Asia Business & Service Innovation

Information about the Journal & Article could be found at https://absi-official.github.io/absi/

Key Drivers of Customer Experience at the World's Top 10 Airports: A Big Data Analysis Through Online Reviews

Zakwana Hossain Promy[1], Seieun Kim[1], Hyun-Jeong Ban[2]*

[1] *Department of Global Hospitality Management, Kyungsung University, Busan, Republic of Korea*
[2] *School of Global Studies, Kyungsung University, Busan, Republic of Korea*
* Corresponding author: helenaban@ks.ac.kr

Abstract

Airports have evolved from mere transportation nodes into complex service environments where passengers' lived experience shapes perceptions, word-of-mouth, and overall travel memory. This study examines the drivers of passenger experience at the world's top 10 airports by applying a big data approach. Semantic network analysis and CONvergence of CORrelations (CONCOR) network analysis were done on 10,516 online reviews collected from Google Map Reviews. Using the top 100 frequent words extracted from review text and the co-occurrence patterns among them. A total of 4 clusters were found. Results show that operational concepts (security, check, immigration) and service concepts (staff, friendly, helpful) are central nodes, but physical environment and amenities (terminal, lounge, food, shopping, comfortable) bridge operational and emotional clusters in the CONCOR structure. This multi-dimensional structure suggests that passenger experience must be viewed thoroughly, because although efficient processing is essential, comfort, amenity design and service interactions work together to create memorable travel experiences. This study discusses practical implications for airport managers and planners, and suggest directions for future research, including sentiment-enhanced network modelling and cross-airport comparative analyses.

Keywords: air transport industry; customer experience; big data analysis

1. Introduction

Air travel has rebounded strongly worldwide. According to International Air Transportation Association (IATA, 2025), global air passenger demand in 2024 increased 10.4% compared to 2023. In the same period, total capacity (available seat kilometers) increased by 8.7% and overall passenger load factor reached 83.5%, the highest on record for a full year (IATA, 2025). This growth means more people are passing through the global airports and their feedbacks matter more than ever. Among the busiest hubs, many of these are consistently ranked by Skytrax as top airports based on customer number and their satisfactory reviews (Skytrax, 2025). Skytrax (2025) further indicates that airports recognized for superior traveler experience consistently coincide with high passenger throughput, emphasizing the growing value of experience-driven airport operations.

Modern airports now function as experiential spaces, not just transport nodes (Holmlund et al., 2020). Passengers engage with multiple touchpoints, including operational procedures (check-in, security), physical facilities (lounges, shopping areas), and staff interactions. Therefore, understanding what shapes the passenger experience is crucial. Traditional models often rely on structured surveys, but emerging big data approaches emphasize the value of user-generated content (Li et al., 2018). Text mining and network analysis allow the extraction of insights directly from customer reviews, which come from their own experiences (Alanazi et al., 2024). This study applies big data analysis to online reviews to investigate how passengers describe their experiences, focusing on experiential dimensions rather than satisfaction outcomes.

Prior studies have largely examined airport service quality through surveys or satisfaction based model (Ban & Kim, 2019). Although a lot of these study applies big data techniques to analyze passenger feedback, much of the existing literature focuses on sentiment classification, satisfaction prediction, or performance evaluation at individual airport (Li et al.,2018; Alanazi et al., 2024). Less attention has been paid to understanding how passengers cognitively structure their airport experience as an interconnected system of operational, service, and environmental elements. Studies applying network-based approaches to examine the relational structure among experience attributes remain limited.

This study addresses this gap by applying semantic network analysis and CONCOR analysis to online reviews of the world's top ten airports. Rather than evaluating isolated service attributes, the study reveals how experience components cluster and interact within passengers' narratives. By focusing on globally leading airports, this research identifies shared experiential structures that transcend regional and cultural contexts. In doing so, the study contributes to airport experience theory by conceptualizing passenger experience as a multidimensional and interconnected system, while also demonstrating the analytical value of network-based big data methods in aviation and tourism research.

2. Literature Review

2.1 Air Transport Industry

The air transport industry's evolution aligns with broader growth in international tourism and passenger mobility (Ju et al., 2025). Airports now act as strategic nodes and global hubs in global connectivity (Guimerà et al., 2005). Post-pandemic recovery has accelerated innovation in airport digitalization and service integration (IATA, 2025). Studies show that airport roles increasingly cover logistics, commercial operations, and hospitality (Usman et al., 2021). Instead of measuring only service performance, studies now focus on experience-driven strategies (Holmlund et al., 2020).

