



**JOURNAL OF TOURISM,  
HOSPITALITY AND  
ENVIRONMENT MANAGEMENT  
(JTHEM)**

[www.jthem.com](http://www.jthem.com)



## **EXAMINING THE INFLUENCE OF AIRPORT PHYSICAL ENVIRONMENT ON PASSENGER SATISFACTION**

Nor Maizana Mat Nawi<sup>1\*</sup>, Nur Hafizah Muhammad<sup>2</sup>, Nur Farihin Abd Hadi<sup>3</sup>, Nor Amira Mohd Razali<sup>4</sup>, Harnidah Samengon<sup>5</sup>

<sup>1</sup> Faculty of Hospitality, Tourism and Wellness, Universiti Malaysia Kelantan, Malaysia  
Email: maizana.mn@umk.edu.my

<sup>2</sup> Faculty of Hospitality, Tourism and Wellness, Universiti Malaysia Kelantan, Malaysia  
Email: hafizahm@umk.edu.my

<sup>3</sup> Faculty of Hospitality, Tourism and Wellness, Universiti Malaysia Kelantan, Malaysia  
Email: farihin.ah@umk.edu.my

<sup>4</sup> Faculty of Hospitality, Tourism and Wellness, Universiti Malaysia Kelantan, Malaysia  
Email: noramira.mr@umk.edu.my

<sup>5</sup> Faculty of Hospitality, Tourism and Wellness, Universiti Malaysia Kelantan, Malaysia  
Email: harnidah@umk.edu.my

\* Corresponding Author

### **Article Info:**

#### **Article history:**

Received date: 28.10.2025

Revised date: 11.11.2025

Accepted date: 21.12.2025

Published date: 31.12.2025

#### **To cite this document:**

Mat Nawi, N. M., Muhammad, N. H., Abd Hadi, N. F., Mohd Razali, N. A., & Samengon, H. (2025). Examining The Influence of Airport Physical Environment on Passenger Satisfaction. *Journal of Tourism, Hospitality and Environment Management*, 10 (42), 296-309.

DOI: 10.35631/JTHEM.1042019

### **Abstract:**

This study examines the influence of physical environment quality on passengers' satisfaction at Sultan Ismail Petra Airport, Kota Bharu, one of Malaysia's regional airports. While physical environment quality has been widely examined in the aviation industry, research on smaller regional airports remains limited. The main objective of this study is to evaluate the relationship between three physical environment dimensions: facilities, servicescape, and security, towards passenger satisfaction. A quantitative approach was applied, and a total of 307 valid responses were collected from airport passengers. Data were analyzed using SPSS version 27, applying descriptive statistics, reliability testing, and Pearson correlation to identify the strength of relationships between variables. The results show that all three dimensions are positively associated with passenger satisfaction. Academically, this study enriches the limited body of knowledge on physical environment quality in regional airports by providing insights into consumer perceptions in a less explored context. Such developments may also benefit local tourism and regional economic growth. In a nutshell, the study emphasizes the critical role of physical environment quality in enhancing the competitiveness of regional airports.

This work is licensed under [CC BY 4.0](#)**Keywords:**

Servicescape, Security, Passenger Satisfaction, Airport, Malaysia

## Introduction

Airports play a vital role in supporting tourism and driving economic growth. Across Southeast Asia, countries such as Thailand, Indonesia, and Singapore have strengthened their tourism industries through well-developed airports that provide efficient services for international travellers (World Tourism Organization, 2023; Lee & Kim, 2018). For instance, Indonesia welcomed 11.7 million international tourists in 2023, while Singapore attracted 13.6 million, supported by its reputation as a top aviation hub (The Diplomat, 2023). These examples highlight how airport quality and services directly enhance tourist experiences and national competitiveness.

Airports are more than just transport hubs; it also generates jobs, support hospitality and retail, and create the first impression of a country (Mason, 2020; Graham, 2013). Exceptional airports, such as Singapore's Changi, with unique facilities like gardens, theaters, and rooftop pools, set global standards for customer experience (Changi Airport, 2024). In Malaysia, Kuala Lumpur International Airport (KLIA) and Penang International Airport are key gateways for international visitors, showcasing the nation's cultural diversity while strengthening its tourism sector (Jamal, 2022; Siti & Rahman, 2023).

Despite the growing recognition of airports as drivers of tourism and regional development, Sultan Ismail Petra Airport in Kota Bharu continues to face limitations in facilities, services, and international connectivity compared to major airports such as KLIA and Penang International Airport. These shortcomings restrict its ability to deliver high-quality services and meet the expectations of diverse travellers. Passenger satisfaction, which is a key determinant of airport competitiveness and loyalty, is therefore likely to be affected.

