EFFECTS OF AIRPORT SERVICE QUALITY ON AIRLINE PASSENGER SATISFACTION: A CASE OF JULIUS NYERERE INTERNATIONAL AIRPORT, TANZANIA

Hussein M. Mapunda[1], Denis Mwageni[2]

1. Hussein M. Mapunda Airport Operations officer, Tanzania airports authority(TZ)
2. Denis Mwageni, Lecture, National institute of transport (TZ)

[1]Husseinmapundas@gmail.com
https://orcid.org/0009-0006-0944-542X

Abstract

This study examines how the Dimensions of airport service quality, such as airport facilities, the airport environment, and security screening practices, affect passenger satisfaction at Julius Nyerere International Airport (JNIA) in Tanzania.

It addresses a critical gap in understanding service perceptions within African international airports. A quantitative design was used, employing structured questionnaires for data collection. International departure passengers were surveyed using convenience sampling. The data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS 4 software. The model evaluated the strength and significance of relationships among constructs. Results showed that security screening practices had the strongest positive effect on satisfaction. The airport environment had a moderate influence, whereas the airport facilities had the least impact. All three dimensions were statistically significant. Findings highlight the role of procedural efficiency and physical infrastructure in shaping passenger experiences. SSP indicators such as staff professionalism and responsiveness were key contributors. The study recommends prioritizing improvements in security transparency and staff training. It also suggests investing in spatial design and environmental quality. Policymakers should revise service frameworks to reflect these dimensions. Future research should expand to other airports for broader applicability.

Keywords — *Airport Service quality, Airport facilities, airport environment, airport security screening practices, passenger satisfaction.*

I. INTRODUCTION

Airports are vital transportation hubs that facilitate the movement of millions of passengers and tons of cargo, relying on coordinated efforts among airport staff, airlines, and third-party organizations (Báger et al., 2018). The global aviation industry has experienced rapid growth, with passenger numbers rising from 3.3 billion in 2022 to 5.85 billion in 2024 (ICAO, 2023), and projections reaching 8.2 billion by 2030 (IATA, 2018). Africa reflects this expansion, with air passenger traffic increasing from 85 million in 2023 to 98 million in 2024 (AFRAA, 2023), while Tanzania recorded a 164% rise from 1.748 million to 4.614 million passengers between 2022/2023 and 2023/2024 (TCAA, 2023). This surge has intensified competition among airport operators to enhance service quality and value propositions (Pandey, 2016). Although service quality may not influence ticket purchases, it becomes critical once passengers arrive at the airport (Pappachan, 2020). Airports are often perceived as ambassadors of their destinations, shaping impressions through service delivery (Wattanacharoensil et al., 2017). Gronroos (1984) defines service quality as the gap between expectations and actual experiences, a concept essential for organizational success (Natalia & Subroto, 2003). Enhancing service quality is a strategic tool for differentiation and competitiveness (Aleksandra, 2017). Despite progress, gaps remain in understanding how specific service dimensions such as security screening, facilities, and environment affect passenger satisfaction. ACI's 2006 global survey identified key satisfaction drivers including access, check-in, cleanliness, and staff efficiency. Studies by Bezerra & Gomes (2020) and Allen et al. (2020) confirm the importance of accessibility and environmental quality. In Tanzania, improving airport services is essential for attracting travellers and investors (Gowele et al., 2023; Halpern & Mwesiumo, 2021). However, challenges persist, including long queues, outdated infrastructure, and poor customer service (Oyoo, 2021). Research on airport service quality varies widely across regions and methods, highlighting the complexity of passenger expectations. Some studies focus on specific aspects like check-in or security, while others take a holistic view of the passenger experience. This study addresses these gaps by evaluating selected service dimensions and their impact on passenger satisfaction at Julius Nyerere International Airport.

II. LITERATURE REVIEW

Theoretical Review

ASQ Model was developed by Airport council international (ACI) in 2006, the model becomes a world's leading airport passenger service benchmarking program. ASQ program through its dimensions managed to measure passengers' satisfactions while they are at airport. The central hypothesis of ASQ model is passenger satisfaction is directly influenced by the quality of services provided at various touchpoints within the airport. The Model concentrate with both arrival and departing passenger by measure a specific dimension for each. This done by using ACI developed surveys, The ACI surveys divided in arrival and departure, the departure dimensions including accessibility, check-In, passport/ Id control, security, wayfinding, food and beverage, airport facilities and overall satisfaction while the arrival dimensions divided into de-boarding, customs, airport facilities, waiting lines, baggage claim, immigration, signage, staff availability and ambiance. The model has been applied in various study including Pappachan, 2020, Cholkongka, 2020, Bezerra & Gomes 2015, Chonsalasin et al., 2020.