Understanding airport performance increasingly requires examining not only operational efficiency but also the broader customer experience and the strategic role airports play within tourism. Wattanacharoensil et al. (2016) argue that airports are no longer mere transportation utilities; instead, they function as experiential spaces that influence destination perception. Their airport experience framework integrates sociological, psychological, and service marketing perspectives, identifying ten core components, ranging from terminal ambience and retail services to interaction with staff, that jointly shape traveler experience. This conceptualization highlights how airports contribute to tourism value creation, reinforcing their role as micro-destinations that offer diverse experiential elements beyond air travel.

Empirical work has further demonstrated that experiential attributes significantly affect traveler emotions and satisfaction. Ryu and Park (2019), using data from Incheon

International Airport, applied the experience economy framework and found that esthetic and escapist experiences enhance pleasure, which in turn improves satisfaction and airport image. Their findings suggest that airport environments designed to be visually appealing, engaging, and psychologically comforting are more likely to generate positive evaluations from passengers. This aligns with previous observations that modern airports compete not only through efficiency but also by creating spaces that enhance emotional well-being and reduce travel-related stress.

Service quality remains a foundational aspect of airport performance, particularly when evaluated against passenger expectations. Jiang and Zhang (2016) assessed service quality at Melbourne Airport and found notable gaps between expected and perceived performance across multiple service items. Although several elements such as cleanliness and staff courtesy were rated positively, persistent issues with parking, immigration processing, Wi-Fi connectivity, and baggage delivery lowered overall satisfaction levels. Their study reinforces the importance of maintaining consistency in service delivery, especially as airports globally strive to increase non-aeronautical revenues through improved passenger experience.

In parallel with experience and service quality, sustainability has become an increasingly important dimension in airport management. L'Abate et al. (2023) examined sustainability disclosure among major European airports and identified key institutional drivers, including passenger volume, cargo activity, terminal size, and social media visibility, that positively influence disclosure practices. Airports with greater operational complexity and public exposure tend to adopt more extensive sustainability reporting as a means of demonstrating legitimacy and accountability. These findings highlight the growing expectation that large airports must not only deliver high-quality service but also communicate their environmental and social responsibilities transparently.

Collectively, these studies demonstrate that airports are evolving into complex service ecosystems where experience, service quality, and sustainability intersect. For big data research, these insights are particularly relevant because online reviews, social media posts, and digital passenger feedback often capture the emotional, operational, and environmental dimensions emphasized in prior literature. Analyzing large-scale textual data from the world's

top airports can therefore provide a more nuanced understanding of how passengers perceive airport performance across experiential, functional, and sustainability-related aspects.

2.2 Customer Experience

Customer experience in tourism and aviation encompasses the cognitive, emotional, and sensory responses individuals form while interacting with services, environments, and people throughout their journey. In tourism contexts, traveler behavior reflects these experiential processes, as visitors' actions are shaped by what they feel, perceive, and encounter at destinations (Godovykh & Tasci, 2020). Experiences are co-produced through interactions with physical settings, service employees, cultural elements, and technological systems, and the quality of these interactions strongly influences satisfaction and future behavioral intentions (Teixeira et al., 2012). Prior research has shown that visitors' expectations and perceived service quality play an essential role in shaping both the overall experience and subsequent choices (Kumar et al., 2014). Big data approaches have further advanced this understanding by uncovering how travelers describe their experiences in online platforms. Analyses of Google Map reviews, for instance, have revealed how accessibility, spatial proximity, cultural features, and environmental ambience influence visitors' satisfaction at destinations such as Busan (Kim et al., 2024; Kim et al., 2025; Riswanto et al., 2025).

Within the aviation sector, the concept of customer experience similarly extends beyond functional service delivery to include psychological comfort, sensory impressions, and emotional reactions during the travel process (Holmlund et al., 2020). Traditional models emphasize factors such as service encounters, staff behavior, facility design, and process efficiency as core elements shaping passenger evaluations (Fodness & Murray, 2007). Recent perspectives view airport terminals as "micro-destinations," where the experience is formed through a combination of waiting environments, wayfinding, retail choices, and overall ambience (Arici et al., 2023). Layover periods in particular contribute substantially to experience formation, as terminal structure, atmosphere, and consumption opportunities shape passengers' perceptions of comfort and satisfaction (Ban & Kim, 2019). Together, these findings highlight that customer experience, whether among tourists or passengers, is a holistic and multi-dimensional construct influenced by service design, environmental cues,

technological interactions, and personal emotions, making it an essential focus for big data analysis in travel and airport research.

2.3 Big Data Analysis

Big data techniques have become increasingly important in airport studies as the aviation sector produces vast amounts of digital information through booking systems, mobile applications, location-based services, and online platforms. Similar to other tourism and hospitality settings, analyzing this large and diverse data helps researchers and practitioners understand customers' preferences, behaviors, and pain points more accurately (Kim et al., 2025). Text mining is particularly useful because traveler reviews contain emotional expressions and experiential details that structured data cannot capture(Li et al., 2018; Huang et al., 2015).

