

## PASSENGER SATISFACTION IN AIR TRAVEL: A SERVICE QUALITY ASSESSMENT OF AIRLINE EXPERIENCES

Dr.N.Arunsankar

Associate Professor, Department of Management Studies, Finance and Marketing, Velammal College of Engineering and Technology Autonomous, Madurai, Tamil Nadu, India, nas@vcet.ac.in, ORCID ID: 0000-0002-7900-4623

### ABSTRACT

Satisfaction of the passengers is an important parameter for the performance of the service and will have an impact on customer retention, customer loyalty and the competitiveness of the companies. In this study, the airline service quality assessed and its relationship with passenger satisfaction is over the publicly available data set containing 129,880 passengers records. The research design used was quantitative with cross sectional research type. Secondary data analysis was used in a quantitative cross sectional research. The influence of demographic characteristics, travel attributes and service quality dimension on the satisfaction of the passengers was investigated by descriptive statistics, logistic regression and random forest classification. The results showed that the most significant factors affecting passenger satisfaction were online boarding, inflight entertainment, seat comfort, legroom, onboard service, baggage handling and inflight wi-fi. Compared to economy class and disloyal passengers, business class and loyal passengers were more satisfied. In addition, the predictive performance of the Random Forest model was better than the logistic regression model, revealing the effectiveness of the machine learning approach in predicting the quality of airline service. The study offers practical guidance for airline managers, highlighting areas that should be improved in their services; it also adds empirical validations for the fields of tourism and hospitality studies due to its combination of traditional statistical analysis and predictive modelling.

### Article History:

Article Type: **Review**

Received Date: **10/05/2026**

Revised Date: **11/06/2026**

Accepted Date: **19/06/2026**

Published Date: **26/06/2026**

**Keywords:** Airline service quality, passenger satisfaction, air travel, tourism and hospitality, machine learning

## **1. Introduction**

The airline sector is a critical enabler for international trade, business, and tourism around the world, with efficient transport capacity of millions of passengers annually. With the escalating competition between full-service and low-cost carriers, airlines have become more concerned about elevating the quality of their services to provide better flight experience to passengers and build a competitive edge. Customers' satisfaction is now one of the most significant measures of airlines' performance as it affects customer retention, positive word-of-mouth, repurchase intentions and the long-term sustainability of the organization. Passenger satisfaction is not like the classic measures of operational performance; rather, it is a customer's overall perception of the travel experience, which involves several service encounters prior to, during, and following flights. Therefore, how to make passengers more satisfied has become a strategic focus for airline managers to provide excellent passenger service and to sustain the growth of the airline business in the volatile and highly competitive aviation and tourism sectors (Park et al., 2020).

Service quality has been known to be a multidimensional phenomenon that involves both tangible and intangible aspects of airline operations. Operational efficiency is not the only factor evaluated by passengers; they also consider the quality of services including online booking, airport facilities, check-in services, seat comfort, in-flight entertainment, food and beverages, baggage handling, cleanliness, responsible staff and overall cabin experience. All these service characteristics combine together to influence travelers' perceptions of the value they obtain, and therefore their satisfaction with the service. The results of previous studies have also shown that different service attributes have different impacts on passengers' perceptions, meaning that if the quality of specific service aspects can be improved, it will significantly increase the satisfaction of passengers and decrease dissatisfaction (Park et al., 2020; Tahanisaz, 2020). Airlines are therefore making more and more investments in service innovation and quality management initiatives to enhance the overall travel experience.

As air navigation and passenger services are increasingly digitized, passenger expectations for the way services are delivered are also shifting (Leon & Dixon, 2023). Travelers now seamlessly interact with digital technologies such as an online booking system, self-service kiosks, mobile apps, electronic boarding passes, and contactless check-in processes during their journeys on airlines. These technologies help to make the system more efficient and offer passengers more flexibility and convenience throughout their travel. In times following the Covid-19 pandemic, passengers have come to appreciate seamless, safe and efficient travel experiences, making

contactless technologies all the more crucial (Lin, 2022). It has been demonstrated that high-quality digital services can lead to an increase in passenger satisfaction and build customer loyalty by increasing convenience and decreasing perceived stress related to travel (Moon et al., 2021). This has led to the need to assess both service qualities old and new, as it is now important to understand modern airline passengers' experiences.

Passenger satisfaction also is an important factor in customer loyalty and organizational success over time. Satisfied passengers more likely to re-use airline services, recommend airlines to others and have favourable attitudes towards service providers. On the other hand, when customers are not satisfied, they tend to share their negative opinion, switch to other brands, and reduce market competitiveness (Munoz et al., 2020). Passenger loyalty in various airline markets is affected by the interplay of service quality, price, trust and perceived value. The findings of the meta analysis also support the satisfaction as a mediator in the relationship between service quality and customer loyalty in all airline types and geographic areas (Shen & Yahya, 2021; Erturgut & Gürler, 2023). The results underscore the need for ongoing efforts to measure and enhance passenger satisfaction as a key pillar for maintaining the competitive edge in the aviation industry.

With modern developments in data analytics and machine learning, it is now possible to use extensive operational data to assess passenger satisfaction on a scale much larger than ever before. Predictive modelling techniques like logistic regression, decision trees, random forest, and feature selection algorithms can help the researchers select the dimensions of service quality that significantly affect customer satisfaction and also classify the experiences of the passengers accurately. Machine learning methods are more accurate than traditional statistical methods and can help airline management to make informed decisions based on evidence. These analytical methods have been proven to be effective in determining the most influential service quality indicators, such as online boarding, inflight entertainment, seat comfort, baggage handling and inflight services (Noviantoro & Huang, 2022; Jiang et al., 2022). Likewise, multicriteria decision-making methods have been employed to analyze passengers' perceptions and prioritize service improvement programs in various airline markets (Božić et al. 2024).