ASQ model measure passenger satisfaction and help airports identify solutions to enhance customer experience, improve service offerings, and increase non-aeronautical revenue. The model is relevant in this study because it contains major dimensions that measure the service quality in the airport that are connected to this current study, precisely specific objective number one and three.

Although the Airport Service Quality (ASQ) model remains relevant to this study, it overlooks airport environment dimension. To fill this gap, the current research incorporated environmental factors such as cleanliness, ambiance, and spatial comfort. This additional construct was empirically assessed to determine its influence on airline passenger satisfaction.

Empirical Review

Several empirical studies have examined the influence of airport facilities on airline passenger satisfaction, revealing both significant impacts and notable research gaps. Hidaya et al. (2024) found that waiting room quality and terminal amenities at Kualanamu International Airport significantly affect passenger satisfaction, recommending improvements in seating, flight information systems, and entertainment. However, the study did not explore other facility-related attributes. Ma and Ma (2022), using structural equation modelling and IPMA, demonstrated that facility service quality particularly during check-in enhances satisfaction and loyalty at Shanghai Pudong International Airport. They identified underexplored areas such as Wi-Fi, lounges, and toilets. Binarti and Subandi (2023) reported that facilities and self-check-in services positively influence satisfaction at Gusti Ngurah Rai International Airport, though specific facility dimensions were not addressed. Suharni and Hodi (2023) showed that service quality, environment, and personnel correlate with satisfaction at Komodo Labuan Bajo Airport, but excluded factors like ATMs, electrical outlets, and shared-use equipment. Zakaria et al. (2014) emphasized the role of tangible and intangible facilities at Kuala Lumpur International Airport, yet did not assess individual components such as restaurants and shopping areas. The present study builds on these findings by evaluating targeted facility attributes including Wi-Fi, lounges, toilets, flight information systems, and electrical outlets and their impact on airline passenger satisfaction in international airport settings.

Several studies have examined the influence of airport environment on airline passenger satisfaction, highlighting both emotional and operational dimensions. Antwi et al. (2022) found that both substantive (SSoS) and communicative (CSoS) elements of the service scape significantly enhance passengers' emotional responses, satisfaction, and behavioural intentions, though the study did not explore specific physical attributes like cleanliness and ambiance in depth. Stephano et al. (2024) demonstrated that service scape mediates the relationship between airport outcome quality and satisfaction at Tanzanian airports, but focused narrowly on facility-related aspects, overlooking broader environmental factors. Ceccato and Masci (2017) revealed that safety perceptions are shaped by maintenance and transit conditions, yet did not assess the role of ambiance in passenger satisfaction. Ma et al. (2022) emphasized the importance of cleanliness, functionality, and accessibility in shaping safety and travel intentions during the COVID-19 pandemic, though their study was limited to domestic travelers. Desri et al. (2023) reported general satisfaction at Minangkabau International Airport but concentrated on employee performance, neglecting environmental attributes. Collectively, these studies affirm the relevance of airport environment while revealing gaps in assessing specific features. The present study addresses these gaps by evaluating targeted environmental dimensions particularly terminal cleanliness and ambiance and their impact on passenger satisfaction at Julius Nyerere International Airport.

Several studies have investigated the influence of security screening practices on airline passenger satisfaction, consistently affirming their significance while revealing areas for further exploration. Mansur and Prakosawati (2024) found that effective AVSEC services at Yogyakarta International Airport positively impact satisfaction, though some officers lacked friendliness, prompting recommendations to assess communication and specific service attributes. Ibrahim and Hodi (2022) confirmed that AVSEC service quality at Sultan Babullah Airport

significantly affects satisfaction, emphasizing the need to analyse inspection procedures and their underlying factors. Nugraha et al. (2023) reported a strong relationship between manual security checks and passenger satisfaction at Minangkabau International Airport, highlighting the need for technological integration and reduced waiting times. Apriani and Rachmawati (2024) revealed that AVSEC service quality at Tjilik Riwut Airport contributes 7.5% to passenger satisfaction, suggesting that other dimensions also play a role. Billa and Dewantari (2023) demonstrated that AVSEC officer performance at Supadio Pontianak International Airport directly influences satisfaction, reinforcing the importance of service quality in aviation security. Building on these findings, the present study integrates security screening practices alongside airport environment and facilities to assess how these dimensions collectively influence airline passenger satisfaction at Julius Nyerere International Airport.