However, research on physical environment quality and customer satisfaction at regional airports in Malaysia, particularly Kota Bharu Airport, remains scarce. This gap highlights the need for further investigation into how service quality dimensions such as facilities, servicescape, and security influence customer satisfaction in the context of Sultan Ismail Petra Airport. Addressing this issue is crucial, as improving customer satisfaction could strengthen the airport's role in promoting tourism, enhancing competitiveness, and supporting Kelantan's regional economic growth.

## Literature Review

### *Facilities*

Facilities are generally defined as the physical infrastructure and amenities that support the needs of users within a built environment. According to Kaplan and Norton (2004), facilities can be considered physical assets that provide value for social and economic purposes. The International Facility Management Association (IFMA, 2017) expands this definition, describing facility management as the integration of people, place, process, and technology to ensure the optimal functioning of environments. In airports, facilities encompass terminals,

check-in counters, waiting areas, aerobridges, parking spaces, restrooms, and retail outlets, all of which shape the passenger journey (Chowdhury & Ashik, 2020).

The quality and availability of airport facilities have been shown to play a critical role in influencing passenger satisfaction. Graham (2013) emphasized that airports serve as gateways and the first point of contact for international visitors, making the condition of their facilities vital to shaping traveler perceptions. Previous studies confirm that well-maintained and user-friendly facilities such as efficient check-in systems, comfortable seating, clean restrooms, and accessible transportation are directly linked to higher levels of passenger satisfaction and loyalty (Prentice & Kadan, 2019; Li et al., 2021). Conversely, inadequate or outdated facilities often result in dissatisfaction, longer waiting times, and negative overall experiences (Bogicevic et al., 2017).

The quality of physical facilities is the primary indicator of tangibility in the context of airports, whereas staff efficiency, dependability, and the perceived security of the airport environment are associated with responsiveness and assurance. Recent research consistently shows that airport physical conditions, such as comfort, safety, and cleanliness, are important factors in determining how satisfied travelers are (Smith, 2018; Hegyi & Csonka, 2022; Bae & Chi, 2021). According to more studies, such aspects of service quality as tangibility, assurance, and empathy have a major impact on total passenger satisfaction (Dambagolla & Sumanasiri, 2020; Sulankey & Muyisa, 2017). It is significant to note that the influence of airport service quality goes beyond immediate gratification; it also affects passengers' behavioral intentions, including their willingness to return and refer others to the airport (Daya, 2023; Mtafya & Mutalemwa, 2024).

Overall, the literature indicates that facilities and service quality are interrelated dimensions of the airport experience that significantly influence customer satisfaction. High-quality facilities enhance the tangibility of services, while efficient service delivery improves passengers' perceptions of the overall airport environment. In regional airports such as Sultan Ismail Petra Airport (Kota Bharu), improving facilities and service quality is crucial to strengthening customer satisfaction and positioning the airport as a competitive gateway within Malaysia's tourism and economic landscape.

### ***Servicescape***

The term servicescape was introduced by Booms and Bitner (1992) to describe the physical environment where services are delivered. It includes layout, design, signage, ambient conditions, and other tangible elements that influence customer perceptions. Servicescape is important because it shapes first impressions, sets customer expectations, and influences both satisfaction and behavioral responses (Wakefield & Blodgett, 1996).

The impact of a well-designed servicescape on customer happiness has long been acknowledged. Early research revealed that environmental elements including clean surroundings, cosy seats, and adequate lighting had a big impact on how customers rated the services (Wakefield & Blodgett, 1999). Airport servicescape components, including waiting areas, navigation systems, and terminal layout, have been demonstrated to affect passenger satisfaction (Fodness & Murray, 2007). Further research builds on this foundation by showing that aesthetically pleasing surroundings, efficient signage, and modern airport facilities not only improve passenger experiences but also foster loyalty and goodwill (Bogicevic et al.,

2017; Bae & Chi, 2021; Hegyi & Csonka, 2022; Mtafya & Mutalemwa, 2024). The collective body of study shows how the servicescape's role has changed over time, moving from affecting short-term satisfaction to influencing long-term behavioural intentions.

Prentice and Kadan (2019) showed that both functional elements (e.g., check-in counters, aerobridges) and aesthetic elements (e.g., design, cleanliness) contribute directly to passenger satisfaction. Moreover, Li et al. (2021) emphasized that servicescape not only affects immediate satisfaction but also influences repeat usage and spending behavior. Service quality frameworks, such as SERVQUAL (Parasuraman et al., 1988), emphasize tangibility as one dimension of service quality. In airports, tangibility is strongly tied to the servicescape. Rajaguru (2016) found that the physical environment, combined with staff efficiency and security, plays a crucial role in shaping overall service quality perceptions. This suggests that servicescape is not only part of the physical experience but also an integral factor in delivering high service quality, which in turn leads to greater customer satisfaction.