In the airport context, online review analytics have been applied to identify the core elements that shape traveler satisfaction and service perception. Studies using Skytrax review data show that passengers frequently comment on aspects such as terminal layout, airport flow, staff performance, waiting times, and general comfort (Alanazi et al., 2024; Bunchongchit & Wattanacharoensil, 2021). These findings highlight how operational efficiency and service encounters remain central to the airport experience, and how large-scale textual datasets help reveal patterns that traditional survey-based approaches may overlook.

Social media has also emerged as a major data source for understanding how travelers react to digitalization and smart airport technologies. Research analyzing posts from platforms such as Twitter, Facebook, and YouTube demonstrates that travelers actively discuss innovations like automated check-in systems, biometric screening, and digital wayfinding tools (Booranakittipinyo et al., 2024). Insights from this user-generated content have shown that perceptions of convenience, safety, and ease of use significantly influence acceptance of smart airport features.

Beyond sentiment analysis, network-based methods such as CONCOR offer a systematic way to uncover the conceptual structures embedded in large textual datasets (Kim et al., 2025). By mapping co-occurrences among frequently mentioned keywords, network analysis can reveal

clusters of related service attributes, showing how passengers mentally group different parts of the airport experience (Köseoglu et al., 2020). This approach is aligned with network analyses previously conducted in hospitality and tourism settings, where researchers have used similar methods to extract key experience factors from hotel, restaurant, and destination reviews (Ban et al., 2019; Jia et al., 2023).

3. Methodology

This study adopts a big data approach to analyze customer reviews and extract meaningful experience-related themes. Consistent with similar methodologies in tourism and airport studies (Alanazi et al., 2024; Li et al., 2018). Semantic network study was also used to identify dominant perceptions, and CONCOR (CONvergence of CORrelations) network analysis to determine structured clusters of experience concepts. A total of 10,516 online reviews (Table 1) were collected from Google Maps reviews using Instant Data Scraper. The dataset includes reviews from the world's top 10 airports**,** based on Skytrax World's Top 10 Airport Awards (Skytrax, 2025). These reviews represent a broad spectrum of passenger journey stages, like departure, arrival, transit, etc. This approach was selected because a large amount of online reviews offers more natural and diverse information than traditional surveys, and text mining makes it possible to analyze these reviews efficiently.

Table 1. Number of Reviews

No.	Airport	Number of Reviews collected
1	Singapore Changi Airport	1192
2	Hamad International Airport (Doha)	1049
3	Haneda International Airport (Tokyo)	1030
4	Incheon International Airport (Seoul)	1045
5	Narita International Airport (Tokyo)	1008
6	Hong Kong International Airport	1030
7	Charles de Gaulle Airport (Paris)	1009
8	Rome Fiumicino Airport (Leonardo da Vinci- Fiumicino Airport)	1016
9	Munich International Airport	1078
10	Zurich Airport	1059
	Total	10516

The collected data was then cleaned and filtered, then only the review texts remained. Following standard text mining procedures, the data was preprocessed to remove unnecessary symbols and numbers, convert all texts to lowercase, and remove stop words. RStudio was used to analyze the data and a frequency analysis was done to create a word frequency and a matrix of the most frequent words in the reviews. After this, UCINET (NetDraw) was used to visualize the importance of the frequently mentioned words, which was done through a semantic network analysis that also helped find out the words most relevant to the research topic. Following this CONCOR analysis helped identify the clusters of words that co-occurred in similar contexts. This provides a quantitative view of the clustering of various airport experience elements. This approach revealed the connections between the most commonly used words and offered valuable insights into customers' perceptions.

This study aggregates online reviews from the world's top ten airports to identify shared, high-level experience structures common to globally leading hubs. The objective is not to compare individual airports, but to extract dominant experiential patterns that consistently emerge across elite airports operating in different geographic and cultural contexts. While this approach may mask airport-specific variations, it enables the identification of universal experience drivers relevant to strategic airport management at the global level. This limitation is acknowledged, and airport-level or regional comparisons are suggested as an important direction for future research.

4. Results

The frequency analysis of the top 100 high-occurrence words from 10,516 airport passenger reviews reveals that travelers mainly focus on the efficiency of airport operations, quality of customer service, comfort of facilities, and overall airport experience. Table 2 displays the most frequently mentioned words, where the ten highest-ranking terms were "airport" (11,088), "terminal" (1,653), "best" (1,328), "staff" (1,302), "time" (1,286), "flight" (1,283), "good" (1,246), "international" (1,162), "gate" (1,065), and "security" (1,059). These results suggest that passenger reviews are strongly framed around their overall experience in the

airport environment, specially highlighting terminal quality, staff interaction, and the speed and smoothness of service procedures.

