Business Travellers Award Poland)
- Airport Marketing Award 2016 (Routes Europe)
- Best overall Airport marketing 2016 (Routes Airport Marketing Award)
- Best connected Airport 2017 (ACI Europe)
- Favourite International airport 2017 (Baxter Travel Media Annual Agents' Choice Awards (Canada))
- CAPA Centre for Aviation: Airport of the Year 2017
- Most efficient European airport 2017 (Air Transport Research Society)

Source: <https://www.schiphol.nl/en/route-development/page/schiphols-awards/>

London Heathrow website

About Heathrow - Performance

Awards

We are proud to be an award-winning airport.

2019

- World's Top Airport Terminal for Terminal 5 - Skytrax World Airport Awards
- Most Valuable Airport Brand - Brand Finance at their Global Forum
- Best eM Commerce for Heathrow Boutique website - Mousde Davit Report

2018

- World's Top Airport Terminal for Terminal 2 - Skytrax World Airport Awards
- World's Best Airport Shopping - Skytrax World Airport Awards
- Best Airport in Western Europe - Skytrax World Airport Awards
- Travel Brand of the Year - Travel Marketing Awards
- Best TV Advertising for 'It's a Wonderful Flight' - Travel Marketing Awards
- Integrated Campaign of the Year - Travel Marketing Awards

2017

- Best New Advertiser for 'Coming Home for Christmas' video - British Airways Awards
- Best Advertisement, Best TVCG and Best Use of Music for 'Coming Home for Christmas' - The Advertising Creative Circle of Great Britain (Three Gold awards)
- Best Airport in Western Europe - Skytrax World Airport Awards
- World's Best Airport for Shopping - Skytrax World Airport Awards
- Best Airport in Europe, over 40 million passengers - ACI Europe Awards

2016

- Airport Operator of the Year - Frontier Awards
- Marketing Campaign of the Year - Frontier Awards
- Favourite Airport - Caribbi Best Reader Travel Awards
- Best Airport in Western Europe - Skytrax World Airport Awards
- World's Best Airport for Shopping - Skytrax World Airport Awards
- Terminal 5 - World's Best Airport Shopping - Skytrax World Airport Awards
- Airport Operator of the Year - BRAC Double Gold for the service retail and trading vertical
- Best Airport in Europe, over 40 million passengers - ACI Europe Awards

Source: <https://www.heathrow.com/company/about-heathrow/performance/awards>

Following claim that there is a high correlation relationship between the rank of an airport and the usage of digital channel typologies [96]. According to Lee and Yu (2018), and Brida et al. (2019) [20, 122] claim that user-generated online contents can be used as an alternative data source for assessing airport service quality. These findings support results from previous studies, where most tourism website evaluation research focuses on measuring website information and process, value added, relationship, trust and design, and usability aspects, fierce competition and continuous information and communications technology development have prompted organizations to adopt web-based digital marketing strategies to improve their competitive advantages [123-125].

In the aviation and tourism sectors, claim that the features of a website that help create user preference towards a travel destination have special relevance for travel-related businesses [126]. To survive and prosper during a new period of crises and beyond, airports and airlines operators must re-examine their current strategies. And assess what new strategies they should be implementing [127, 128]. According to Bezerra et al. (2021) [129] showed that passengers were interested on airport service quality. Airports can learn from the best practices of the top-ranking airports, including measures that airports can directly control, and use the results obtained to improve future performance [109]. If airport management takes a strategic and holistic approach to customer service and airport branding, customer satisfaction with the airport experience can be significantly improved. Singapore Changi Airport is renowned for its successful strategic airport brand [102].

The Figure 5 presents the adoption of procedures at the planning and programming to increase the high-quality level of passenger. On the contrary, the low-quality level of passenger is related to the absence of procedures or factors by airport operators to achieve the objective pursued or prize. Assigned measure (Airport awarded) were evaluated according to literature review and findings of this study, whilst reflective measures (Airport not awarded) were evaluated according to previous studies and results of this research. The first airport awarded node shows the specification of the prize utility and consequences for airports and quality level of passengers. We cannot forget that this quality distinctive benefits the offered services value proposition at airports. Moreover, 'the service discipline's research endeavours tend to explore exchange offerings, and value creation between parties that typically have a universal appeal and generalization' [130]. Airport's service award increases the level of customers' service level and as a result for the airport to meet the customers' expectation level of service more efforts should be made [131]. On the contrary, the second airport not awarded node shows airports which had not obtained the prizes or those who are not really interested in obtaining these types of quality distinctives.

Once the main purposes of the research have been achieved, the detailed analysis has enabled us to provide some hints of how to get a web which guarantees the promotion of airport brand image, thanks to the international awards of Skytrax. Furthermore, this study demonstrates that there is a high correlation between airport ranking and digital channels usage such as airport's website and apps. According to Hung (2017) [132] revealed that the information value of websites helps customers establish a complete travel and hospitality plan; and it represents the completeness, relevance, and timeliness of website information. Law and Hsu (2005) and Wong et al. (2020) [133, 134] claim that official websites of organizations are perceived as the best place to find facilities, content, and information of companies.

Nowadays, Destination Marketing Organizations (DMOs), airports and airlines are the drivers of connectivity and promotion of the destination in which they operate [135]. Airports as an essential tool in the strategic and marketing plans of tourist destinations [136].