In summary, servicescape is a critical factor in the airport experience. Prior research shows that a well-managed physical environment clean, efficient, and pleasant enhances customer satisfaction and strengthens perceptions of service quality. For regional airports such as Sultan Ismail Petra Airport, improving servicescape can be an effective strategy to increase passenger satisfaction and competitiveness.

### **Security**

Within the SOR model, security in the airport context can be viewed as an external stimulus that influences passengers' internal states and subsequent behaviors. Security refers to the feeling of being safe and free from risk during a service experience, including physical safety, financial protection, and confidentiality (Parasuraman et al., 1988). At airports, this stimulus is reflected in safety checks, baggage handling, and the conduct of security personnel. When exposed to these stimuli, passengers as the organism develop perceptions and emotional responses, such as trust, comfort, or anxiety.

Research highlights that the professionalism and hospitality of security staff positively shape these internal responses, significantly enhancing passenger satisfaction at Sultan Thaha Airport, Indonesia (Wahyuni et al., 2023). Likewise, operational security measures, such as smooth and efficient screening processes, reduce stress and improve perceptions of service quality, which further enhance satisfaction (Kim et al., 2022). These positive internal evaluations lead to the response, where passengers report higher satisfaction levels and a greater willingness to reuse the airport. This indicates that safety and security are fundamental stimuli that directly influence passenger emotions and behaviors, shaping the overall travel experience.

In short, security is central to the airport experience. Passengers expect safety as a basic requirement, and when security is handled professionally and efficiently, it enhances satisfaction and strengthens perceptions of service quality. For regional airports like Sultan Ismail Petra Airport (Kota Bharu), improving security systems and staff service can directly raise customer satisfaction and loyalty.

### ***Physical Environment and Passenger Satisfaction***

Passenger satisfaction represents the overall evaluation of the airport experience, shaped by how well the physical environment and services align with or exceed expectations. When the environment meets passenger needs through comfort, cleanliness, and functional facilities satisfaction is achieved; otherwise, dissatisfaction arises (Yilmaz, 2023). The quality of the physical environment is a critical driver of satisfaction, as it directly influences passengers' perceptions and comfort during their journey (Suki, 2014; An & Noh, 2021). Recent studies highlight that factors such as terminal facilities, ambience, and overall cleanliness strongly contribute to positive satisfaction, while poorly maintained spaces create negative experiences (Fodness & Murray, 2022). Evidence from Penang Airport (Malaysia) further shows that assurance, particularly staff competence and reliability in managing the environment, significantly enhances passenger satisfaction (Khan et al., 2022). Similarly, the ambience and comfort of the physical surroundings play a central role in shaping passenger perceptions (Chen et al., 2021). Overall, improving the physical environment not only elevates satisfaction but also strengthens airport reputation and encourages passenger loyalty (Yilmaz, 2023).

This study adopts the Stimulus–Organism–Response (SOR) theory as its theoretical framework to develop the research model. In the context of an airport, the SOR theory is applied to explain passenger satisfaction. The theory suggests that external stimuli influence individuals' internal states, referred to as organisms, which in turn shape their behavioral responses, such as the satisfaction of using a service. More broadly, the SOR framework highlights the positive relationship between the physical environment and outcome variables (Ali et al., 2016).

### ***Facilities Has a Positive Influence on Satisfaction***

The comfort, convenience, and overall travel experience are all directly impacted by airport amenities, making them important factors in determining customer satisfaction. Features like meal options, retail stores, cleanliness, seating sections, and restrooms are important factors in determining how passengers assess the quality of airport services. Passengers' views of service settings are greatly improved by cleanliness, functionality, and recreational amenities, according to recent empirical studies. This improves passenger satisfaction and behavioural intentions (Park & Park, 2018). In a similar vein, studies indicate that passenger happiness and airport preference are significantly influenced by terminal comfort and cleanliness (Khumban, 2020). More recently, assessments of user-generated reviews have confirmed that the most important criteria influencing airport service evaluations are retail selections, food services, seating availability, and queuing time (Pholsook et al., 2024). Similarly, survey-based research conducted at regional airports shows that passenger comfort and satisfaction are significantly impacted by the quality of waiting area amenities, especially those related to temperature control and seating availability (Fajar et al., 2024).