The presence of operational terms such as “security,” “check,” “immigration,” and “wait” indicates a significant emphasis on efficiency of processing, where experiential terms like “comfortable,” “nice,” “great,” and “amazing” suggest travelers also express emotional reactions related to their journey. Additionally, mentions of “food,” “lounge,” “shopping,” and “place” show that passengers perceive airports as multi-dimensional service hubs rather than just transport points. This reflects the importance of leisure and relaxation elements. Also “time” and “easy” indicate that convenience and time management are key determinants of how passengers evaluate their airport experience.

Table 2. Top 100 Frequency words

No.	Word	Freq.	No.	Word	Freq.
1	airport	11088	51	duty	353
2	terminal	1653	52	worst	346
3	best	1328	53	super	343
4	staff	1302	54	arrive	336
5	time	1286	55	travel	335
6	flight	1283	56	quite	322
7	good	1246	57	store	319
8	international	1162	58	bus	318
9	gate	1065	59	line	317
10	security	1059	60	control	315
11	nice	1032	61	navigate	309
12	easy	994	62	available	307
13	experience	993	63	layover	301
14	great	949	64	passengers	301
15	food	948	65	custom	300
16	hour	936	66	narita	295
17	check	925	67	singapore	293
18	place	815	68	make	292
19	world	803	69	walk	291
20	free	777	70	wait	289
21	like	740	71	boarding	289
22	long	708	72	far	288
23	area	673	73	departure	286
24	people	654	74	inside	286
25	immigration	633	75	process	283
26	beautiful	617	76	sign	280

27	efficient	590	77	luggage	276
28	lounge	568	78	smooth	275
29	option	567	79	tokyo	272
30	shopping	563	80	large	268
31	train	551	81	air	268
32	big	543	82	love	266
33	modern	518	83	help	262
34	friendly	502	84	japan	255
35	service	496	85	back	245
36	helpful	474	86	excellent	244
37	facilities	465	87	convenient	243
38	visit	451	88	better	241
39	organized	449	89	arrival	239
40	need	446	90	comfortable	239
41	passport	443	91	wifi	236
42	find	441	92	zurich	235
43	changi	439	93	quick	234
44	restaurants	432	94	hongkong	233
45	huge	406	95	access	226
46	transit	403	96	use	226
47	fast	396	97	busy	225
48	amazing	389	98	design	224
49	city	366	99	spacious	221
50	minute	357	100	munich	221

Figures 1 and 2 shows the semantic network and the results of the CONCOR cluster analysis respectively. In the semantic network visualization (Figure 1), core terms such as “airport,” “terminal,” “staff,” “time,” “security,” and “comfortable” appear near the center with multiple linkages, indicating a high co-occurrence strength and reflecting their central role in the passenger journey.