Conceptual Framework

The consolidated conceptual framework (Figure 1) was developed based on model reviews and empirical studies to structure the relationship between airport service quality and airline passenger satisfaction. In this framework, airline passenger satisfaction is treated as the dependent variable, while airport service quality dimensions serve as independent variables. This approach enables a comprehensive understanding of how various service aspects influence passenger satisfaction. The study integrates two critical dimensions' airport facilities and airport security screening practices selected through extensive literature review due to their significant impact on the passenger journey. To enrich the framework, a third dimension, airport environment, was added to capture physical attributes such as cleanliness and ambiance, which are often overlooked but influential. Indicators used in this study are primarily drawn from the Airport Service Quality (ASQ) model and supplemented by relevant literature to ensure contextual relevance. This dual-source strategy strengthens the framework's validity and applicability. By examining the interplay between facilities, environment, and security practices, the framework aims to assess their collective influence on passenger satisfaction in real-world airport settings. Accordingly, the conceptual framework and hypotheses were formulated to guide the empirical investigation.
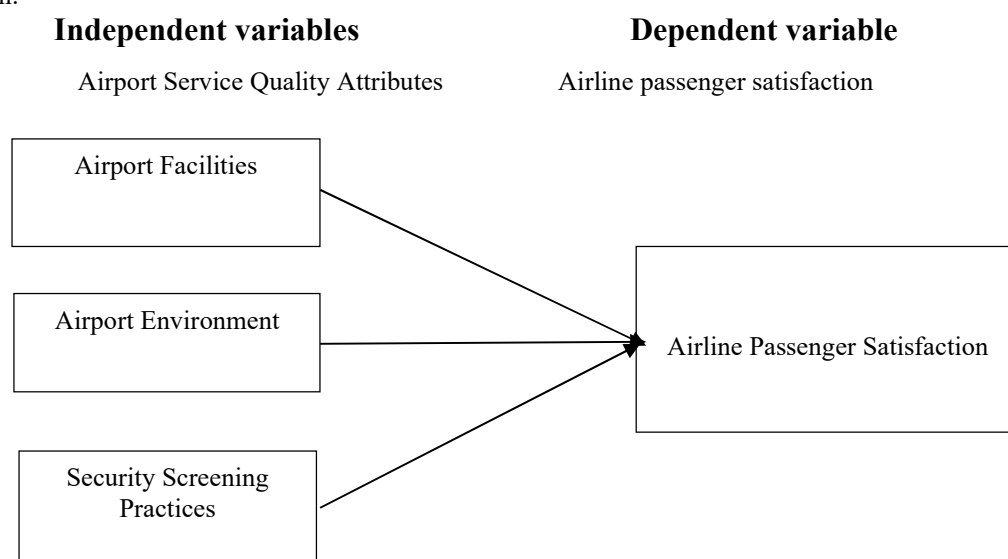

Fig 1: Conceptual framework of the study
source : ACI and Literature review

III. METHOD

This study adopted a positivist research philosophy, grounded in the belief that knowledge is derived from objective, observable, and measurable phenomena. Positivism supports the use of quantitative methods to test hypotheses and draw conclusions based on empirical evidence (Saunders & Thornhill, 2019). The choice of this philosophy aligns with the study's aim to evaluate the relationship between airport service quality and airline passenger satisfaction using measurable data. Accordingly, a deductive research approach was employed. The study utilized a survey strategy to collect structured data from a large population, enhancing reliability and generalizability. A cross-sectional research design supported this strategy by enabling data collection at a single point in time, suitable for identifying relationships between service quality dimensions and passenger satisfaction (Creswell, 2013).

The research was conducted at Julius Nyerere International Airport (JNIA), Tanzania's largest international airport and a major hub for passenger traffic. The target population comprised international departing passengers, selected for their direct interaction with airport services. In 2023, JNIA recorded 1,424,971 international departures (TAA, 2024), forming the basis for sample size determination. A non-probability sampling technique specifically convenience sampling was used to select passengers based on availability and willingness to participate (Etikan et al., 2016). Eligible respondents had completed immigration and security procedures and were waiting in the departure lounge.