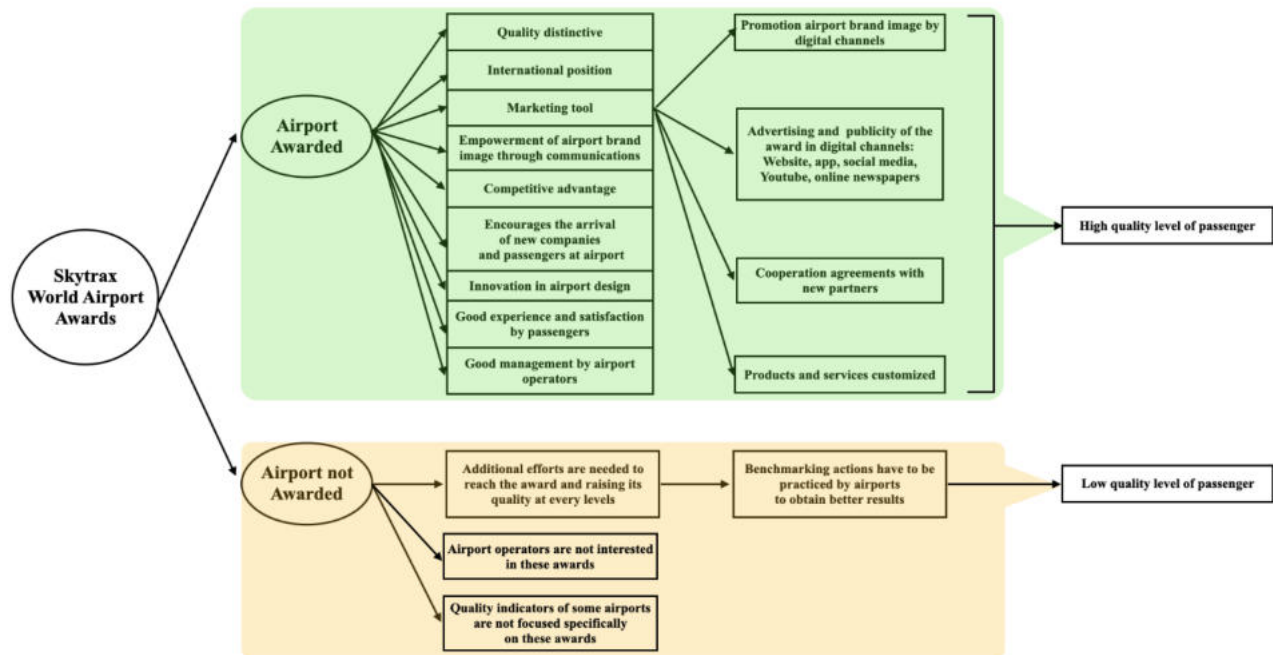


Figure 5. Structural model results.
Source. Own elaboration.

Strategic alliances between airlines and airports are necessary in these times of pandemic and the progressive opening of the markets, in order to ‘increases passenger confidence in flying in the recovery from the COVID-19 pandemic’ [137]. According to Albers et al. (2005) [138] suggest that in the face of increasing competition, alliances between airports and airlines offer convenient instruments for developing a long-term competitive advantage. Another highlight was the innovation at airports because innovation has a significant positive effect on airport marketing performance, irrespective of the strategic focus of the airport, the successful development of organizational readiness can be used to speed up the rate of innovation needed for digital change at airports [9, 139-141]. Innovative airports allow their people to work creatively and solve problems through dialogue rather than conflict. Successful airports are open to new ideas and technologies. They are always on the lookout for approaches that can be borrowed from other airports or even other industries [142]. Indeed, it is interesting to see to what extent reach of this awards by airports do results increased quality level of passengers, a competitive advantage and empowerment of airport brand image at global level. ‘While there are images perceived by tourists before the visit, the experience itself is the essential image source’ [143]. For this reason, to participate in these awards requires a great efforts and dedication on airport operators to enhance the quality of their runways, terminals, and activities.

Airports must attract passengers and airlines by strategically acting on marketing and route development and trying to differentiate their offer [144]. Airport operators need to segment passenger’s flow based on business priorities, to anticipate your customer's needs, as well as monitoring and measuring airport service quality dimensions. According to [43] claims that Covid-19 brought about a massive change in airport operations. It is recommended that airport operators can maintain the quality of services carried out in a comprehensive manner in providing the information

needed by passengers at the airport. The tendency of airport website and apps is to transform users into prosumers, and these prosumers can develop their own products, services or even plan their journey inside of airport [145].

5. Conclusions and Implications

Based on the results of the research and discussion above, a study entitled *The World Airport Awards* a quality distinctive and marketing tool for airports, conclusions can be drawn including:

When an airport wins the Skytrax's prize or it is positioned very good in the Skytrax's ranking, this airport cites the achievement on his official's app and website, with the aim of advertising and promoting the quality services and brand image worldwide. This study examined the official websites of World's Top 25 airports from 2012 to 2021 (see Table 2), and all of them have advertised the Skytrax's award in their website and apps. Skytrax's quality distinctive is a competitive advantage by airport against his main competitors. Airports in a competitive world will have to serve better their customers. 'Airport's competition is an increasing feature of the industry', this is one of the main reasons why airports increasingly make use of their websites or mobile apps to sell commercial services directly to customers [146-149]. Airport service quality awards are extensively cited by the winning airports for promotional purpose [20].

Our results also show a differentiated degree of online presence depending on the type of airport. Websites of international airports have higher interactivity, offer more information, and are better adapted to conduct transactions and provide internet security than the websites of regional and tourist airport, especially in airport apps, where these have outsourced these services. Moreover, results support the view that digital marketing strategies need to highly provide content-rich website designs (i.e., new personalized products and services or technological innovation and management in the interest of sustainability, efficiency and productivity of airport operations and air traffic management) relative to their competitors' websites. Chutipongdech and Vongsaroj (2022) [150] found that airport's product and services should be customized depending on business environments and location contexts.

Marketing strategies used by airport operators have been a great support to promote Skytrax' prizes, especially the diffusion of information and communication technologies through digital channels. To date, this study has shown Skytrax' prizes contribution such as quality distinctive, marketing tool, a competitive advantage of airports that have implemented them in terms of internationalization, brand image, good management, ability to continue being competitive and permanently contact with clients and provide an important source of information to them. This study revealed that airport's websites present high levels of communication in all aspects related to brand image and promotion of good management by operators, meaning information about prizes, safety, COVID-19 protocols, and cleanliness, among other categories. For instance, AENA group advertises on his official's website (see Figure A1) as Madrid-Barajas, Barcelona El Prat, and Alicante airports have received COVID-19 Airport Excellence Awards from Skytrax, or Tokyo Haneda airport which was awarded once again, and for the sixth successive time as the World's Cleanest airport in the world, and maintain the quality of service in terms of cleanliness and coolness of the airport terminal to create a clean and cool atmosphere in the airport area, besides this airport was the best airport in Asia and the best domestic airport for ninth successive time according to Skytrax' awards (see Figure 4) [151].