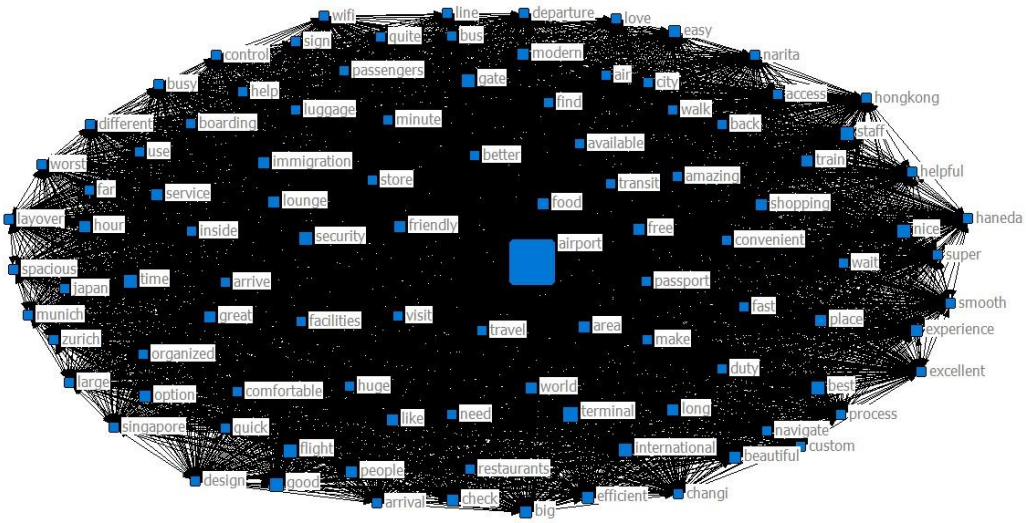

Figure 1. Visualization of Semantic Analysis

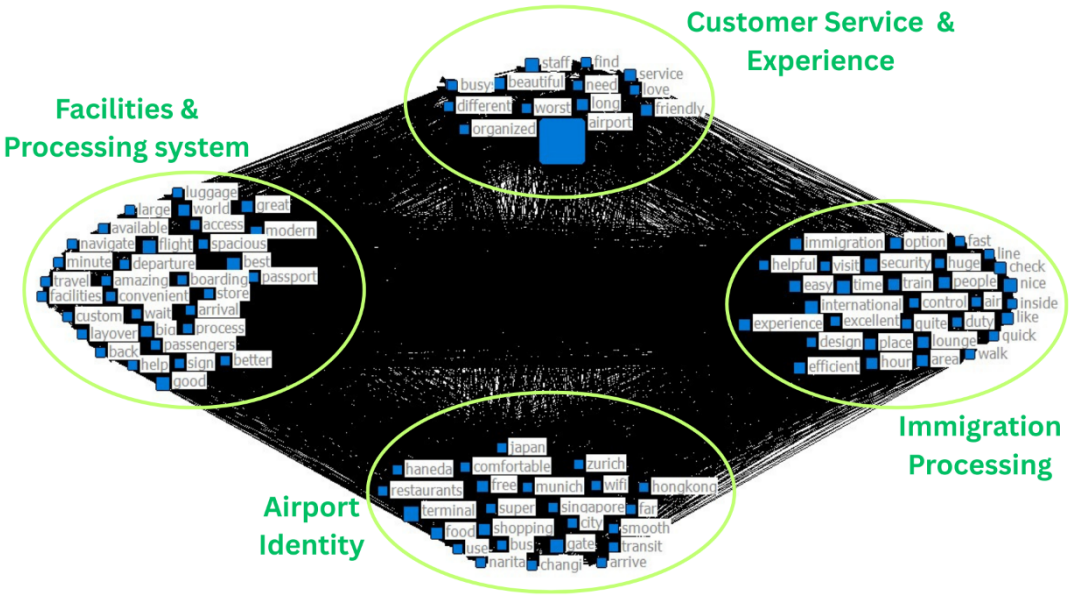

Figure 2. Visualization of CONCOR analysis

Using CONCOR analysis, these key concepts were grouped into four meaningful clusters, which provide deeper insight into how passengers form their perceptions of airport services.

Customer Service & Experience: This cluster includes frequently used words such as “staff,” “friendly,” “nice,” “great,” “best,” and “experience.” These words reflect how passengers place strong importance on interpersonal interactions and emotional impressions during their airport transit. The frequent appearance of words like “nice,” “friendly,” and “helpful” demonstrates that positive engagement with airport staff contributes significantly to a traveler’s overall perception. Reviews often highlight whether staff were supportive during unexpected delays, smooth boarding processes, or when navigating unfamiliar terminals.

This aligns with previous research emphasizing that service quality and emotional value play critical roles in airport experience (Holmlund et al., 2020). The repeated use of experience-related adjectives suggests that passengers remember airports as great places or describe their journey as a very comfortable experience, reinforcing that beyond efficiency, emotional satisfaction remains a key experience.

Immigration Processing: This cluster is composed of operational words including “security,” “check,” “time,” “passport,” “immigration,” “smooth,” and “fast.” Passenger narratives frequently mention the time required for immigration and security procedures, highlighting both efficiency and holdups. For example, when the process is quick and organized, reviews describe it as “fast and easy,” while negative comments often refer to “long wait time”.

The presence of “time” among the top frequency words supports the interpretation that speed and reliability of border processing are important for the airport experience. Similar to previous literature on airport service flows, these findings reinforce that passengers perceive immigration as an essential factor of overall airport quality, especially when delays influence connectivity or travel stress.

Airport Identity: This cluster consists of terms related to geographical and symbolic identification, such as “international,” “world,” “best,” “place,” and mentions of airport names in reviews. These words suggest that passengers strongly associate their experience with the airport’s global reputation and perceived status. Airports like Singapore Changi Airport and Hamad International Airport are often described as world-class terminals, with reviews referencing their ranking and overall international standing.

Passengers also use comparative statements like “best airport I’ve been to” or “one of the most efficient in the world,” emphasizing identity and prestige as part of the experiential narrative. Unlike airlines, where brand association is dominant, airport identity appears by functionality combined with modern infrastructure and international recognition.

Facilities and Processing System: This cluster includes spatial and comfort-related terms such as “terminal,” “lounge,” “comfortable,” “food,” “shopping,” “gate,” and “place.” These words indicate that passengers evaluate airports as complex service environments where convenience, cleanliness, seating, and entertainment all influence the experience.