The sample size was determined using Slovin's formula:

$n = N / (1 + N * e^2)$

Where:

n = Sample size

N = Total population size

e = Margin of error (acceptable error of tolerance which is 5%)

$n = 1{,}424{,}971 / 1+ (1{,}424{,}971 \times 0.0025)$

Hence sample is 400 departing passengers

Primary data were collected using structured questionnaires based on a 5-point Likert scale, designed to measure variables such as airport facilities, environment, security screening, and overall satisfaction. The questionnaire ensured clarity and consistency, making the data suitable for statistical analysis. IBM SPSS Statistics version 22 was used for descriptive analysis, while SmartPLS 4 was employed to perform Structural Equation Modeling (SEM) for hypothesis testing. Reliability was confirmed through pilot testing and composite reliability scores above 0.708 (Hair et al., 2018). Validity was assessed using AVE (>0.50) for convergent validity and HTMT (<0.90) for discriminant validity. Ethical approval was obtained from the National Institute of Transport and JNIA, with respondents assured of confidentiality and voluntary participation (Akaranga & Makau, 2016; Mantzorou et al., 2011).

IV. RESULT AND DISCUSSION

A. Result

Demographic statistics

The sample's descriptive statistics were 31.2% less frequency nationalities "other", Tanzanian 18.5, Kenyan 13.3, Congolese 7.5, South African 6.1, Ugandan 4.5, Indian 3.5, Chinese 3.5, Rwandan 3.3, Ethiopian 3.3, Italian 2.7, Zambian 2.5. Results also showed that 39.0 passengers travelled for Business Purposes, 34.4 passengers travelled for Others purposes, 24.8 travelled for tourism purposes and travelling for Meetings were 1.8. The majority, 41.5%, indicated their traveled through JNIA airport more than three times, Respondents traveling for the first time made up 22.8%, 19.0% had used JNIA twice, and 16.8% reported three prior uses. This implies that most international passengers travel Via JNIA have experienced a variety of services offered.

Assessing Reflective Measurement Models

This section evaluated the reflective measurement model to ensure the reliability and validity of constructs used in the study. Indicator reliability was assessed first, with all retained items showing loadings above the recommended threshold of 0.708, confirming their statistical strength. Indicators below 0.40 were removed, while those between 0.40 and 0.708 were retained only if they supported internal consistency or content validity. Internal consistency was then examined using Composite Reliability, with all constructs; Airport

Environment (AE), Airport Facilities (AF), Airline Passenger Satisfaction (APS), and Security Screening Practices (SSP) scoring above 0.708 and below 0.95, indicating satisfactory reliability. Convergent validity was confirmed through Average Variance Extracted (AVE), with all constructs exceeding the minimum threshold of 0.50, meaning each construct explained more than half of its indicators' variance. Discriminant validity was assessed using the Heterotrait-Monotrait Ratio (HTMT), and all values were below the 0.90 benchmark, confirming that the constructs were statistically distinct. The HTMT values ranged from 0.407 to 0.747, showing no excessive correlation between constructs. These results validate the measurement model and confirm that the data collected were both reliable and suitable for structural analysis. Overall, the reflective model met all recommended criteria, supporting the robustness of the study's empirical framework.

Table 1 Assessing Reflective Measurement Model

Constructs	Items	IR	ICR	AVE
Airport Facilities (AF)	AF 7	0.650		
	AF 8	0.615		
	AF 9	0.657	0.821	0.536
	AF 10	0.609		
Airport Environment (AE)	AE 1	0.767		
	AE 2	0.765		
	AE 3	0.669		
	AE 4	0.752	0.856	0.543
	AE 8	0.641		
Security Screening Practices (SSP)	SSP 1	0.733		
	SSP 3	0.711		
	SSP 4	0.682		
	SSP 5	0.700		
	SSP 6	0.692	0.878	0.546
	SSP 7	0.782		
Airline Passenger satisfaction (APS)	APS 1	0.748		
	APS 2	0.821		
	APS 3	0.844		
	APS 4	0.776	0.891	0.621
	APS 5	0.686		

Evaluation of Structural Model

This section assessed the structural model to determine how well airport service quality dimensions predict airline passenger satisfaction at JNIA. Collinearity was first examined using VIF values, all of which were below 5, confirming no multi-collinearity issues. The R^2 value for passenger satisfaction was 0.498, indicating that half of the variance is explained by the combination of Airport Facilities (AF), Airport Environment (AE), and Security Screening Practices (SSP). Effect size analysis showed SSP had the strongest impact ($f^2 = 0.278$), followed by AE ($f^2 = 0.141$), while AF had minimal influence ($f^2 = 0.012$). Predictive relevance was confirmed through Q^2 values, with APS1 showing strong predictive power ($Q^2 = 0.413$). Path coefficients revealed that all three constructs positively influenced satisfaction, with SSP (0.441) being the most significant, followed by AE (0.323) and AF (0.086). Statistical tests supported all hypotheses, with p-values below 0.05. These findings imply that efforts to enhance airline passenger satisfaction should prioritize improvements in SSP and AE, as they have greater potential to increase satisfaction outcomes.