Finally, this study may be useful for comparing website marketing performance among competing airports. Given the high importance aviation management researchers and airport operators assign to digital marketing strategies. The new airport digital marketing strategies are improving information exchange and communication in the evolution passenger connectivity, thanks to airport's websites and apps.

5.1. Theoretical Implications

In this study, we have analysed previous studies that use diverse methodological approaches to airport and tourism websites evaluation through digital marketing strategies. Findings of this study can help practitioners and researchers to understand the new strategies in the digital era. For airport operators, results of research are a great opportunity to tackle and identify the strengths and weaknesses of their websites and their relative position in the international market. Following suggest that for academic researchers, this study offers insights on tourism and aviation websites evaluation and methods of evaluation in these sectors [112]. With the increase in airport alternatives and airport service variation, passengers' perception of the airport experience has changed [152]. This paper can help researchers and other experts improve the application of this model in different situations (case studies) and assist the airport operators in reconsidering and reconstructing the new digital marketing strategies, especially in the promotion of airport brand image.

5.2. Practical Implications

The results of this study may serve as a reference for the aviation and tourism practitioners to comprehensively understand website evaluation, constantly improve their websites and enhance suppliers' communication with passengers, along with the rapid development of information and communications technology and the wide adoption of social media and mobile apps at present [124]. In general, airport operators have a great opportunity to make good use of official website, apps, and social media in the promotion their quality distinctive and the achievement of the international awards like Skytrax, with the aim of enhancing to enhance the airport brand image (i.e., recognition of brand image). The deployment of digital technologies by companies to secure business continuity requires strategic rethinking of their business processes. It will be important for scholars to understand the implications digital technologies deployment on work, organizing, and performance [153]. The aviation industry is undergoing a progressive digital transformation to address organizational challenges associated with transforming their business [154].

5.3 Limitations and Future Research

A major limitation of the present study is that Skytrax has not provided important data to help to this study, such as annual awards of other categories in the last ten years. Moreover, other limitations of this study are that only used Skytrax database, future research could add other international awards and so they could compare customer satisfaction levels with different awards and airports. It is recommended to include others digital channels, with the purpose of obtaining a better global vision of airport marketing strategies. Barakat et al. (2021) [24] claim that Skytrax's official website is based mainly in English language, revealed that there were also many comments about this site on other social networks and forums that discussed the employees of Skytrax [118]. In total, 80% of comments discussed that writing the review is simple, but not since the wait for it to be officially published on the network. According to Ip et al. (2011) [155] suggest that the research gaps explored herein also provide them with fruitful avenues for further research on airport's website evaluation, as well as insights into how they can improve methodological approaches to such evaluation

by incorporating the theories and models of other disciplines into their future research endeavors. Furthermore, future studies may apply the proposed model to analyze the performances of different official airport websites, as well as develop indicators benchmark for mobile websites that can help airport operators assess the performance of their mobile websites and apps.

References

1. Costa Jordão, T., A sustainability overview of the best practices in the airport sector. Scientific papers of the University of Pardubice. Series D, Faculty of Economics and Administration. 15 (2009), 2009.
2. Gitto, S. and P. Mancuso, Improving airport services using sentiment analysis of the websites'. *Tourism Management Perspectives*, 2017. 22: p. 132–136.
3. Wang, Z., et al., Study on non-aeronautical efficiency of Chinese listed airports based on two-stage network DEA. *Research in Transportation Business & Management*, 2022: p. 100867.
4. Volo, S. and D. D'Acunto, Service management in the E-tourism era. *Handbook of e-Tourism*, 2020: p. 1-23.
5. Florido-Benitez, L., New marketing strategy: mobile applications as a marketing tool in airports, in *Handbook of Research on Applied AI for International Business and Marketing Applications*. 2021, IGI Global. p. 14-29.
6. Halpern, N. and Mwesummo, D. 'Airport service quality and passenger satisfaction: The impact of service failure on the likelihood of promoting an airport online', *Research in Transportation Business & Management*, 2021 .41: p. 100677.
7. Rajapaksha, A. and N. Jayasuriya, Smart airport: a review on future of the airport operation. *Global Journal of Management and Business Research*, 2020.
8. Merkert, R., M.J. Beck, and J. Bushell, Will It Fly? Adoption of the road pricing framework to manage drone use of airspace. *Transportation Research Part A: Policy and Practice*, 2021. 150: p. 156-170.
9. Florido-Benítez, L., How Málaga's airport contributes to promote the establishment of companies in its hinterland and improves the local economy. *International Journal of Tourism Cities*, 2021.
10. Florido-Benítez, L., International mobile marketing: A satisfactory concept for companies and users in times of pandemic. *Benchmarking: An International Journal*, 2021.
11. Straker, K. and C. Wrigley, Engaging passengers across digital channels: An international study of 100 airports. *Journal of Hospitality and Tourism Management*, 2018. 34: p. 82-92.
12. Herjanto, H., et al., Airline service: Low-cost-carriers (LCCs) failure and passenger emotional experience. *Tourism Review*, 2021.
13. World Airport Awards, *World Airport Awards Methodology*. (2021a).
14. Migdadi, Y.K.A.-A., The impact of airline alliance strategy on the perceived service quality: A global survey. *Journal of Quality Assurance in Hospitality & Tourism*, 2022. 23(2): p. 415-446.
15. Rhoades, D.L., B. Waguespack, and S. Young, Developing a quality index for US airports. *Managing Service Quality: An International Journal*, 2000. 10(4): p. 257-262.
16. Trischler, J. and G. Lohmann, Monitoring quality of service at Australian airports: A critical analysis. *Journal of Air Transport Management*, 2018. 67: p. 63-71.
17. Queiroz, M.M., et al., Industry 4.0 and digital supply chain capabilities: A framework for understanding digitalisation challenges and opportunities. *Benchmarking: an international journal*, 2019.
18. Florido-Benítez, L., The Safety-Hygiene Air Corridor between UK and Spain Will Coexist with COVID-19. *Logistics*, 2022. 6(3): p. 52.
19. Florido-Benítez, L., THE PRE/ON/POST OF LOW-COST CARRIERS IN SPANISH TOURIST DESTINATIONS: EL PRE/ON/POST DE LAS AEROLÍNEAS DE BAJO COSTE EN LE DESTINO TURÍSTICO ESPAÑA. *Revista Turismo Estudios e Práticas-RTEP/UERN*, 2022. 11(1).
20. Lee, K. and C. Yu, Assessment of airport service quality: A complementary approach to measure perceived service quality based on Google reviews. *Journal of Air Transport Management*, 2018. 71: p. 28-44.
21. Gitto, S. and P. Mancuso, Brand perceptions of airports using social networks. *Journal of Air Transport Management*, 2019. 75: p. 153-163.
22. Graham, A., Airport management: a perspective article. *Tourism Review*, 2019.
23. Merkert, R. and A.G. Assaf, Using DEA models to jointly estimate service quality perception and profitability—Evidence from international airports. *Transportation Research Part A: Policy and Practice*, 2015. 75: p. 42-50.
24. Barakat, H., R. Yeniterzi, and L. Martín-Domingo, Applying deep learning models to twitter data to detect airport service quality. *Journal of air transport management*, 2021. 91: p. 102003.
25. Martín-Cejas, R.R., Tourism service quality begins at the airport. *Tourism Management*, 2006. 27(5): p. 874-877.

