



GREEN SERVICE QUALITY AND CUSTOMER SATISFACTION FOR MALAYSIA AIRLINE COMPANIES

ABDUL KHABIR RAHMAT

Lecturer, Department of Research,
Malaysia Institute of Transport (MITRANS), University Technology Mara, Malaysia
E-mail : abdulkhabir@uitm.edu.my

HASBULLAH OTHMAN

INTI International University, Malaysia
Email: hasbullah.othman@newinti.edu.my

AFIZAN AMER

Universiti Teknologi MARA, Malaysia
Email: afizanamer@uitm.edu.my

ALBERT FEISAL @ MUHD FEISAL ISMAIL

University Technical Malaysia Melaka, Malaysia
Email: feisal@utem.edu.my

IRWAN IBRAHIM

Malaysia Institute of Transport (MITRANS), University Technology Mara, Malaysia Faculty of Business and
Management, University Technology Mara Puncak Alam Campus, Malaysia
Email: irwan623@uitm.edu.my

Corresponding author : irwan623@uitm.edu.my

Abstract:

Purpose: *The purpose of this paper is to propose a framework of airlines customer's evaluation of green service quality toward customer's satisfaction provided by Malaysia Airline Companies.*

Design/Methodology/Approach: *This paper reviews the conceptual and empirical literature to develop a model of the various aspects of the service quality - customer satisfaction relationship encompassed by the concept of 'airline customer satisfaction' and to assess the advantages and disadvantages of alternative methods of measurement. Six conceptual dimensions are identified: (1) Airline tangibles (2) Terminal tangibles (3) Personnel (4) Empathy (5) Image (6) Green Airport (7) Customer Satisfaction*

Findings: *Integration of these dimensions into a conceptual framework that describes the relationships among the components and how they collectively result in green service quality and customer satisfaction. We also elucidate future research directions for management scholars*

Research Limitation/Implication: *The research examines the relationship between green service quality dimension and customer satisfaction in airline industry. This study focuses on the evaluation of all airline service user regarding airline service quality. The main limitation of this study is that it focusses to customer satisfaction on all Airlines Companies: thus, the result cannot be generalized.*

Practical Implications: *The framework proposed can be applied to future research on green service quality and customer satisfaction. This study will lead to passenger's satisfaction and encourage the development of long-term relationships with their customers.*

Keywords: *customer satisfaction; green service quality; airline industry, green airport*

1. INTRODUCTION


Before the recent unprecedented disruption in global airline industry caused by COVID-19, over 9 million passengers travelled on over 100,000 flights over a network of about 51,000 routes while transporting US\$17.5 billion worth of goods to industry and homes everyday [30]. Based on 2019 Air Transport Action Group (ATAG) report, 4.5 billion passengers were carried by the world's airlines, amounting to the revenue of \$838 billion [30]. Additionally, the industry employed directly about 3 million people while supporting nearly 88 million jobs worldwide in aviation and related tourism. Recently, airline industry is characterized as a hard regulation which limit airlines' opportunity to expands while it is not easy for companies to access global markets compared to other industries which have paved ways for companies to be global players [1]. Since business transformation always change, customer requirement and expectation also change where many of service companies especially the airlines do not reach their target to fulfill customer requirement and still hold outdated views of what airline services need to provide to their customer [2]. In between 2019-2021 have economic crisis and COVID-19 pandemic crisis, this problem was hitting the airlines industry and make it more competitive. The consequence is many airlines start closed their operation and some change to others business to survive successfully. According to Hussain [3], customer satisfaction is very vital to retain existing passengers, acquire new ones and make them sustain for company to be progressive in such a highly competitive market. Satisfaction and dissatisfaction information are important because understanding them leads to the right improvements that can create satisfied customers who reward the company with loyalty. Customer satisfaction leads to repeat purchases and repeat purchases lead to loyal customers. In turn, customer's loyalty leads to enhanced brand equity and higher profits [4].

According to Prayag [5] the airlines hold vital commitment by give service quality as it acts as an ambassador in increase image for the country. However, competition between huge and small airlines is not only give opportunity for airlines company to grow but also it can give bad impact and cause business drop. To survive in this competitive industry with little margin for error, many company improvement on their cost efficiency and service productivity. One of the mechanisms is company apply no-frills approach which allows airlines to control in reduce their operating expenses and transgress into a lower-point airfare. However, this approach can backfire since it may undermine the airline service quality and put airlines in less competitive position [6]. Service by airlines have a little different with others service industries, researcher need to do additional research to evaluate the service quality of local airlines and also to access their effects on customer satisfaction by using appropriate dimensions of service quality. The objective is to study the perceptions and expectation of customers towards the green services provide by local airlines company and to find result of customer satisfaction by using the AIRQUAL scale.