Table 2 Evaluation of Structural Model

	VIF	f^2	Path coefficient	P Values	R^2
AF	1.209	0.012	0.086	< 0.05	
AE	1.478	0.141	0.323	< 0.05	0.498
SSP	1.390	0.278	0.441	< 0.05	

Building on these structural findings, Security Screening Practices (SSP) had the highest importance (0.441) but the lowest performance (75.748), revealing a key service gap. Airport Environment (AE) showed strong

performance (81.897) with moderate importance (0.323), Airport Facilities (AF) had the least importance (0.086) and moderate performance (81.720). Indicator-level analysis highlighted SSP7 (0.110), SSP3 (0.107), and SSP6 (0.101) as top contributors, further informing focus areas for improvement.
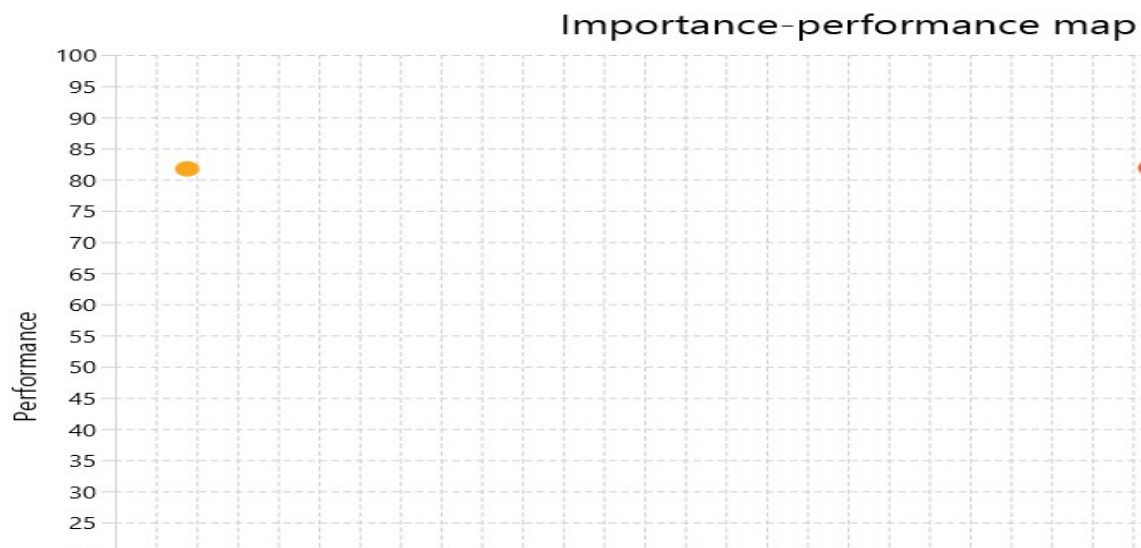

Fig 2: Importance performance map

B. Discussion

The first objective of this study was to examine the influence of Airport Facilities (AF) on Airline Passenger Satisfaction (APS) at Julius Nyerere International Airport (JNIA). The structural model confirmed a statistically significant but modest relationship, with a path coefficient of $\beta = 0.086$ and $p = 0.038$. The findings indicate that airport facilities contribute meaningfully to passengers' perceptions of service quality. The results suggest that the availability and quality of airport facilities serve as essential components of a functional travel experience. These features primarily act as hygiene factors basic service attributes that prevent dissatisfaction but do not necessarily evoke emotional satisfaction or loyalty. Their consistent presence reinforces perceptions of professionalism and operational credibility, while their absence can lead to frustration and negative evaluations. The findings are supported by several empirical studies.

Hidaya et al. (2024) Found that waiting room comfort, air conditioning, and entertainment significantly influence passenger satisfaction, Infrastructure and amenities are key to enhancing the passenger experience.

Suharni & Hodi (2023) Emphasize that Service quality, environment, and personnel shape stakeholder perceptions. Airport facilities act as mediators, reinforcing the importance of both intangible services and physical infrastructure for global competitiveness.

Ma & Ma (2022) Identifies Airport Processing facilities, especially check-in counters, strongly impact brand engagement and satisfaction. IPMA analysis identified check-in services as a high-priority area for facility enhancement.