26. Tsai, W.-H., W. Hsu, and W.-C. Chou, A gap analysis model for improving airport service quality. *Total Quality Management & Business Excellence*, 2011. 22(10): p. 1025-1040.
27. Merkert, R. and D.A. Hensher, The impact of strategic management and fleet planning on airline efficiency—A random effects Tobit model based on DEA efficiency scores. *Transportation Research Part A: Policy and Practice*, 2011. 45(7): p. 686-695.
28. Bogicevic, V., et al., Airport service quality drivers of passenger satisfaction. *Tourism Review*, 2013. 68(4): p. 3-18.
29. Adler, N., et al., An economic assessment of airport incentive regulation. *Transport Policy*, 2015. 41: p. 5-15.
30. Bezerra, G.C. and C.F. Gomes, Antecedents and consequences of passenger satisfaction with the airport. *Journal of Air Transport Management*, 2020. 83: p. 101766.
31. Torlak, N.G., A. Demir, and T. Budur, Using VIKOR with structural equation modeling for constructing benchmarks in the Internet industry. *Benchmarking: An International Journal*, 2021. 28(10): p. 2952-2976.
32. Fodness, D. and B. Murray, Passengers' expectations of airport service quality. *Journal of Services Marketing*, 2007.
33. Bezerra, G.C.L. and C.F. Gomes, Measuring airport service quality: A multidimensional approach. *Journal of air transport management*, 2016. 53: p. 85-93.
34. Herjanto, H., et al., How high can you fly? LCC passenger dissatisfaction. *Asian Journal of Business Research*, 2020. 10(2): p. 72-90.
35. World Airport Awards, World Airport Awards. . (2021b).
36. Morrison, A.M. and C. Maxim, World tourism cities: a systematic approach to urban tourism. 2021: Routledge.
37. Pasaribu, L.L., R.P. Wibowo, and I. Sadalia, The Analysis of Service Quality Effect on Domestic Passenger Satisfaction at Kualanamu International Airport. *International Journal of Research and Review*, 2019. 6(11): p. 299-312.
38. Jiang, H., G.S. Baxter, and G. Wild, A study of China's major domestic airlines' service quality at Shanghai's Hongqiao and Pudong International Airports. *Aviation*, 2017. 21(4): p. 143-154.
39. Bulut, C. and S. Aydogan, Airport service quality: a reconceptualization and a practical application on the non-aeronautical services. *Aviation*, 2020. 24(4): p. 182-196.
40. Halpern, N. and D. Mwesummo, Airport service quality and passenger satisfaction: The impact of service failure on the likelihood of promoting an airport online. *Research in Transportation Business & Management*, 2021. 41: p. 100667.
41. Florido-Benitez, L., Influence of characteristics demographics and situations in the satisfaction and decisions of tourist activities through Mobile Marketing. *Cuadernos de Turismo*, 2016. 8: p. 143-165.
42. Florido-Benitez, L., MOBILE PAYMENT SECURITY FAVOURS AIRPORTS'CROSS-SELLING AND WORD OF MOUTH COMMUNICATION ACROSS MOBILE MARKETING. *GRAN TOUR*, 2016(13): p. 26-47.
43. Choi, J.H., Changes in airport operating procedures and implications for airport strategies post-COVID-19. *Journal of Air Transport Management*, 2021. 94: p. 102065.
44. Florido-Benítez, L., Identifying cyber security risks in Spanish airports. *Cyber Security: A Peer-Reviewed Journal*, 2021. 4(3): p. 267-291.
45. Florido-Benítez, L., Málaga Costa del Sol airport and its new conceptualization of hinterland. *Tourism Critiques: Practice and Theory*, 2021.
46. Martín-Domingo, L., J.C. Martín, and G. Mandsberg, Social media as a resource for sentiment analysis of Airport Service Quality (ASQ). *Journal of Air Transport Management*, 2019. 78: p. 106-115.
47. Prentice, C. and M. Kadan, The role of airport service quality in airport and destination choice. *Journal of Retailing and Consumer Services*, 2019. 47: p. 40-48.
48. Awad, M., et al., Travelers' perception of service quality at Dubai International Airport. *International Journal of Quality & Reliability Management*, 2019.
49. Tian, X., et al., A new approach of social media analytics to predict service quality: evidence from the airline industry. *Journal of Enterprise Information Management*, 2019.
50. Bunchongchit, K. and W. Wattanacharoensil, Data analytics of Skytrax's airport review and ratings: Views of airport quality by passengers types. *Research in Transportation Business & Management*, 2021. 41: p. 100688.
51. Fakfare, P., W. Wattanacharoensil, and A. Graham, Exploring multi-quality attributes of airports and the asymmetric effects on air traveller satisfaction: The case of Thai International Airports. *Research in Transportation Business & Management*, 2021. 41: p. 100648.
52. Allen, J., et al., Identifying strategies for improving airport services: Introduction of the Gap-IPA to an Italian airport case study. *Transportation Letters*, 2021. 13(3): p. 243-253.
53. Steffan, I.T. and M. Denninghaus. Awards as Tools to Implement Inclusion and Accessibility in the Built Environment. in *Congress of the International Ergonomics Association*. 2018. Springer.
54. Halpern, N.a.G., A, Airport marketing, Abingdon: Routledge. UK. (2013)