Empirical evidence confirms this relationship. Wakefield and Blodgett (1996) demonstrated that satisfaction levels in airports were closely associated with the provision of parking spaces, clear signage, and ease of facility navigation, showing that passengers value functional and accessible amenities. More recently, Wattanacharoensil et al. (2022) emphasized that enhancing airport service zones is one of the primary strategies for improving the customer experience. A well-designed physical environment not only elevates satisfaction but also strengthens the airport's image and influences passenger behavior, including their loyalty and intention to reuse the facility.

*Hypothesis 1: Facilities Positively Influence Passenger Satisfaction.*

### ***Servicescape Has a Positive Influence on Satisfaction***

Effective servicescape design meaning the thoughtful arrangement of décor and environmental features significantly enhances passenger satisfaction in airports. Although Heung and Gu (2012) highlighted factors such as seating arrangement, staff presence, atmosphere, greenery, and the strategic placement of windows as contributors to traveler contentment, contemporary research confirms and expands on this perspective.

More recent research has confirmed and extended this perspective by demonstrating that an integrated airport servicescape significantly influences passenger satisfaction, perceptions, and behavioral responses (Lee, Jeon, & Kim, 2022). Importantly, servicescape affects perceived value, passenger satisfaction is significantly driven by personalized service, suggesting that employees meaningfully influence overall contentment. This deeper integration offers a more complete understanding of how spatial design and staff behavior interact to shape travelers' experiences (Moon, Yoon, & Han, 2023).

*Hypothesis 2: Servicescape positively influences passenger satisfaction.*

### ***Security Has a Positive Influence on Satisfaction.***

The airport industry has increasingly recognized the critical relationship between security and customer satisfaction as part of service quality dimensions (Fakfare, 2023). This research treats "security" as one of the key dimensions in the overall airport environment; alongside layout, ambience, facilities, gate area, entertainment and shows that a well-designed and secure environment plays a pivotal role in shaping passengers' perceptions and long-term relational behaviours. In addition, Yuliyanto et al. (2023) demonstrated that businesses could enhance customer satisfaction by safeguarding clients' financial and personal information through secure electronic systems in online transactions. In the airport context, similar principles apply. Security provisions not only ensure passenger safety but also provide comfort and reassurance throughout the airport journey. Earlier studies further revealed that the courtesy, professionalism, and assistance provided by airport security personnel, together with the efficiency and rigor of security procedures, strongly influence the level of customer satisfaction.

*Hypothesis 3: Security positively influences passenger satisfaction.*

### **Methodology**

This study employed a quantitative survey method to investigate the influence of independent variables on the dependent variable. The independent variable, physical environment, was measured through three dimensions: facilities, servicescape, and security, while the dependent variable was satisfaction. This study aims to provide a comprehensive understanding of the factors influencing passenger satisfaction at Kota Bharu Airport. The main objective of this descriptive research is to assess the effect of physical environment factors on airport users' satisfaction. Data were collected through face-to-face surveys, targeting individuals with at least one-way flight experience. After excluding invalid responses, a total of 307 respondents were retained for analysis. A Google Form questionnaire was employed as the survey instrument for this study. The questionnaire comprised two sections: the first included the consent statement, study purpose, and demographic profile questions, while the second

contained measurement items for the study variables. All three explanatory variables and the outcome variable were assessed using a five-point Likert scale, ranging from 'strongly disagree' to 'strongly agree.' The facilities construct captured respondents' perceptions of the facilities provided in Kota Bharu airport, while servicescape items measured passengers' perceptions of ambience. Security items focused on the tangible features that could influence behavior. The measurement items were adapted from previous studies on physical environment factors and modified to suit the Malaysian context. Data were analyzed using Statistical Package for the Social Sciences version 27, applying descriptive statistics, reliability testing, and Pearson correlation to identify the strength of relationships between variables.

## Results

Table 1 presents the demographic profile of the respondents. A majority of the participants were female (59.9%), while 40.1% were male. In terms of ethnicity, most respondents were Malay (58.6%), followed by Indian ethnicities (22.5%) and Chinese (9.8%). Finally, others ethnicity represents (9.1%). The majority were students (62%), with 20.5% employed in the private sector and 4.6% in the government sector. While 11.1% self-employed and a smaller proportion (1%) being retirees. In terms of age distribution, more than half of the respondents (73.9%) were between 18 and 29 years old, followed by 10.7% aged 30–39 years. Additionally, 10.1% were between 40 and 49 years, while only 5.2% were aged 50 and above.