2. LITERATURE REVIEW

2.1 Service Quality

Service quality is very important to all companies to differentiate their services with other in competitive market. Service quality can be measured through customer's comprehensive recognition after service delivery because the service can access during service process. According to Nakhai and Neves [7] service is dominant sector to the economy and need to understand all the customer requirements. From an academic perspective where researchers from marketing field have contributed significantly to the service customer satisfaction understanding [8]. Service quality is considered as a critical determinant of competitiveness where it can help an organization to do differentiation with other organization to gain competitive advantage. Service with high quality is considered as a vital determinant for long-term profitability and it is not only of service organizations but also for manufacturing organizations. Service quality in some manufacturing industries is considered more important rather than product quality. In addition, service quality also is a key to make improvement towards profitability not about the cost of business production.



Furthermore, the result from previous research do not clearly focus on the impact between service quality dimension and experience quality on customer satisfaction. In addition, from a managerial perspective it was shown that there is significant gap between management perception of high-quality customer experience and customers' perception of high-quality customer experiences [9]. Airline companies should be more advance for value creation and use appropriate allocation of resources in international air travel by create more realistic consumers' expectations to increase the level of customer satisfaction on this service. As an example, company create customer expectation through fulfill customers' requirement by access service levels, confront with customer complain positively and deal with dissatisfied customer effectively. It can help management to differentiate their brand from other airlines and can increase their level of service quality from others [1]. The most problem for the airlines is to become commodity product and do not have buying decision from consumer. The target of the airline industry is to increase customer expectation so that they can satisfied with service provided. If company can achieve this target, it also can help them to enter international market where all travelers still have high expectation, and they need high level of service [1].

Customers perceive service quality by compare the companies' actual performance and their own expectation through memories, word-of-mouth communication and experience [10]. According to Frost and Kumar [11] these prior studies were based on the SERVQUAL models from a service recipient perspective. Based on previous in-service quality area has concentrate on service quality gap between external customer and customer contact personnel. The previous study which was develop by Min and Min [6] said the study suggests an internal adaption of the gap model and SERVQUAL instrument inside a service organization in this case of international airline. A previous study conducted by Namukasa [1] the dimensions of pre-flight service quality is responsiveness, discount and in-flight service quality is tangibles, courtesy and language skills while post-flight service quality is frequent flyer program and timeliness reliability as dimensions of pre-flight service quality while tangibles, courtesy, and language skills as dimensions of in- flight service quality and frequent flyer programs and timeliness as dimensions of post- flight service quality. This dimension was found during assessing service quality in the Ugandan airline industry. According to Asubonteng et al. [12] the five-quality dimension of the service quality are adopted and gained high acceptance in common platform to implement service quality in services.

Parasuraman et al. [13] proposed a service quality model and identify five quality attribute which include tangible, empathy, responsiveness, reliability, and assurance based on the interpretation of quality data from comprehensive explanatory research. According to Babbar et al. [14] airline passenger can experience many service encounters call as moment of truth with internal employee such as cabin crew. Interestingly, passengers may use service quality as a basis for judging the overall quality of an airlines because it is more visible and adorable [15]. Therefore, it is very important to satisfy customers because nowadays most of them exposed to a variety of information about competitor's service. It is because they are more familiar with the current trends especially in technology, very well educated about quality of services and they have high demand in the product and services [1]. According to Nadiri et al. [16] the five-dimension that have 22-item SERVQUAL scale is not apply to the airline industry because it does not have specific aspects of service quality. The more that service quality is discussed within the company, the greater the understanding of employee with working environment and company can be better in achieve their objective.