55. Karagiannis, I., et al., Sustainability reporting, materiality, and accountability assessment in the airport industry. *Business Strategy and the Environment*, 2019. 28(7): p. 1370-1405.
56. Alabsi, M.I. and A.Q. Gill, A review of passenger digital information privacy concerns in smart airports. *IEEE Access*, 2021. 9: p. 33769-33781.
57. Koroniotis, N., et al., A holistic review of cybersecurity and reliability perspectives in smart airports. *IEEE Access*, 2020. 8: p. 209802-209834.
58. Coca-Stefaniak, J.A., Marketing smart tourism cities—a strategic dilemma. *International Journal of Tourism Cities*, 2019.
59. Florido-Benítez, L., Airport mobile marketing as a channel to promote cross-selling. *Journal of Airline and Airport Management*, 2016. 6(2): p. 133-151.
60. Wang, Z., S.Y. He, and Y. Leung, Applying mobile phone data to travel behaviour research: A literature review. *Travel Behaviour and Society*, 2018. 11: p. 141-155.
61. Buhalis, D. and K. Volchek, Bridging marketing theory and big data analytics: the taxonomy of marketing attribution. *International Journal of Information Management*, 2021. 56: p. 102253.
62. Foroudi, P., et al., Promising the dream: Changing destination image of London through the effect of website place. *Journal of Business Research*, 2018. 83: p. 97-110.
63. Florido-Benítez, L., The effects of COVID-19 on Andalusian tourism and aviation sector. *Tourism Review*, 2021.
64. Benítez, L.F., La crisis del covid-19 y el Brexit: las islas británicas no deben matar a la gallina de los huevos de oro del turismo. *Gran Tour*, 2022(25): p. 61-100.
65. Tourism promotion in the EU and destination image. *AALEP*, 2016.
66. Wang, S., A. Japutra, and S. Molinillo, Branded premiums in tourism destination promotion. *Tourism Review*, 2020. 76(5): p. 1001-1012.
67. Ahmad, A.K.A., et al., Developing user interface mobile application for tourist. *Ideology Journal*, 2020. 5(2): p. 17-24.
68. Kumar, V. and S. Mittal, Mobile marketing campaigns: practices, challenges and opportunities. *International Journal of Business Innovation and Research*, 2020. 21(4): p. 523-539.
69. Castro, R. and G. Lohmann, Airport branding: Content analysis of vision statements. *Research in Transportation Business & Management*, 2014. 10: p. 4-14.
70. Akhoondnejad, A., Analyzing the pre-travel, on-travel, and post-travel behaviors of Iran's first-time visitors. *Journal of Travel & Tourism Marketing*, 2015. 32(8): p. 1023-1033.
71. da Silva, M.L. and A. Perinotto, The image of the tourist destination as a differentiation tool and tourism promotion: if Barra Grande/PI-Brazil. *PASOS: Revista de Turismo y Patrimonio Cultural*, 2016. 14(2): p. 417-431.
72. Hosany, S., Y. Ekinici, and M. Uysal, Destination image and destination personality: An application of branding theories to tourism places. *Journal of business research*, 2006. 59(5): p. 638-642.
73. Florido-Benítez, L., The impact of mobile marketing in airports. *Journal of airline and airport management*, 2016. 6(1): p. 1-18.
74. Bennett, R. and S. Rundel-Thiele, The brand loyalty life cycle: Implications for marketers. *Journal of Brand Management*, 2005. 12(4): p. 250-263.
75. Florido-Benítez, L.a.d.A., B. , The effects of apps as a marketing tool in airport infrastructure and airlines', , . *International Journal of Leisure and Tourism Marketing*, (2015). 4 Nos. 3/4: p. 222–240.
76. Leiper, N., The framework of tourism: Towards a definition of tourism, tourist, and the tourist industry. *Annals of tourism research*, 1979. 6(4): p. 390-407.
77. Bellato, L., et al., Transformative roles in tourism: adopting living systems' thinking for regenerative futures. *Journal of Tourism Futures*, 2022(ahead-of-print).
78. Pérezgonzález, J.D. and A. Gilbey, A convenient regression formula for predicting Skytrax's Official World Airport Star ratings. 2011.
79. Koç, S. and V. Durmaz, Airport corporate sustainability: An analysis of indicators reported in the sustainability practices. *Procedia-social and behavioral sciences*, 2015. 181: p. 158-170.
80. Wattanacharoensil, W. and M. Schuckert, How global airports engage social media users: a study of Facebook use and its role in stakeholder communication. *Journal of Travel & Tourism Marketing*, 2015. 32(6): p. 656-676.
81. Gitto, S. and P. Mancuso, Improving airport services using sentiment analysis of the websites. *Tourism management perspectives*, 2017. 22: p. 132-136.
82. Abou ElGheit, N. and M. Nageh, Assessing Non-aeronautical Activities at Cairo International Airport. *International Journal of Tourism and Hospitality Management*, 2018. 1(2): p. 137-160.
83. Lubbe, B., A. Douglas, and J. Zambellis, An application of the airport service quality model in South Africa. *Journal of Air Transport Management*, 2011. 17(4): p. 224-227.
84. Rawlings, K., 'IoT Helping Shape Airport Digital Transformation'. 2020.