**Table 1: Demographic Characteristic**

Demographic (n=307)	f	Percentage
Gender		
Male	184	59.9%
Female	123	40.1%
Age		
18–29 years old	227	73.9%
30–39 years old	33	10.7%
40–49 years old	31	10.1%
50 and above	16	5.2%
Ethnicity		
Malay	180	58.6%
Chinese	30	9.8%
Indian	69	22.5%
Others	28	9.1%
Occupation		
Self-employment	34	11.1%
Student	193	62.9%
Private Sector	63	20.5%
Government Sector	14	4.6%
Retiree	3	1%

According to Sekaran and Bougie (2016), the mean represents the average value of a dataset, where the mean score (M) reflects the overall average performance of a group in an assessment. The standard deviation (SD), on the other hand, is a measure of dispersion for parametric data, calculated as the square root of the variance (Leung, 2011; Sekaran & Bougie, 2019). In statistical terms, SD describes the degree of variability within a dataset, indicating how widely the data points deviate from the mean or average value (Glen, 2020). Sedgwick (2011) further

notes that a higher SD value indicates greater inconsistency within the instrument, whereas a lower SD value is preferable as it reflects a more homogeneous distribution of scores around the mean. Table 2 presents the descriptive result of the study.

**Table 2: Descriptive Results**

<b>Items</b>	<b>Mean</b>	<b>SD</b>
<b>Facilities (<math>\alpha=0.745</math>)</b>		
The airport provided a sufficient number of comfortable seats.	3.59	1.029
The furniture at the terminal is appropriately designed.	3.64	1.031
The seat arrangements at the airport gates provided plenty of space.	3.63	0.997
Overall, the airport's signs & symbols made it easy to get where I wanted to go.	3.79	0.924
<b>Servicescape (<math>\alpha=0.812</math>)</b>		
The lighting at the airport is adequate.	3.65	0.952
The temperature at the airport is comfortable.	3.65	1.025
The style of the interior accessories at the airport is fashionable.	3.57	1.021
<b>Security (<math>\alpha=0.815</math>)</b>		
The security screening process is efficient and well-organized.	3.56	1.032
I feel safe and secure during the security checks at the airport.	4.07	1.147
The security process respects my comfort and privacy.	3.68	0.937
The security process integrates seamlessly with check-in and boarding procedures.	3.66	0.954
<b>Passenger Satisfaction (<math>\alpha=0.782</math>)</b>		
I am pleased with the experiences I had at this airport.	3.67	1.003
I feel I have made the right decision in choosing this airport.	3.68	0.968
The airport exceeds my expectations.	3.69	0.938
The airport represents what I understand to be an ideal airport.	3.61	0.952

Table 3 shows Pearson's Correlation Coefficient between independent variables (Facilities, Servicescape, Security) and the dependent variable (Pasenger Satisfaction) at the airport in Kota Bharu. From the Pearson Correlation table, the current study found that there is a significant relationship between facilities and customer satisfaction in the airport because the p-value is 0.001, which is less than 0.05. The Pearson's Correlation Coefficient value is  $r = 0.795$ , which explains the very high positive relationship between facilities and pasenger satisfaction. This indicates that the better the airport facilities, the higher the level of passenger

satisfaction. Therefore, hypothesis 1 (H1) was accepted because the value was between 0.70 to 0.90, showing a strong correlation (Cohen, 1988).

Besides, there is a significant relationship between servicescape and passenger satisfaction in the airport. The p-value is 0.001, which is less than 0.05. The Pearson's Correlation Coefficient value is  $r = 0.770$ , which also explains a strong positive relationship between servicescape and customer satisfaction at the airport. This means that passengers perceive a higher level of satisfaction when the airport's physical environment is pleasant and appealing. Therefore, hypothesis 2 (H2) was accepted because the value was between 0.70 to 0.90 (Cohen, 1988).

Lastly, there is a significant relationship between security and customer satisfaction in the airport in Kota Bharu. The p-value is 0.001, which is less than 0.05. The Pearson's Correlation Coefficient value is  $r = 0.767$ , indicating a strong positive relationship between security and customer satisfaction. This suggests that passengers feel more satisfied when they perceive airport security processes as efficient, respectful, and safe. Therefore, hypothesis 3 (H3) was accepted as the correlation value also falls between 0.70 to 0.90, indicating a strong relationship (Cohen, 1988).