Frequent mentions of “lounge” and “comfortable” reveal that passengers increasingly value rest spaces and relaxation facilities, especially during long transfers. Additionally, the inclusion of “food” and “shopping” indicates passengers view airports as consumer environments, aligning with recent expansions in terminal retail strategies. This supports previous studies argument that airports are evolving into hybrid experience hubs combining hospitality, leisure, and transit services (Ban & Kim, 2019).

5. Conclusion

Passenger experience at the world’s leading airports emerges as a complex, multidimensional factor. Semantic and CONCOR network analyses identified four core experiential clusters**:** Customer Service & Experience**,** Immigration Processing**,** Airport Identity**,** and Facilities & Processing System. These clusters reveal how passengers organize airport experience into functional, service related, and emotional dimensions.

For instance, efficient immigration processing reduces stress, enabling passengers to engage more positively with terminal facilities and services. Staff interactions within the Customer Service & Experience cluster can enhance customers’ overall perception even when procedural delays occur. The Airport Identity cluster demonstrates the influence of design, branding, and environmental cues in shaping emotional attachment, while Facilities and

Processing System emphasizes the role of lounges, retail, and technological infrastructure in enabling seamless movement and leisure engagement. These findings highlight that passenger experience is interdependent, reflecting a combination of process efficiency, human engagement, infrastructural design, and overall access rather than individual components.

Theoretically, while previous studies have often highlighted service quality or satisfaction independently (Ban & Kim, 2019; Fodness & Murray, 2007), this study confirms that experience formation is deeply interdependent. For example, smooth security and efficient check-in reduced stress, resulting in more comfortable leisure engagement (e.g., food, shopping), supporting Alanazi et al.'s (2024). Similarly, the bridging role of staff suggests that human interaction can compensate for operational friction, consistent with findings in hospitality literature showing that friendly staff mitigate negative travel disruptions (Cheung & Thadani, 2012). The presence of emotional keywords such as "best" and "amazing" further strengthens arguments by Arici et al. (2023) that airports increasingly function as consumption spaces where memorable experiences enhance overall brand value. Additionally, using big data analysis of online reviews contributes methodologically to tourism and hospitality research by moving beyond traditional survey-based approaches, offering richer, real-world insights into experience formation (Wei et al., 2022).

The findings offer several targeted managerial implications derived directly from the four experience clusters identified through CONCOR analysis. First, within the Customer Service & Experience cluster, airport managers should prioritize staff training focused one motional intelligence, service recovery, and proactive passenger support, as positive staff interactions play a key role in shaping overall experience, particularly during delays or disruptions (Holmlund et al., 2020). Second, the Immigration Processing cluster highlights the importance of time efficiency and process transparency. Investments in biometric screening, automated passport control, and real-time queue information systems can reduce perceived waiting time and travel-related stress, consistent with prior airport service quality research (Fodness & Murray, 2007; Jiang & Zhang, 2016). Third, the Airport Identity cluster suggests that terminal design, branding, and environmental cues contribute to passengers' emotional

attachment and perception of world-class status. Airports should align architechtural design, signage, and visual branding with their global positioning and reputation (Wattanacharoensil et al., 2016). Finally, the Facilities and Processing System cluster indicates that lounges, seating comfort, food options, and retail facilities function as central experience drivers rather than supplementary services. Enhancing these amenities can strengthen passenger comfort and engagement, particularly for transit travelers (Ban & Kim, 2019). This study has several limitations. First, reliance on English-language online reviews may undervalue perspectives of non-English-speaking travelers, specifically at globally diverse hubs. Second, online feedback is often biased toward extreme experiences and may not reflect average passenger sentiment. Third, the analysis captures structural co-occurrence of terms but does not fully consider sentiment intensity or complexity, which could provide additional insight into emotional response. Finally, external variables such as weather, strikes, or time-of-day variations were not incorporated, though these factors can influence passenger perception and experience intensity.

Future research could address these limitations in several ways. First, airport-level or regional comparative studies would allow researchers to examine how experience structures differ across cultural contexts, government frameworks, and service delivery models. Such comparisons could provide more tailored insights for airport-specific management strategies, Second, incorporating multilingual datasets and reviews from multiple platforms would enhance representativeness and reduce language bias, particularly for airports serving highly diverse international passenger populations.

In addition, future studies could integrate sentiment-weighted or emotion enhanced network analysis to capture not only the structure of experience attributes but also the intensity and polarity of passengers' emotional responses. Longitudinal or time series analyses could further explore how airport experience evolves in response to technological innovation, infrastructure upgrades, policy changes. Or external disruptions such as pandemics or labor strikes. Finally, combining online review data with operational performance indicators, such as waiting times, passenger flow metrics, or service quality scores, may provide a more comprehensive and actionable understanding of airport experience management.