85. Sreenath, S., K. Sudhakar, and A. Yusop, Sustainability at airports: Technologies and best practices from ASEAN countries. *Journal of environmental management*, 2021. 299: p. 113639.
86. Industry Benchmarking Studies. ACI, 2021.
87. Certified airport rating. Skytrax, 2021.
88. Chao, C.-C., H.-C. Lin, and C.-Y. Chen, Enhancing airport service quality: A case study of Kaohsiung International Airport. *Journal of the Eastern Asia Society for Transportation Studies*, 2013. 10: p. 2235-2254.
89. Bakır, M., Akan, S., Özdemir, E., Nguyen, P.H., Tsai, J-F. and Pham, H-A- "How to Achieve Passenger Satisfaction in the Airport? Findings from Regression Analysis and Necessary Condition Analysis Approaches through Online Airport Reviews", *Sustainability*. 2022. 14, No. 4: p. 2151.
90. World Airport Awards. 2021b.
91. Gunasekaran, A., et al., Big data and predictive analytics for supply chain and organizational performance. *Journal of Business Research*, 2017. 70: p. 308-317.
92. Dubey, R., et al., Can big data and predictive analytics improve social and environmental sustainability? *Technological Forecasting and Social Change*, 2019. 144: p. 534-545.
93. Merkert, R., et al., A review of different benchmarking methods in the context of regional airports. *Transport Reviews*, 2012. 32(3): p. 379-395.
94. Kassarian, H.H., Content analysis in consumer research. *Journal of consumer research*, 1977. 4(1): p. 8-18.
95. Harker, M.J., Relationship marketing defined? An examination of current relationship marketing definitions. *Marketing intelligence & planning*, 1999.
96. Straker, K.a.W., C, Understanding the use of digital channels in airports to enrich strategy and increase satisfaction ratings. *Emotional Awareness in the design of digital channel engagements*. Queensland University of Technology, 2016: p. 144-159.
97. Wu, G., Official websites as a tourism marketing medium: A contrastive analysis from the perspective of appraisal theory. *Journal of Destination Marketing & Management*, 2018. 10: p. 164-171.
98. Adler, N., V. Liebert, and E. Yazhensky, Benchmarking airports from a managerial perspective. *Omega*, 2013. 41(2): p. 442-458.
99. Adler, N., T. Ülkü, and E. Yazhensky, Small regional airport sustainability: Lessons from benchmarking. *Journal of Air Transport Management*, 2013. 33: p. 22-31.
100. Fang, B., et al., Analysis of the perceived value of online tourism reviews: Influence of readability and reviewer characteristics. *Tourism Management*, 2016. 52: p. 498-506.
101. Pérezgonzález, J.D. and A. Gilbey, Predicting Skytrax airport rankings from customer reviews. *Journal of Airport Management*, 2011. 5(4): p. 335-339.
102. Paternoster, J., Excellent airport customer service meets successful branding strategy. *Journal of Airport Management*, 2008. 2(3): p. 218-226.
103. Reduced Losses but Continued Pain in 2021. IATA, 2021.
104. Wu, H. and K.W.H. Tsui, Does a reward program affect customers' behavioural intention of visiting the airport? A case study of Singapore Changi Airport. *Journal of Air Transport Management*, 2020. 82: p. 101742.
105. Bok, R., Airports on the move? The policy mobilities of Singapore Changi Airport at home and abroad. *Urban Studies*, 2015. 52(14): p. 2724-2740.
106. Dawes, J. and J. Rowley, The waiting experience: towards service quality in the leisure industry. *International journal of contemporary hospitality management*, 1996.
107. Parasuraman, A., V.A. Zeithaml, and L.L. Berry, A conceptual model of service quality and its implications for future research. *Journal of marketing*, 1985. 49(4): p. 41-50.
108. Davahran, N. and R. Yazdanifard, The Importance of Managing Customer Service, Safety Quality and Benchmarking of Airports and Airlines to Enhance the Performance and Customer Loyalty. *Global Journal of Management And Business Research*, 2014.
109. Kılış, Ş. and Ş. Kılış, Benchmarking airports based on a sustainability ranking index. *Journal of Cleaner Production*, 2016. 130: p. 248-259.
110. Graham, A., Airport benchmarking: a review of the current situation. *Benchmarking: an international journal*, 2005. 12(2): p. 99-111.
111. What is Benchmarking? . Airport Benchmarking Group, 2021.
112. Law, R., S. Qi, and D. Buhalis, Progress in tourism management: A review of website evaluation in tourism research. *Tourism management*, 2010. 31(3): p. 297-313.
113. Baltazar, M.E. and J. Silva, Spanish airports performance and efficiency benchmark. A PESA-AGB study. *Journal of Air Transport Management*, 2020. 89: p. 101889.
114. Suárez-Alemán, A., T. Serebrisky, and S. Perelman, Benchmarking economic infrastructure efficiency: How does the Latin America and Caribbean region compare? *Utilities Policy*, 2019. 58: p. 1-15.
115. Wang, Y. and J. Kim, Interconnectedness between online review valence, brand, and restaurant performance. *Journal of Hospitality and Tourism Management*, 2021. 48: p. 138-145.