**Table 3: Pearson Correlation Results**

		Facilities	Servicescape	Security	Passenger Satisfaction
Facilities	Pearson Correlation	1	.784	.751	.795
	Sig(2-tailed)		.001	.001	.001
Servicescape	Pearson Correlation	.784	1	.814	.770
	Sig(2-tailed)	.001		.001	.001
Security	Pearson Correlation	.751	.814	1	.767
	Sig(2-tailed)	.001	.001		.001
Passenger Satisfaction	Pearson Correlation	.795	.770	.767	1
	Sig(2-tailed)	.001	.001	.001	

## **Disscussions**

This study sheds light on the factors influencing passengers when they travel through domestic airports such as Kota Bharu airport. The demographic analysis revealed that most respondents were young adults aged 18 to 29, predominantly Malay, and largely students. This profile suggests that the airport is frequently used by younger, education-oriented travelers who are likely to prioritize convenience, comfort, and affordability when evaluating their travel experience. The result of descriptive analysis informed that the passengers who are young, who might be cost-conscious, also place strong emphasis on convenience and comfort. Looking at the first variable of airport facilities, the average scores ranged between 3.59 and 3.79, suggesting that passengers were moderately satisfied with the basic infrastructure. The highest-rated item was the clarity of signs and symbols ( $M = 3.79$ ,  $SD = 0.924$ ), which indicates that way finding at the airport is generally effective. On the other hand, seating availability and

furniture design received slightly lower scores, though still above the midpoint, highlighting areas where improvements could enhance comfort further. These results show that while the airport is doing reasonably well in terms of facilities, passengers still see room for better seating and furniture arrangements. Furthermore, the outcomes are justifiable considering the ongoing extensive improvements and renovations aimed at enhancing the airport's facilities. In addition, well design airport facilities have a significant impact beyond meeting passenger needs or functional requirements not only elevates satisfaction but also strengthens the airport's image.

When it comes to servicescape, the average scores fell within a similar range ( $M = 3.57\text{--}3.65$ ), reflecting moderate satisfaction with the airport's physical environment. Passengers felt that lighting and temperature were adequate, while the design of interior accessories was slightly less impressive. This suggests that the airport manages to provide a comfortable and functional environment, even though it is still under major renovation, but it may not stand out in terms of creating an attractive or memorable atmosphere. The last security variable was also rated fairly positive, with mean scores ranging from 3.56 to 4.07. Notably, the highest score was for the feeling of safety and security during the check item ( $M = 4.07$ ,  $SD = 1.147$ ). This suggests that passengers strongly value the sense of reassurance provided by the security process. At the same time, items relating to comfort, privacy, and seamless integration with other procedures scored slightly lower. While security is clearly recognized as effective, the challenge for the airport is to ensure that these procedures are not only safe but also respectful and passenger-friendly. Passenger satisfaction itself showed mean scores between 3.61 and 3.69, again indicating moderate levels of satisfaction. Passengers generally felt that choosing the airport was the right decision and that their expectations were being met, though the score for the airport being "ideal" was marginally lower ( $M = 3.61$ ,  $SD = 0.952$ ). This suggests that while the airport succeeds in delivering a satisfactory experience, there is still a minimum level of satisfaction.

The correlation analysis further strengthened these observations, showing that facilities ( $r = 0.795$ ,  $p < 0.001$ ), servicescape ( $r = 0.770$ ,  $p < 0.001$ ), and security ( $r = 0.767$ ,  $p < 0.001$ ) all have strong positive associations with passenger satisfaction towards Kota Bharu airport. Among these, facilities showed the strongest relationship, underscoring the importance of tangible, functional aspects such as seating arrangements and signage in shaping the travel experience. This finding echoes Wattanakamolchai and Choibamroong (2025) and Lau (2022), who highlighted that airport facilities are often the most visible and immediately experienced elements influencing passengers' evaluations. The strong relationship between servicescape and satisfaction also demonstrates the importance of ambiance. A previous study found that environmental aesthetics contribute significantly to satisfaction in hospitality and tourism contexts (Kandampully, Bilgihan & Amer, 2023). Similarly, the positive link between security and satisfaction confirms that passengers value processes that are efficient, reliable, and considerate of their comfort (Pai, Chen & Ye, 2021).

Interpreted through the Stimulus–Organism–Response (SOR) framework, these results make theoretical sense. Facilities, servicescape, and security serve as external stimuli that shape passengers' perceptions and emotions (the organism), which then translate into satisfaction (the response). This suggests that satisfaction is not solely the outcome of functional service delivery, but also a reflection of the psychological and emotional states passengers develop during their airport experience (Isyana, 2023).

Wattanacharoensil et al. (2022) emphasized that enlightening airport service areas is crucial for improving passenger experience. By applying the Stimulus Organism Response (SOR) theory, well-designed service area act as stimuli that influence passengers' internal perceptions and emotions, which in turn shape their responses, such as satisfaction and intention to reuse the airport. This finding supports earlier studies showing that the physical environment plays a major role in influencing passenger emotions and behavioral (Mehrabian & Russell, 1974; Bitner, 1992). In addition, this study reinforces the idea that passenger satisfaction is both cognitive and affective, shaped by the interaction between tangible infrastructure and subjective impressions.