This study investigates passenger experience at the world's top ten airports using semantic and CONCOR network-based analysis of over 10,000 online reviews. Findings reveal that experience is shaped by four interdependent clusters: Customer Service & Experience, Immigration Processing, Airport Identity, and Facilities and Processing System. These clusters interact to influence perception, emotional response, and overall satisfaction, showing that travelers evaluate airports through overall, context-rich lens rather than merely operational efficiency. By strategically balancing service quality, operational flow, terminal design, and amenity provision, airports can enhance passenger experience, strengthen brand reputation, and maintain competitive advantage in an increasingly experience-driven air transport industry. The results contribute to theory by framing airport experience as multidimensional and interconnected, and they provide practical guidance for airport managers and aviation authorities to optimize passenger engagement and satisfaction.

Supplementary Materials: The data supporting the findings of this study are available from the author upon request.

Author Contributions: Conceptualization, Z.H.P. and H.-J.B.; methodology, Z.H.P., S.K. and H.-J.B.; software, Z.H.P. and H.-J.B.; writing—original draft preparation, Z.H.P.; writing—review and editing, S.K.; visualization, Z.H.P. and S.K.; supervision, H.-J.B. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement Not applicable. This study did not involve human participants or interventions requiring ethical approval. All data were obtained from publicly available online sources.

Informed Consent Statement: Not applicable. All data were obtained from publicly available online sources.

Data Availability Statement: The data of this study are available from the author upon request.

Conflicts of Interest: The authors declare no conflicts of interest.

References

Alanazi, M. S. M., Li, J., Jenkins, K. W. (2024). Evaluating Airport Service Quality Based on the Statistical and Predictive Analysis of Skytrax Passenger Reviews. *Applied Sciences, 14*(20). https://doi.org/10.3390/APP14209472

Arici, H. E., Cakmakoglu Arıcı, N., & Altinay, L. (2023). The use of big data analytics to discover customers' perceptions of and satisfaction with green hotel service quality. *Current Issues in Tourism*, *26*(2), 270–288. https://doi.org/10.1080/13683500.2022.2029832

Ban, H.-J., Choi, H., Choi, E.-K., Lee, S., Kim, H.-S. (2019). Investigating Key Attributes in Experience and Satisfaction of Hotel Customer Using Online Review Data. *Sustainability, 11*(23). https://doi.org/10.3390/SU11236570

Ban, H.-J., & Kim, H.-S. (2019). Understanding Customer Experience and Satisfaction through Airline Passengers' Online Review. *Sustainability, 11*(15). https://doi.org/10.3390/SU11154066

Booranakittipinyo, A., Li, R. Y. M., & Phakdeephirot, N. (2024). Travelers' perception of smart airport facilities: An X (Twitter) sentiment analysis. *Journal of Air Transport Management*, *118*, 102600. https://doi.org/10.1016/J.JAIRTRAMAN.2024.102600

Bunchongchit, K., & Wattanacharoensil, W. (2021). Data analytics of Skytrax's airport review and ratings: Views of airport quality by passengers types. *Research in Transportation Business & Management*, *41*, 100688. https://doi.org/10.1016/J.RTBM.2021.100688

Cheung, C. M. K., & Thadani, D. R. (2012). The impact of electronic word-of-mouth communication: A literature analysis and integrative model. *Decision Support Systems*, *54*(1), 461–470. https://doi.org/10.1016/J.DSS.2012.06.008

Fodness, D., & Murray, B. (2007). Passengers' expectations of airport service quality. *Journal of Services Marketing*, *21*(7), 492–506. https://doi.org/10.1108/08876040710824852

Godovykh, M., & Tasci, A. D. A. (2020). Customer experience in tourism: A review of definitions, components, and measurements. *Tourism Management Perspectives*, *35*, 100694. https://doi.org/10.1016/j.tmp.2020.100694

Guimerà, R., Mossa, S., Turtschi, A., & Amaral, L. A. N. (2005). The worldwide air transportation network: Anomalous centrality, community structure, and cities' global roles. *Proceedings of the National Academy of Sciences of the United States of America*, *102*(22), 7794–7799. https://doi.org/10.1073/PNAS.0407994102;ISSUE:ISSUE:DOI

Holmlund, M., Van Vaerenbergh, Y., Ciuchita, R., Ravald, A., Sarantopoulos, P., Ordenes, F. V., & Zaki, M. (2020). Customer experience management in the age of big data analytics: A strategic framework. *Journal of Business Research*, *116*, 356–365. https://doi.org/10.1016/J.JBUSRES.2020.01.022

Huang, A. H., Chen, K., Yen, D. C., & Tran, T. P. (2015). A study of factors that contribute to online review helpfulness. *Computers in Human Behavior*, *48*(1), 17–27. https://doi.org/10.1016/j.chb.2015.01.010