116. Song, C., J. Guo, and J. Zhuang, Analyzing passengers' emotions following flight delays—a 2011–2019 case study on SKYTRAX comments. *Journal of Air Transport Management*, 2020. 89: p. 101903.
117. Bakır, M., et al., How to achieve passenger satisfaction in the airport? Findings from regression analysis and necessary condition analysis approaches through online airport reviews. *Sustainability*, 2022. 14(4): p. 2151.
118. Shadiyar, A., H.-J. Ban, and H.-S. Kim, Extracting key drivers of air passenger's experience and satisfaction through online review analysis. *Sustainability*, 2020. 12(21): p. 9188.
119. Ban, H.-J. and H.-S. Kim, Understanding customer experience and satisfaction through airline passengers' online review. *Sustainability*, 2019. 11(15): p. 4066.
120. Kwon, H.-J., et al., Topic modeling and sentiment analysis of online review for airlines. *Information*, 2021. 12(2): p. 78.
121. Bae, W. and J. Chi, Content Analysis of Passengers' Perceptions of Airport Service Quality: The Case of Honolulu International Airport. *Journal of Risk and Financial Management*, 2021. 15(1): p. 5.
122. Brida, J.G., L. Moreno-Izquierdo, and S. Zapata-Aguirre, Customer perception of service quality: The role of Information and Communication Technologies (ICTs) at airport functional areas. *Tourism Management Perspectives*, 2016. 20: p. 209-216.
123. Hashim, N.H., J. Murphy, and R. Law. A review of hospitality website design frameworks. in *ENTER*. 2007.
124. Sun, S., et al., An updated comprehensive review of website evaluation studies in hospitality and tourism. *International journal of contemporary hospitality management*, 2017.
125. Florido-Benítez, L. and E.L. Castellero, Análisis de la cadena de valor de la empresa Avanza Mobility ADO. *Revista Transporte y Territorio*, 2022(26).
126. Martínez-Sala, A.-M., J. Monserrat-Gauchí, and D. Alemany-Martínez, User Usable Experience: A three-dimensional approach on usability in tourism websites and a model for its evaluation. *Tourism Management Perspectives*, 2020. 33: p. 100579.
127. Doganis, R., *Flying off course*. Airline Economics and Marketing, Routledge, UK. 2019
128. Tisdall, L., Y. Zhang, and A. Zhang, Development challenges facing general aviation airports: A case study of Archerfield Airport, Queensland, Australia. *Case Studies on Transport Policy*, 2020. 8(4): p. 1458-1467.
129. Bezerra, G.C.L., E.M. de Souza, and A.R. Correia, Passenger Expectations and Airport Service Quality: Exploring Customer Segmentation. *Transportation Research Record*, 2021. 2675(10): p. 604-615.
130. Rosenbaum, M.S. and R. Russell-Bennett, bringing socially unacceptable services into services marketing. *Journal of Services Marketing*, 2020.
131. Chun, J.-L. and S.-B. Park, A study on the customers' service expectation level: The effects of distribution service excellence awards for an airport. *Journal of Distribution Science*, 2018. 16(11): p. 47-56.
132. Hung, C.-L., Online positioning through website service quality: A case of star-rated hotels in Taiwan. *Journal of Hospitality and tourism management*, 2017. 31: p. 181-188.
133. Law, R. and C.H. Hsu, Customers' perceptions on the importance of hotel web site dimensions and attributes. *International Journal of Contemporary Hospitality Management*, 2005.
134. Wong, E., R. Leung, and R. Law, Significance of the dimensions and attributes of hotel mobile website from the perceptions of users. *International Journal of Hospitality & Tourism Administration*, 2020. 21(1): p. 15-37.
135. Florido-Benítez, L., The impact of tourism promotion in tourist destinations: a bibliometric study. *International Journal of Tourism Cities*, 2022(ahead-of-print).
136. Benítez, L.F. and J. Dogra, Study of relationship between Spanish Airport and Destination Marketing: Insights for Destination Management Organizations. *Revista Turismo & Desarrollo*, 2022. 39: p. 177-200.
137. Budd, T., et al., An assessment of air passenger confidence a year into the COVID-19 crisis: A segmentation analysis of passengers in Norway. *Journal of Transport Geography*, 2021. 96: p. 103204.
138. Albers, S., B. Koch, and C. Ruff, Strategic alliances between airlines and airports—theoretical assessment and practical evidence. *Journal of Air Transport Management*, 2005. 11(2): p. 49-58.
139. Halpern, N., Marketing innovation: Sources, capabilities and consequences at airports in Europe's peripheral areas. *Journal of Air Transport Management*, 2010. 16(2): p. 52-58.
140. Tabrizi, B., et al., Digital transformation is not about technology. *Harvard business review*, 2019. 13(March): p. 1-6.
141. Schroeder, A., et al., Digitally enabled advanced services: a socio-technical perspective on the role of the internet of things (IoT). *International Journal of Operations & Production Management*, 2020.
142. Tarry, S.E., *Innovation in the administration of public airports*. 2000: Pricewaterhouse Coopers.
143. Marine-Roig, E., Measuring online destination image, satisfaction, and loyalty: Evidence from Barcelona districts. *Tourism and Hospitality*, 2021. 2(1): p. 62-78.
144. Bergantino, A.S., M. Intini, and N. Volta, Competition among airports at worldwide level: a spatial analysis. *Transportation Research Procedia*, 2020. 45: p. 621-626.
145. Florido-Benítez, L., B. Del Alcázar, and E.M. Gonzalez, Impact of mobile marketing on passengers' satisfaction and experience at airports. *Journal of Airport Management*, 2017. 11(1): p. 58-74.