According to Abdullah et al. [17] researcher have high curiosity over the measurement of service quality and give full attention to service quality research. Unfortunately, the measurement of service quality in airline has not been thoroughly evaluated [18]. In this study, a comprehensive model in evaluate airline service quality by using AIRQUAL dimensions was suggested by Nadiri et al. [16] based on five distinct dimensions:



- (1) Airline tangibles- the physical surrounding that indicate the condition of internal aircraft such as design, catering, and cleanliness.
- (2) Terminal tangibles- the facility provided for customers at airport such as toilet, trolley, and shop.
- (3) Personnel- it refers to all staff that handle customer service at terminal either they indicate good behavior to customer, or they refuse to cooperate.
- (4) Empathy-it is a company consideration towards customer so that customer can feel protected and safe when use this service.
- (5) Image-this is part to attract customer to use our service by offering low price ticket and ensure company reputation secured so that customer always belief on service provided.

These five scales was validated by Nadiri et al. [16] who also evaluated AIRQUAL's effects on customer loyalty in north Cyprus. However, they suggested to use this scale in other contexts to validate the scale and generalize its results. Therefore, in this study also apply the AIRQUAL scale to evaluate the service quality of Malaysia's local airlines.

2.2 Green Airport

The concept of green airport originates from the concept of sustainable development. It is the product of the combination of the concept of sustainable development and the airport industry. With the increasingly obvious constraints of resources and environment, airports strive to reduce their impact on the ecological environment while providing safe and high-quality services, which is the need of promoting ecological civilization construction and the sustainable development of civil aviation industry. It is the development direction of future airport construction to build an airport that uses resources more efficiently and has lower impact on environment. In promoting green airport, the airport can operate safely, smoothly and efficiently [31] [32]. Thus the green airport concept will increase customer satisfaction and increase customer experiences in newly concept airport.

2.3 Customer Satisfaction

Customer satisfaction usually comes from the overall evaluation of service quality by customers [19]. Besides that, service quality is not only influence customer satisfaction but also impact on customer behavioral outcome [20]. The first approach is the result of comparing customers' expectations with their perceptions where this method called the expectancy disconfirmation approach [13]. This approach maintains that if customers' perceptions meet their expectations, the expectations are said to be confirmed so that customers are satisfied. However, if perceptions do not match expectations, then these are said to be disconfirmed expectations, and customers will not be satisfied. On the other hand, if a customer's perceptions exceed their expectations, customers will feel very satisfied. Customer experience quality is deemed a pivotal component in the service context if customer experience is an essential part of service across service categories.

According to Kang et al. [21] service results significantly influence on the customer perception for satisfaction in the professional service industry such as law, hospital, and education. Therefore, the result of customer's perception as well as process quality must be considered to assess service quality comprehensively. In short, service results that fulfill most of customer requirements influences on customer satisfaction by reinforcing comprehensive assessment of service quality. In education service, student's improvement of capabilities on solving problems would increase customer satisfaction [21]. Management may think that the company's service is fine, but if customers disagree, then the company has a problem. Hence, understanding the nature and determinants of customer expectations is essential to ensure that service performance meets or exceeds expectations [22]. Conscious efforts are being made to reinforce the customer-driven focus and quality-orientation conveyed in top management's vision for excellence to all employees [23].

2.3 Service Quality and Customer Satisfaction

For business in services industries, achieving customer satisfaction is far more challenging. Considering Saha and Theingi [24] found a significant relationship between airline service quality and passenger satisfaction, meaning that the higher the quality of services, the higher the passenger's satisfaction. Despite, the general agreement on the definition of perceived service quality and satisfaction, their causal relationship is yet to be resolved [24].

AIRQUAL scale developed by Ekiz et al. [25] was applied to overcome the psychometric problem that exists in service quality scale in this study. Based on this scale it was represented five dimensions, namely airline tangibles, terminal tangibles, personnel, empathy, and image. Green airport dimension is added to represent the green environment model. Service quality becomes a strong predictor for customer satisfaction same as in literature review. To test in this study all these six hypotheses are developed:

Research hypothesis:

- H1. Perceived quality related to airline tangibles have significant effect on customer satisfaction.
- H2. Perceived quality related to terminal tangibles have significant effect on customer satisfaction.
- H3. Perceived personnel-related quality has significant effect on customer satisfaction.
- H4. Perceived empathy has significant effect on customer satisfaction.
- H5. Perceived airline image has significant effect on customer satisfaction.
- H6. Perceived green airport have significant effect on customer satisfaction.