## Conclusion

This study examined how facilities, servicescape, and security shaped passenger satisfaction at Sultan Ismail Petra Airport, Kota Bharu. The findings clearly demonstrate that all three dimensions have strong, positive associations with satisfaction, confirming the critical role of the physical environment in influencing travel experiences. Among these, facilities emerged as the strongest relationship with satisfaction, underscoring the importance of functional amenities such as seating, signage, and infrastructure in shaping passengers' evaluations. Servicescape also played a positive and significant role, highlighting the value of ambience, design, and comfort in enhancing perceptions of service quality. Similarly, security was strongly associated with satisfaction, affirming that efficient and professional safety measures reassure passengers and elevate their overall airport experience. The study confirmed the relevance of the SOR framework in regional airports, showing that facilities, servicescape, and security shape passenger perceptions and emotions, leading to satisfaction as both a cognitive and emotional outcome. Enhancing infrastructure, ambience, and security can raise satisfaction, strengthen Sultan Ismail Petra Airport's competitiveness, and support regional tourism and economic growth. Overall, the study contributes to the limited research on service quality and satisfaction in Malaysian regional airports, providing theoretical insights and practical guidance. Future research that expands the scope across multiple airports, incorporates additional variables such as staff service quality or technology adoption, and applies more advanced analytical techniques will further enrich understanding in this field.

## Acknowledgements

The authors would like to acknowledge the contributions of the final year students who assisted in the data collection process. The authors also sincerely thank all respondents who participated in this study for their valuable time and cooperation, which were essential to the completion of this research.

## References

Agus Yuliyanto, A., Supriyono, B., & Purwanto, H. (2023). The effect of aviation security service quality on passenger satisfaction at Soekarno–Hatta International Airport Terminal 3 Ultimate. *Journal of Management and Business*, 22(2), 134–146.

Ali, F., Hussain, K., & Ragavan, N. A. (2016). Memorable customer experience: Examining the effects of customers' experience on memories and loyalty in Malaysian resort hotels. *Procedia - Social and Behavioral Sciences*, 222, 123–129.

An, M., & Noh, Y. (2021). Airline customer satisfaction and loyalty: Impact of in-flight service quality. *Journal of Air Transport Management*, 91, 101979.

Andersson, T. D., & Mossberg, L. (2004). The dining experience: Do restaurants satisfy customer needs? *Food Service Technology*, 4(4), 171–177.

Bae, Y., & Chi, C. G. (2021). A content analysis of passengers' perceptions of airport service quality through online reviews. *Journal of Air Transport Management*, 92, 102024.

Bogicevic, V., Yang, W., Bilgihan, A., & Bujisic, M. (2017). Airport servicescape effects on traveler satisfaction and behavioral intentions. *International Journal of Contemporary Hospitality Management*, 29(1), 184–203.

Booms, B. H., & Bitner, M. J. (1992). Marketing services by managing the environment. *Cornell Hotel and Restaurant Administration Quarterly*, 23(1), 35–40.

Chen, S. C., Tsai, C. H., & Su, C. H. (2021). An empirical study on airport service quality, passenger satisfaction, and behavioral intentions. *Sustainability*, 13(19), 10763.

Chin, J. L. (2011). Women and Leadership: Transforming Visions and Current Contexts. *Forum on Public Policy: A Journal of the Oxford Round Table*, (2), 1–12.

Chowdhury, S., & Ashik, F. R. (2020). Assessing the quality of airport facilities from passengers' perspectives: Evidence from Dhaka International Airport. *Journal of Air Transport Studies*, 11(1), 1–19.

Dambagolla, M., & Sumanasiri, E. G. T. (2020). Airport service quality and passenger satisfaction: A case study of Bandaranaike International Airport. *Journal of Management Matters*, 7(1), 43–56.

Daya, R. (2023). Service quality dimensions and passenger satisfaction in Indian airports: The mediating role of passenger loyalty. *International Journal of Aviation Management*, 8(2), 101–115.

Fajar, A. P., Mulyana, B., & Saputri, R. (2024). Pengaruh fasilitas pelayanan di ruang tunggu domestik Bandara Husein Sastranegara Bandung terhadap kepuasan penumpang. *Jurnal Manajemen Transportasi & Logistik*, 11(1), 45–56.

Fodness, D., & Murray, B. (2007). Passengers' expectations of airport service quality. *Journal of Services Marketing*, 21(7), 492–506.

Fodness, D., & Murray, B. (2022). Evolving passenger expectations and airport service quality. *Journal of Services Marketing*, 36(5), 682–694.

Graham, A. (2013). Managing airports: An international perspective (4th ed.). Routledge.

Hegyi, Á., & Csonka, L. (2022). Quality assessment of airports based on passengers' perspectives. *Periodica Polytechnica Transportation Engineering*, 50(2), 139–147.