Binarti & Subandi (2023) Shows that Service quality alone explains 75.5% of passenger satisfaction. When combined with facilities, the explanatory power rises to 76%, with service quality being the stronger predictor.

Zakaria et al. (2014) found that Facilities significantly affect tourist satisfaction, while service quality contributes indirectly. Together, they explain 79.6% of satisfaction variance, emphasizing the role of accessible and aesthetically pleasing infrastructure.

The results align with the Airport Service Quality (ASQ) model developed by Airports Council International (ACI, 2006), which identifies airport facilities as a foundational dimension of service quality. By confirming that AF has a statistically significant effect on APS, this study validates the ACI model's emphasis on infrastructure as a baseline requirement for passenger satisfaction. However, the modest effect size reinforces the model's view that facilities alone are insufficient to drive high satisfaction without complementary improvements in interpersonal and procedural service delivery. The study contributes context-specific insights by applying the ACI framework to a Tanzanian international airport, highlighting the importance of facility adequacy in emerging market environments.

The second objective of this study was to evaluate the influence of Airport Environment (AE) on Airline Passenger Satisfaction (APS) at Julius Nyerere International Airport (JNIA). The structural model confirmed a positive and statistically significant relationship, with AE yielding a moderate path coefficient ($\beta = 0.323$, $p = 0.000$). This indicates that environmental attributes such as lighting, cleanliness, ventilation, and signage clarity

contribute meaningfully to passengers' perceptions of service quality. The results imply that the physical and sensory qualities of the airport environment play a vital role in their overall travel experience. The findings are supported by several empirical studies

Antwi et al. (2022) Found that Both substantive (SSoS) and communicative (CSoS) service scape elements enhance satisfaction and emotional response. Frequent flyers respond more to communicative cues, while infrequent flyers are influenced by physical features.

Stephano et al. (2024) Report that airport service scape moderates the relationship between outcome quality and satisfaction. PLS-SEM analysis shows that environmental design enhances satisfaction more effectively than direct service outcomes.

Ceccato & Masci (2017) Reported that European International Airport About one-third of passengers reported dissatisfaction with safety, especially at entrances, checkpoints, and restrooms. Environmental factors like maintenance and elevator access influenced perceptions.

Ma et al. (2022) shows that During COVID-19, functionality, accessibility, cleanliness, and aesthetics of the airport environment significantly boosted satisfaction and travel intention. Cleanliness was especially critical for perceived safety.

Desri et al. (2023) Found a Customer Satisfaction Index (CSI) indicating "very good" that mean passengers are generally satisfied with the airport's service performance.

By confirming that AE has a significant impact on APS, this study advancing the Airport service quality model by including the environment dimension in assessing airline passenger satisfaction. The integration of environmental factors such as lighting, cleanliness, and signage clarity have influence on Airline passenger satisfaction.

The third objective of this study was to examine the influence of Security Screening Practices (SSP) on Airline Passenger Satisfaction (APS) at Julius Nyerere International Airport (JNIA). The structural model confirmed a strong and statistically significant relationship, with SSP yielding the highest path coefficient among all tested service quality dimensions ($\beta = 0.441$, $p = 0.000$). Findings imply that the quality of security screening directly affects their emotional comfort, trust, and overall perception of the airport.

The study's findings are supported by a range of empirical literature.

Mansur & Prakosawati (2024) Found that AVSEC service quality positively influences satisfaction, though lack of friendliness was noted. Recommends focusing on communication and specific service attributes.

Ibrahim & Hodi (2022) Report that AVSEC service quality significantly affects satisfaction.

Nugraha et al. (2023) Found a significant correlation between the security check process and passenger satisfaction ($p = 0.00$). Urges modernization of inspection systems and alignment with SOPs.

Apriani & Rachmawati (2024) Showed that AVSEC service quality accounts for 7.5% of passenger satisfaction. Highlights the need for high standards in AVSEC performance to improve experience.

Al-Saad et al. (2019) Found that Airports Standard and elevated procedures positively influence re-travel intention. Racial profiling had no measurable impact. Emphasizes respectful and effective security design.

The findings of this study align closely with the Airport Service Quality (ASQ) model developed by Airports Council International (ACI, 2006), which identifies procedural efficiency including security screening as a core dimension of airport service quality. By demonstrating that SSP has the strongest impact on APS, this study validates the ACI model's emphasis on operational processes as central to passenger satisfaction. Moreover, the integration of interpersonal attributes such as professionalism and fairness reflects the model's evolving relevance in passenger-cantered service frameworks. The results confirm that in emerging market contexts like Tanzania, SSP is not only a regulatory necessity but a strategic service quality driver that shapes the airport's reputation and passenger loyalty.