3. RESEARCH METHODOLOGY

3.1 Research Instrument

This survey will be conducted among customers of local airlines including Malaysia Airlines, Firefly Airlines and Air Asia Airlines. The survey instrument was adopted from Ekiz et al. [25]. A set of 39 items were used in the questionnaire including 6 items for airline tangibles, 11 items for terminal tangibles, 8 items for personnel, 7 items for empathy, and 3 items for image. In this study 4 items were used to measure customer satisfaction as proposed by Westbrook and Oliver [26]. In addition, five-point Likert scale was used in order to reduce respondents' frustration and increase response rate and quality as suggested by Prayag [5].

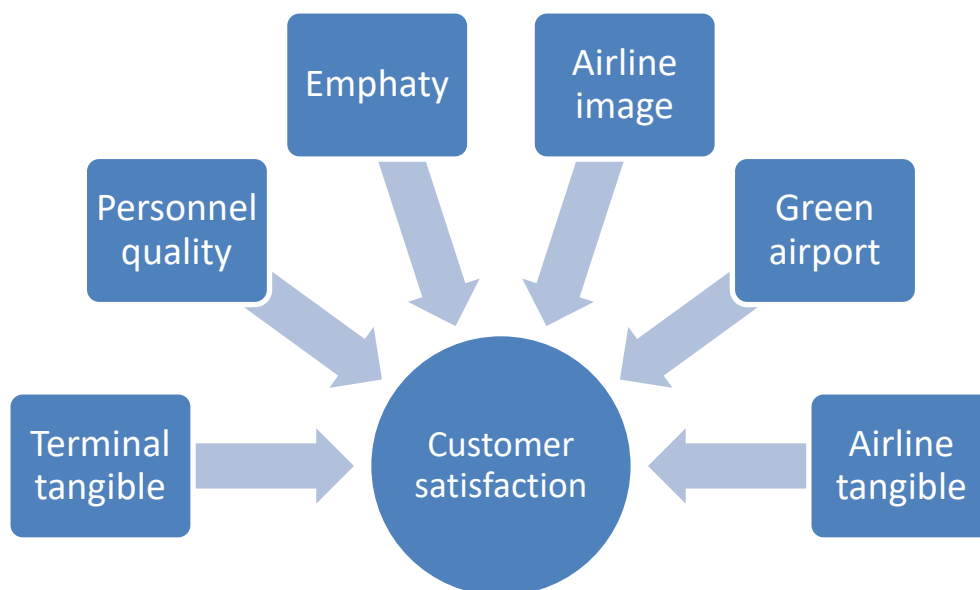


Fig. 1. Research framework

3.2 Sample Design and Data Collection

In this study the objective is to measure green service quality and customer satisfaction toward local airline services, focusing on Malaysian national. The target population in this study is all passengers who experienced in using local airlines services. The survey will conduct via email and self-administered as a medium to collect data. A convenience sampling will be used to distribute questionnaire in this survey. All the questionnaires will be distributed to passengers at different times over in two-week period. In this survey, the researcher contacts and explain the purpose to all respondents. All the data will be taken from the person who experienced using services from Malaysia airlines, Air Asia airlines and Firefly airlines. The reason for selecting this group was that they make up a major proportion of local airlines customer and to know their perception.

3.3 Analysis Methods

The collect data will be analyzed using SPSS Statistics 20. Following the procedure suggested by Anderson and [27] measurement model was estimated before the structural model.

4. DISCUSSION AND IMPLICATIONS

Service industry is an important sector where it will differentiate themselves in a very challenging business environment. By using their service quality as a tool to, business able to compete with their competitor (Olorunniwo et al., 2006; [25]). In global competition, service provider need to force themselves to improve their service quality so that customer can satisfy on their service and local airline is no exception [16].

This study aimed to measure the service quality of local airlines by using the five AIRQUAL scale and investigate to get the result about passengers' satisfaction.

The evidence from the previous study represents the fact in improving the tangibility of aircraft, thus can help to make improvement on customer satisfaction. For example, Prayag [5], find out that airline tangible gain high percentage in passenger's rating of customer satisfaction. Similarly, to Saha and Theingi [24], also stated that airline tangible, as a construct of airline service quality, creates satisfaction, and fosters positive word-of-mouth.

The findings for other variables such as terminal tangible, personnel and empathy will helps airlines to upgrade their current services. For example, the cleanliness of toilet is significant contributor toward customer satisfaction and airport need provide enough facilities to the customer.

The previous study also shown that interaction with personnel do give impact to customer satisfaction. According to Saha and Theingi [24], the significant contributor to customer satisfaction is the cabin crew and ground support staff.