International Facility Management Association (IFMA). (2017). What is facility management? <https://www.ifma.org/fm-guide/>

Isyana, Z. (2023). The Factors of The Airport Experience That Affect Passenger Satisfaction and Behavioral Intentions At Yogyakarta International Airport. *Cakrawala Repository IMWI*, 6(3), 682-699.

Jonsson, C. (2004). Creating value through facility management. *Facilities*, 22(1/2), 38–46.

Kandampully, J., Bilgihan, A., & Amer, S. M. (2023). Linking servicescape and experiencescape: creating a collective focus for the service industry. *Journal of Service Management*, 34(2), 316-340.

Kaplan, R. S., & Norton, D. P. (2004). Strategy maps: Converting intangible assets into tangible outcomes. Harvard Business Press.

Khan, M. J., Aziz, S., & Hassan, R. (2022). Service quality and passenger satisfaction in Malaysian airports: The mediating role of assurance. *Journal of Air Transport Management*, 99, 102144.

Khumban, P. (2020). Impacts of airport value-added services on passenger traffic and satisfaction. *Journal of Air Transport Studies*, 11(2), 45–62.

Kim, J., Lee, Y., & Han, S. (2022). The impact of airport security service quality on passenger satisfaction and behavioral intention. *Journal of Air Transport Management*, 98, 102140.

Lau, A. C. (2022). The impact of airport service quality on passenger satisfaction at the Hong Kong International Airport. University of Wales Trinity Saint David (United Kingdom).

Li, X., Zhang, Y., & Zhao, J. (2021). Airport service quality, passenger satisfaction, and behavioral intentions: Evidence from China. *Journal of Air Transport Management*, 93, 102049.

Mehrabian, A., & Russell, J. A. (1974). *An approach to environmental psychology*. MIT Press.

Mtafya, A., & Mutalemwa, D. K. (2024). Exploring the impact of airport services on passenger satisfaction and behavioral intention in Tanzania. *Journal of African Business*. Advance online publication.

Pai, Y. L., Chen, S. Y., & Ye, K. D. (2021). Investigating the Relationships Among Security Communications, Passenger's Awareness and Satisfaction Toward Preflight Security Checks. *The International Journal of Aerospace Psychology*, 31(4), 283-301.

Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). SERVQUAL: A multiple-item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.

Park, J. W., & Park, M. (2018). The effects of the servicescape of airport transfer facilities on satisfaction. *Journal of Air Transport Management*, 72, 68–76.

Pholsook, T., Wipulanusat, W., & Pitaksantayothin, W. (2024). A hybrid MRABNNNN approach for analyzing airport service quality from passenger reviews. *Journal of Air Transport Management*, 110, 102326.

Prentice, C., & Kadan, M. (2019). The role of airport service quality in passengers' behavioral intentions. *Journal of Retailing and Consumer Services*, 47, 40–48.

Rajaguru, R. (2016). Role of value for money and service quality on behavioural intention: A study of full-service and low-cost airlines. *Journal of Air Transport Management*, 53, 114–122.

Smith, T. (2018). Service quality in the airport industry: A case study approach. *Journal of Tourism and Hospitality Research*, 17(3), 225–239.

Suki, N. M. (2014). Passenger satisfaction with airline service quality in Malaysia. *Research in Transportation Business & Management*, 10, 26–32.

Sulankey, J. A., & Muyisa, S. (2017). Service quality dimensions and passenger satisfaction at Entebbe International Airport. *African Journal of Hospitality, Tourism and Leisure*, 6(1), 1–12.

Wahyuni, E. S., Yulianto, A., & Putra, D. R. (2023). The effect of aviation security services on passenger satisfaction at Sultan Thaha Airport. *Journal of Aviation Development*, 12(3), 221–230.

Wakefield, K. L., & Blodgett, J. G. (1996). The effect of the servicescape on customers' behavioral intentions in leisure service settings. *Journal of Services Marketing*, 10(6), 45–61.

Wakefield, K. L., & Blodgett, J. G. (1999). Customer response to tangible and intangible service factors. *Journal of Services Marketing*, 13(2), 112–127.

Wattanacharoenchai, W., Schuckert, M., & Graham, A. (2022). Enhancing airport service zones for improved customer experience. *Tourism Management*, 91, 104517.

Wattanakamolchai, S., & Choibamroong, T. (2025). Passenger Experience Management Strategies for Bangkok Suvarnabhumi Airport. *Tourism and Hospitality*, 6(4), 175.

Yilmaz, V. (2023). The mediating role of passenger satisfaction in the relationship between airport service quality and loyalty. *Journal of Air Transport Management*, 108, 102285.