146. Barrett, S.D., Airport competition in the deregulated European aviation market. *journal of air transport management*, 2000. 6(1): p. 13-27.
147. Policy and Recommended Practices Handbook, Seventh Edition. ACI 2009.
148. Bracaglia, V. and A. Nastasi, Competition between multiproduct airports. *Economics of Transportation*, 2014. 3(4): p. 270-281.
149. Florido-Benítez, L., The supremacy of airports generates a high dependence on the tourist destination Spain. *Res. Tour. Es. Prác*, 2021. 5: p. 1-30.
150. Chutipongdech, T. and R. Vongsaraj, Critical components of airport business model framework: Evi-dence from Thailand.
151. INFO-COVID-19. . AENA, 2021.
152. Kiliç, S. and T.O. Çadirci, An evaluation of airport service experience: An identification of service improvement opportunities based on topic modeling and sentiment analysis. *Research in Transportation Business & Management*, 2022. 43: p. 100744.
153. Papadopoulos, T., K.N. Baltas, and M.E. Balta, The use of digital technologies by small and medium enterprises during COVID-19: Implications for theory and practice. *International Journal of Information Management*, 2020. 55: p. 102192.
154. Halpern, N., et al., Conceptualising airport digital maturity and dimensions of technological and organisational transformation. *Journal of Airport Management*, 2021. 15(2): p. 182-203.
155. Ip, C., R. Law, and H.A. Lee, A review of website evaluation studies in the tourism and hospitality fields from 1996 to 2009. *International journal of tourism research*, 2011. 13(3): p. 234-265.

info | COVID-19

AENA has achieved the safe airport accreditation of the Airport Health Accreditation (AHA) for the 48 airports on its network and has obtained the maximum 5 star score for 3 airports on the prestigious Airport Excellence Awards program. In addition, AENA is part of the leading airport group, being named as Best Airport in Spain and 2nd in the world for the first time in its history.

28 airports of the AENA network have COVID-19 diagnostic testing clinics located in the airports: **Adoolfo Suárez Madrid-Barajas, Josep Tarradellas Barcelona-El Prat, Miguel Alemán del Sur, Adolfo Suárez Madrid-Barajas, Valencia, Palma de Mallorca, Ibiza, Melilla, Tenerife Sur, José Martí, Fuerteventura, César Manrique-Lanzarote, La Palma Tenerife Norte, Jerez and Santiago-Rusella de Castro.** In addition, there are 20 testing clinics in the 10 airports of the AENA network that are not on the list: **Almería, Alicante, Asturias, Castellón, Gijón, León, Logroño, Murcia, Oviedo, Salamanca, San Sebastián, San Pedro de Alcántara, Sevilla, Valladolid, Vigo, Zamora, and Zaragoza.**

If you are coming from abroad, you must fill the Health Control Form (HCF) and show the QR code at the Border Health Control. Get it from the app.

From June 7, all passengers in a country of risk must display a QR code of digital health certificate of the following supporting documents with the requirements established by the health authority for international airports (COVID-19), international flights (COVID-19) or a diagnostic test such as PCR or rapid antigen test, performed at least before the trip, which has been registered in the passport or in a dedicated app (European Digital Health Certificate).

On 1 July 2020, the digital COVID Certificate came into force. It is a document that has been developed in collaboration with the general public and is available in Spanish, English, French, German, Italian, Japanese, Korean, Portuguese, Russian, Spanish, Swedish, Thai, Vietnamese, Chinese and Hindi.

For flights departing from Spain, an environment containing the specific forms and requirements of each destination is available.

Safe Airports **Mobility restrictions** **Before you come to the airport** **At the departure airport** **On the plane** **At the destination airport**

Airports prepare

- AENA has achieved the safe airport accreditation for the 48 airports in its network: Adolfo Suárez Madrid-Barajas, Josep Tarradellas Barcelona-El Prat, Miguel Alemán del Sur, Adolfo Suárez Madrid-Barajas, Valencia, Palma de Mallorca, Ibiza, Melilla, Tenerife Sur, José Martí, Fuerteventura, César Manrique-Lanzarote, La Palma Tenerife Norte, Jerez, Santiago-Rusella de Castro, San Sebastián, San Pedro de Alcántara, Sevilla, Valladolid, Vigo, Zamora, and Zaragoza.
- The Airport Health Accreditation program of the Airport Health Accreditation (AHA) consists of compliance with the sanitary measures recommended by AHA, the International Civil Aviation Organization (ICAO), the European Aviation Safety Agency (EASA), the European Centre for Disease Prevention and Control (ECDC) and the World Health Organization (WHO) guidelines. They are all based on registered agreements with the Operations Manual of the International Recovery Plan, launched by the 48 airports and which is being applied to all the network's airports.
- The AENA airport health management system has been updated to reflect the new health measures required for international and domestic airports.
- Among other measures, the AHA has approved the **increase in cleaning and disinfection in the facilities, strict control of the maximum allowed capacity and the adoption of various operational procedures to the new reality.**
- The AHA has also adopted means such as the use of digital health certificates, temperature checks, contactless information in a digital format, signage and a public address system to inform passengers of the adoption of the measures and of the recommendations such as hand hygiene, social distancing, use of masks and the use of disinfectant hand sanitizer.
- AENA has obtained the maximum 5 star score for 3 airports of the prestigious program, including: **Adoolfo Suárez Madrid-Barajas, Josep Tarradellas Barcelona-El Prat and Miguel Alemán del Sur.**
- In addition, AENA is part of the leading airport group, being named as Best Airport in Spain and 2nd in the world for the first time in its history.
- The AENA operational recovery plan complies with the safety, hygiene and health control measures, including those already adopted for the airports and those which are being introduced and expanded. In addition to the aforementioned measures, other actions have been implemented such as the mandatory use of masks, the installation of ventilation and the delivery of every 30 minutes average for each gate, passengers with a boarding pass as well as occupations of stairs with travel cabins, and people with reduced mobility.**

- Increase in cleaning and disinfection in the facilities.
- Control of the maximum capacity allowed.
- Adoption of various operational procedures to the new reality.
- Setting up of temperature checks and hygiene stations, get dispensers.
- Forbidden use of entrance seats in order to maintain social distancing.
- Social distancing measurement signs and signage.
- Information in a digital format and "contactless" elements in airports.
- Signage and a public address system to inform passengers of the adoption of the measures and of the recommendations such as hand hygiene.

Source: <https://www.aena.es/en/information/covid19/coronavirusairportsandflights.html>

Figure A1. Three airports of AENA group received the COVID-19 Airport Excellence Awards from Skytrax.