VI. CONCLUSIONS

This study at JNIA revealed that Airport Facilities (AF) have a modest yet significant effect on passenger satisfaction ($\beta = 0.086$, $p = 0.038$), functioning mainly as hygiene factors. Airport Environment (AE) showed a stronger influence ($\beta = 0.323$, $p = 0.000$), with cleanliness, lighting, and spatial design enhancing emotional engagement. These findings challenge traditional models by positioning AE as both foundational and motivational. Security Screening Practices (SSP) had the highest impact ($\beta = 0.441$, $p = 0.000$), emphasizing professionalism and transparency in AVSEC procedures. SSP improvements are essential for reducing anxiety and enhancing trust. The study highlights infrastructure, environment, and security as strategic levers for satisfaction in emerging market airports.

REFERENCES

African Airlines Association. (2024). 98 million passengers forecast for African airlines

Airports Council International. (2024). *Airport Service Quality Program*. Retrieved from ACI World

Akaranga, S. I., and Makau, B.K. (2016). Ethical consideration and their research application: a case of the University of Nairobi. *Journal of Educational Policy and Entrepreneurial Research, 3* (12), 1-9.

Al-Saad, S., Ababneh & Alazaizeh, F. (2019) The influence of airport security procedures on the intention to re-travel. European Journal of Tourism Research 23, pp. 127-141

Antwi, C.O., Ren, J., Zhang, W., Owusu-Ansah, W., Aboagye, M.O., Affum-Osei, E., Agyapong, R.A. (2022) "I Am Here to Fly, but Better Get the Environment Right!" Passenger Response to Airport Servicescape. Sustainability 2022, 14, 10114. https://doi.org/10.3390/ su141610114

Apriani, S., & Rachmawati, M. (2024). The impact of Aviation Security (AVSEC) service quality on passenger satisfaction at Tjilik Riwut Airport in Palangka Raya, Indonesia. *Journal of Aviation Security and Safety, 33*(2), 205-218. https://doi.org/10.1016/j.javsec.2024.102014.

Báger, G. et al. (2018). Safe and efficient handling of passengers and processing. Journal of Airport Management.

Bezerra, G.C.L., & Gomes, C.F. (2020). Antecedents and consequences of passenger satisfaction with the airport. Journal of Air Transport Management, 83, 101766. [CrossRef]

Billa, W., & Dewantari, M. (2023). The impact of security inspection services at the Passengers Security Check Point (PSCP) on passenger satisfaction at Supadio Pontianak International Airport. *Journal of Air Transport and Security, 19*(3), 402-417. https://doi.org/10.1016/j.jatranssec.2023.101312.

Binarti, I., & Subandi, S. (2023). The role of self check-in facilities and service quality on passenger satisfaction at the terminal domestic international airport I Gusti Ngurah Rai. *Jurnal Ekonomika dan Manajemen*, *12*(1), 38–46.

Ceccato, V., & Masci, F. (2017). Passenger satisfaction with safety in airport environments. *Journal of Transportation Safety & Security, 9*(3), 289-307. https://doi.org/10.1080/19439962.2017.1319879.

Ceccato, V., & Masci, F. (2017). Passenger satisfaction with safety in airport environments. *Journal of Transportation Safety & Security, 9*(3), 289-307. https://doi.org/10.1080/19439962.2017.1319879.

Cholkongka, N. (2020). Developing and Evaluating an Airport Service Quality Model: The Case of Airport Based in Thailand. *Soc. Sci. Asia*, *6*(3), 30-45.

Cholkongka, N. (2020). Developing and Evaluating an Airport Service Quality Model: The Case of Airport Based in Thailand. *Soc. Sci. Asia*, *6*(3), 30-45.

Chonsalasin, D., Jomnonkwao, S., & Ratanavaraha, V. (2020). Passenger satisfaction and airport service quality. Transport Policy, 90, 29-37.

Desri, D., Ratna, R., & Farida, M. (2023). Passenger satisfaction with work environment and employee performance at Minangkabau International Airport. *International*

Directorate of Economic Regulation. (2023). Air Transport Monthly Monitor: June 2023. Tanzania Civil Aviation Authority (TCAA).

Gowele, T. E., Mwendapole, M. J., & Kileo, W. J. (2023). Structural Assessment of the SERVQUAL Model on Passengers' Satisfaction at Julius Nyerere International Airport (JNIA) in Tanzania. International Review of Journal of Arts, Engineering, Social Science, and Humanities.