In addition, there are significant relationship between brand image and customer satisfaction. This result was supported with previous study where it was found by Nadiri et al. [16] who also do research for the north Cyprus national airline and get similar result where image had a significant influence on customer satisfaction.

Practical implication in this study for Malaysia Local Airlines, the strategy with service differentiation should be start earlier to make improvement of quality. The rapid growth in air transportation service shows the importance of service quality dimensions to make improvement on the quality of transport services at Malaysia Local Airlines.

5. CONCLUSION, FUTURE RESEARCH AND LIMITATION

The study aims to measure perceive green service quality for local airline company by using AIRQUAL scale developed by Ekiz et al. [25]. The airline company should be able to build customer perception through tangible part such as always upgrade interior and exterior of aircraft including appearance around terminal. Furthermore, airline company should also recruit and train human resources to provide good customer service personnel which highly important to customers. Customers always give high expectation on service they just think about their satisfaction. In order to stand in high market, airline company should upgrade or make improvement on their services especially on catering service facilities because it is one of the requirement from customer that have high demand in airline service


quality. In addition, company should always implement efficient technical maintenance of the aircrafts and to develop airline's image company also should have effective cargo handling procedures so that it can be safe and reliable.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Namukasa J. The influence of airline service quality on passenger satisfaction and loyalty. *The TQM Journal*. 2013;25(5):520-532.
Available:<https://doi.org/10.1108/TQM-11-2012-0092>
2. Gustafsson A, Ekdahl F, Edvardsson B. Customer focused service development in practice - A case study at Scandinavian Airlines System (SAS). *International Journal of Service Industry Management*. 1999;10(4):344-358.
Available:<https://doi.org/10.1108/09564239910282299>
3. Hussain R. The mediating role of customer satisfaction: Evidence from the airline industry. *Asia Pacific Journal of Marketing and Logistics*. 2016;28(2):234-255.
Available:<https://doi.org/10.1108/APJML-01-2015-0001>
4. Ramachandran KK. A study on service quality dimensions of domestic airline industry in India. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*. 2021 Apr 19;12(7): 1412-9.
5. Prayag G. Assessing international tourists' perceptions of service quality at Air Mauritius. *International Journal of Quality & Reliability Management*. 2007;24(5):492-514.
Available:<https://doi.org/10.1108/02656710710748367>
6. Min H, Min H. Benchmarking the service quality of airlines in the United States: An exploratory analysis. *Benchmarking: An International Journal*. 2015;22(5):734-751.
Available:<https://doi.org/10.1108/BIJ-03-2013-0029>
7. Nakhai B, Neves JS. The challenges of six sigma in improving service quality. *International Journal of Quality & Reliability Management*. 2009;26(7):663-684.
Available:<https://doi.org/10.1108/02656710910975741>
8. Ghobadian A, Speller S, Jones M. Concepts and Models. Downloaded by Universiti Teknologi MARA At 08:39 15 June 2016 (PT) *International Journal of Quality & Reliability Management*. 2002;11(9):43-66.
Available:<https://doi.org/10.1108/02656719410074297>
9. Joon Choi B, Sik Kim H. The impact of outcome quality, interaction quality, and peer-to-peer quality on customer satisfaction with a hospital service. *Managing Service Quality: An International Journal*. 2013;23(3):188-204.
Available:<https://doi.org/10.1108/09604521311312228>
10. Tsoukatos E, Mastrogianni E. Key determinants of service quality in retail banking. *EuroMed Journal of Business*. 2010;5(1):85-100.
Available:<https://doi.org/10.1108/14502191011043170>
11. Frost FA, Kumar M. Service quality between internal customers and internal suppliers in an international airline. *International Journal of Quality & Reliability Management*. 2001;18(4):371-386.
Available:<https://doi.org/10.1108/09574090910954864>
12. Asubonteng P, McCleary KJ, Swan JE. SERVQUAL revisited: A critical review of service quality. *Journal of Services Marketing*. 1996;10(6):62-81.
Available:<https://doi.org/10.1108/08876049610148602>
13. Parasuraman A, Zeithaml VA, Berry LL. A conceptual model of service quality and its implications for future research. *Journal of Marketing*. 1985;49(1979):41-50.
Available:<https://doi.org/10.2307/1251430>