IATA. (2025, January 30). *IATA - Global Air Passenger Demand Reaches Record High in 2024*. https://www.iata.org/en/pressroom/2025-releases/2025-01-30-01/?utm

Jia, M., Kim, H. S., & Tao, S. (2023). B&B Customer Experience and Satisfaction: Evidence from Online Customer Reviews. *Service Science, 16*(1), 42–54. https://doi.org/10.1287/SERV.2022.0080

Jiang, H., & Zhang, Y. (2016). An assessment of passenger experience at Melbourne Airport. *Journal of Air Transport Management*, *54*, 88–92. https://doi.org/10.1016/j.jairtraman.2016.04.002

Ju, H., Lee, T. J., Kim, H. L., & Hyun, S. S. (2025). Negative Memories Toward Airlines: Scale Development and Validation. *International Journal of Tourism Research*, *27*(2). https://doi.org/10.1002/jtr.70017

Kim, S., Riswanto, A. L., Sherpa, S., & Kim, H. (2025). Generation Z's Michelin Choices: Survey and Big Data Insights Into Thailand's Michelin-Starred Restaurants. *International Journal of Tourism Research*, *27*(5). https://doi.org/10.1002/jtr.70135

Kim, S., Riswanto, A. L., Williady, A., Ekaputra, R. A., & Kim, H.-S. (2025). A geospatial and big data exploration of tourism destinations: A case study of Busan, Republic of Korea. *Electronic Markets*, *35*(1), 46. https://doi.org/10.1007/s12525-025-00791-x

Kim, S., Williady, A., Wang, J., & Kim, H.-S. (2024). A Mixed-Method Approach to Grounded Theory Regarding the MICE Industry at Busan Exhibition & Convention Center. *Tourism and Hospitality*, *5*(4), 1012–1027. https://doi.org/10.3390/tourhosp5040057

Köseoglu, M. A., Mehraliyev, F., Altin, M., & Okumus, F. (2020). Competitor intelligence and analysis (CIA) model and online reviews: integrating big data text mining with network analysis for strategic analysis. *Tourism Review*, *76*(3), 529–552. https://doi.org/10.1108/TR-10-2019-0406

Kumar, V., Umashankar, N., Kim, K. H., & Bhagwat, Y. (2014). Assessing the Influence of Economic and Customer Experience Factors on Service Purchase Behaviors. *Marketing Science*, *33*(5), 673–692. https://doi.org/10.1287/mksc.2014.0862

L'Abate, V., Vitolla, F., Esposito, P., & Raimo, N. (2023). The drivers of sustainability disclosure practices in the airport industry: A legitimacy theory perspective. *Corporate Social Responsibility and Environmental Management*, *30*(4), 1903–1916. https://doi.org/10.1002/csr.2462

Li, J., Xu, L., Tang, L., Wang, S., & Li, L. (2018). Big data in tourism research: A literature review. *Tourism Management*, *68*, 301–323. https://doi.org/10.1016/J.TOURMAN.2018.03.009

Riswanto, A. L., Chamberlain, L. A., & Kim, H.-S. (2025). Enhancing Tourist Satisfaction on Komodo Island: A Data-Driven Analysis of Online Reviews. *Tourism and Hospitality*, *6*(1), 1–14. https://doi.org/10.3390/tourhosp6010002

Ryu, Y. K., & Park, J.-W. (2019). Investigating the Effect of Experience in an Airport on Pleasure, Satisfaction, and Airport Image: A Case Study on Incheon International Airport. *Sustainability*, *11*(17), 4616. https://doi.org/10.3390/su11174616

Skytrax. (2025). *The World's Top 10 Airports of 2025 | SKYTRAX*. https://www.worldairportawards.com/the-worlds-top-10-airports-of-2025/

Teixeira, J., Patrício, L., Nunes, N. J., Nóbrega, L., Fisk, R. P., & Constantine, L. (2012). Customer experience modeling: from customer experience to service design. *Journal of Service Management*, *23*(3), 362–376. https://doi.org/10.1108/09564231211248453

Usman, A., Azis, Y., Harsanto, B., & Azis, A. M. (2021). Airport service quality dimension and measurement: a systematic literature review and future research agenda. *International Journal of Quality & Reliability Management*, *39*(10).

Wattanacharoensil, W., Schuckert, M., & Graham, A. (2016). An Airport Experience Framework from a Tourism Perspective. *Transport Reviews*, *36*(3), 318–340. https://doi.org/10.1080/01441647.2015.1077287

Wei, S., Kim, H.-S., Wei, S., & Kim, H.-S. (2022). Online Customer Reviews and Satisfaction with an Upscale Hotel: A Case Study of Atlantis, The Palm in Dubai. *Information, 13*(3). https://doi.org/10.3390/INFO13030150