Gronroos, C. (1984) A Service Quality Model and Its Marketing Implications. European Journal of Marketing, 18, 36-44.

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2022). Partial least squares structural equation modeling (PLS-SEM) using R (2nd ed.). Springer.

Halpern, N., & Mwesiumo, D. (2021). Airport service quality and passenger satisfaction: The impact of service failure on the likelihood of promoting an airport online. Stephano, D., Jani, D., & Mfinanga, D. 54 Research in Transportation Business & Management, 41, 100667. https://doi.org/https://doi.org/10.1016/j.rtbm.2021.100667

Hidaya, N., Tanjung, A. M., Karim, A., Ichsan, R. N., & Hidayat, F. (2024). The effect of waiting room service quality and departure terminal facilities on passenger satisfaction in International Airport Kualanamu North Sumatra. *International Journal of Economics*, 3(2), 1137–1145. https://doi.org/10.55299/ijec.v3i2.1137

IATA. (2018). Passenger growth forecast. *International Air Transport Association*.

Ibrahim, A., & Hodi, F. (2022). The impact of service quality by AVSEC officers at the Security Check Point (SCP) on passenger satisfaction at Sultan Babullah Airport, Ternate. *Journal of Transportation and Security, 28*(4), 315-328. https://doi.org/10.1108/JTS-08-2022-0217. in 2024. *Journal of Airport Management, 24*(4), 131-142. https://doi.org/10.1108/IJAM-06-2023-0512.

Ma, G.; Ding, Y.; Ma, J. The Impact of Airport Physical Environment on Perceived Safety and Domestic Travel Intention of Chinese Passengers during the COVID-19 Pandemic: The Mediating Role of Passenger Satisfaction. Sustainability 2022, 14, 5628. https://doi.org/ 10.3390/su14095628

Ma, G.; Ma, J. The Impact of Airport Facility Service Quality on Brand Experience and Passenger Satisfaction: Considering the Mediating Role of Brand Engagement. Future Transp. 2022, 2, 501–521. https://doi.org/10.3390/ futuretransp2020028

Mansur, M., & Prakosawati, R. (2024). The impact of Check Point Unit Aviation Security (AVSEC) services on passenger satisfaction at Yogyakarta International Airport. *Journal of Airport Security, 11*(3), 215-230. https://doi.org/10.1016/j.jairsec.2024.103423.

Mantzorou M., and Fouka G. (2011). What are the major ethical issue in conducting Research? Is there a conflict between research ethics and the nature of nursing? *Health Science Journal, 5* (1), 3-14.

Nugraha, S., Wirawan, I., & Sulaiman, A. (2023). The impact of Security Checkpoint 1 (SCP 1) on passenger satisfaction at Minangkabau International Airport in West Sumatra. *International Journal of Airport Management, 21*(5), 85-98. https://doi.org/10.1108/IJAM-03-2023-0375.

Pandey, S. (2016). Airport Service Quality and Passenger Satisfaction: A Case Study of Indira Gandhi International Airport. Journal of Air Transport Management, 57, 1-9. Retrieved from ScienceDirect.

Pappachan, J. (2020). Airport service quality dimensions and its influence on airline passengers' satisfaction in India. Retrieved from https://researchgate.net/publication/340760225.

Saunders, M., Lewis, P., & Thornhill, A. (2012). Research Methods for Business Students, Sixth Edition, Essex, United Kingdom: Pearson Education Limited.

Stephano, D., Jani, D., & Mfinanga, D. (2024). Does the Airport Servicescape Affect the Relationship between Airport Outcome Quality and Passenger Satisfaction? Business Management Review, 27(1), 39-51. https://doi.org/10.56279/bmrj.v27i1.3.

Suharni, D., & Hodi, R. (2023). The impact of waiting room services and facilities on passenger satisfaction at Komodo Labuan Bajo Airport. *Journal of Airport Management*, 17(3), 215–225. https://doi.org/10.1108/JAM-01-2023-0012

Wattanacharoensil, W., Schuckert, M., Graham, A., & Dean, A. (2017). An anlalysis of the airport experience from an air traveler perspective. Journal of Hospitalliy and Tourism Management, 32, 124–135. https://doi.org/10.1016/j.jhtm.2017.06.003

Zakaria, Z., Salleh, A., & Hassan, N. A. (2014). The role of airport physical facilities in shaping service perceptions at Kuala Lumpur International Airport. *Procedia - Social and Behavioral Sciences*, 144, 168–177. https://doi.org/10.1016/j.sbspro.2014.07.317