- 
14. Babbar S, Koufteros X. The human element in airline service quality: contact personnel and the customer. *International Journal of Operations & Production Management*. 2008;28(9):804-830. Available:<https://doi.org/10.1108/01443570810895267>
 15. Rhoades DL, Treudt E. Case studies Service quality in the US airline industry: Progress and problems; 2012.
 16. Nadiri H, Hussain K, Haktan Ekiz E, Erdoğan Ş. An investigation on the factors influencing passengers' loyalty in the North Cyprus national airline. *The TQM Journal*. 2008;20(3):265-280. Available:<https://doi.org/10.1108/17542730810867272>
 17. Abdullah K, Manaf NHA, Noor KM. Measuring the service quality of airline services in Malaysia. *IJUM Journal of Economics and Management IJUM Journal of Economics & Management*. 2007; 15(1):1-29.
 18. Park J. Investigating the effects of airline service quality on airline image and passengers' future behavioural intentions: Findings from Australian International Air Passengers. *The Journal of Tourism Studies*. 2005;16(1):2-11. Available:<https://doi.org/10.1375/jhtm.13.2.161>
 19. Mal Kong S, Muthusamy K. Using service gaps to classify quality attributes. *The TQM Journal*. 2011;23(2):145-163. Available:<https://doi.org/10.1108/17542731111110212>
 20. Narteh B. Determinants of students' loyalty in the Ghanaian banking industry. *The TQM Journal*. 2013;25(2):153-169. Available:<https://doi.org/10.1108/17542731311299591>
 21. Kang B-S, Cho C-H, Baek J-D. The effects of service quality on customer satisfaction in case of dissatisfied customers. *Asian Journal on Quality*. 2007;8:27-39. Available:<https://doi.org/10.1108/15982688200700003>
 22. Zaid AM. Celebrate and record measuring and monitoring service quality at Malaysia. *Managing Service Quality*. 1995;5(2):25-27. Available:<https://doi.org/10.1108/09604529510083558>
 23. Zaid AM. Malaysia Airlines' corporate vision and service quality strategy. *Malaysia Airlines' Corporate Vision and Service Quality Strategy*. 2012;4(6):11-15. Available:<https://doi.org/10.1108/09604529410085845>
 24. Saha GC, Theingi Service quality, satisfaction, and behavioural intentions. *Managing Service Quality: An International Journal*. 2009;19(3):350-372. Available:<https://doi.org/10.1108/09604520910955348>
 25. Ekiz HE, Hussain K, Bavik A. Perceptions of service quality in North Cyprus Airline. *Tourism and Hospitality Industry 2006 - New Trends in Tourism and Hospitality Management, Proceedings of 18th Biennial International Conference, Faculty of Tourism and Hospitality Management, Opatija, 03-05, 778-790; 2006*.
 26. Westbrook RA, Oliver R. The dimensionality of consumption emotion patterns and consumer satisfaction. *Journal of Consumer Research*. 1991;18:84-91. Available:<https://doi.org/10.1086/209243>
 27. Anderson JC, Gerbing DW. Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*. 1988;103(3):411-423. Available:<https://doi.org/10.1037/0033-2909.103.3.411>
 28. Amin M, Yahya Z, Ismayatim WFA, Nasharuddin SZ, Kassim E. Service quality dimension and customer satisfaction: An empirical study in the Malaysian Hotel Industry. *Services Marketing Quarterly*. 2013;34(2):115-125. Available:<https://doi.org/10.1080/15332969.2013.770665>
 29. Nunnally J. *Psychometric Theory*. New York: McGraw-Hill; 1978. Available:<https://doi.org/10.1037/018882>
 30. Zieba M., Johansson E. (2022). Sustainability reporting in the airline industry: Current literature and future research avenues. *Transportation Research Part D: Transport and Environment*, Volume 102, 2022, 103133, ISSN 1361-9209,



<https://doi.org/10.1016/j.trd.2021.103133>.

31. Betul Kacar, Eylem Turhan, Alper Dalkiran & T. Hikmet Karakoc (2022) Green Airport building certification comparison: a practical approach for Airport Management, International Journal of Green Energy, DOI: 10.1080/15435075.2022.2076236

32. Li, X., Chen, X., Liu, Z (2002). Research on Construction and Development of Green Airport. Proceedings of the 2022 International Conference on Urban Planning and Regional Economy (UPRE 2022). Atlantis Press 2022. 434-437. 2352-5428.

<https://doi.org/10.2991/aebmr.k.220502.077>