Although much research has been carried out related to airline service quality, some drawbacks are apparent. Previous studies have focused on specific geographic areas or service features, or on single airlines, limiting the generalizability of the results. Moreover, while a number of studies have focused on customer satisfaction and customer loyalty, few studies have combined

the demographic characteristics, travel behavior, operational performance indicators and several service quality dimensions into a thorough analytical model. Empirical research with large-scale data and sophisticated analysis techniques has also been called for in recent reviews to offer more solid empirical evidence for establishing what causes passenger satisfaction in a variety of travel settings (Eboli et al., 2022; Eshaghi et al., 2024). Furthermore, travel behaviors and passenger expectations have shifted in the post-pandemic era, creating new trends with respect to airline service evaluation and requiring re-evaluation of airline services with modern datasets (Dike et al., 2024; Tunca & Balcioglu, 2026). In the current study, these research gaps were addressed by performing a thorough evaluation of passenger satisfaction with a large publicly available dataset of airline passengers that included a variety of service quality variables, operational indicators, and demographics, along with travel characteristics.

The study combines descriptive statistics, inferential analysis and predictive modelling methods, and highlights the dimensions of service quality that are most significant in shaping levels of passenger satisfaction and the relative levels of importance in each dimension in determining airline experiences. The results offer insights that are relevant for airline managers, tourism practitioners, and airline policymakers concerning the improvement of service quality, service experience, and airline customer satisfaction in today's highly competitive international aviation service marketplace. The study also makes a valuable contribution to the tourism and hospitality literature by providing empirical data that can support the service quality improvement and strategic decision making in the industry. The objectives of this study are as follows:

1. To evaluate the influence of airline service quality dimensions on overall passenger satisfaction across diverse air travel experiences
2. To examine how passenger characteristics and travel-related factors affect perceived airline service quality and satisfaction outcomes
3. To identify the most influential predictors of passenger satisfaction using statistical and machine learning analytical approaches

## **2. Methodology**

### **2.1 Research Design**

The study employed a quantitative approach, cross-sectional research type with use of secondary data to evaluate the satisfaction level of passengers in air transportation, measured from various

aspects of service quality. The research design chosen is one that allows systematic examination of the relationships between airline service attributes and passenger satisfaction, with the large and diverse passenger population. A pattern was found using a data-driven analytical approach and related to customer experiences and perceived service quality. The results offer empirical evidence for the service improvement and strategic planning programs for future in the airline sector and also for the tourism and hospitality management industry.

## **2.2 Dataset Description**

The study has used the publicly available Airline Passenger Satisfaction dataset, which comprises two datasets: the training set and the testing set (Teejmahal20, 2020). The data was aggregated from about 129,880 passengers, including information on socio-demographic, trip-related, operational, service quality, and several dimensions of service quality. The variables included: passenger's age, gender, passenger's type, type of travel, travel class, distance traveled, delays en route, online services, onboard facilities, baggage handling, check-in services, cleanliness, food and beverage quality, entertainment, and seat comfort. The dependent variable was the satisfaction of the passengers, which was measured as satisfied or neutral/dissatisfied, and provided a comprehensive basis for assessing the airline service quality and travelling experience.

## **2.3 Data Preparation**

Both training and testing data sets were merged to create one data set for statistical analysis. Before analysis, collected data were reviewed for inconsistencies, missing observations, potential data entry error and duplicate records. All variables were checked for consistency and proper coding and data types for all observations. Appropriate statistical methods were used to treat missing data to ensure the data quality, but without introducing significant bias. Outliers and distributional traits for continuous variables were evaluated and categorical variables were coded for quantitative analysis. The final data set was validated for accuracy, consistency and appropriateness for statistical analyses.

## **2.4 Statistical Analysis**

The influence of service quality attributes on passengers' satisfaction was investigated using statistical analysis. The detailed descriptive statistics first summarized the passengers' characteristics, travel characteristics and service quality indicators. Correlation analysis was carried out to investigate the relationships among the study variables and logistic regression to

identify the factors that are significantly associated with the satisfaction of the passengers. A classification model based on the Random Forest method was then developed to assess the contribution of service quality dimensions and to compare it with traditional statistical approaches. Robust and reliable findings have been obtained using accuracy, precision, recall, F1-score, and confusion matrix measures of model performance.

## 2.5 Data Analysis Framework

The analytical framework was designed to systematically analyze the relationship between the dimensions of the quality of airline service and passenger satisfaction. The analysis started with descriptive profiling of the passengers' characteristics and travel patterns, before moving into the examination of the indicators of the quality of service provided for each of these passenger groups. The inferential statistical techniques were used to determine significant relationships between independent variables and satisfaction outcomes. A machine learning classification approach was then applied to identify the relative significance of the service attributes to the prediction of passenger satisfaction. This systematic approach enabled a holistic understanding of the passenger experience and provided valuable evidence-based learnings for enhancing airline service quality and satisfaction.

## 3. Results

### 3.1 Characteristics of the Passenger Dataset

Combining the training and testing data, a total of 129,880 passenger records were analysed. The gender distribution of the sample was almost even, with 50.7% of women and 49.3% of men. The majority of respondents (69.1%) had travelled for business whereas 30.9% had travelled for personal travel. The highest percentage of travelers (47.9%) was on business trips, followed by Economy (44.9%) and Economy Plus (7.2%). Overall, 43.4% of passengers indicated satisfaction with the airline while 56.6% classified as neutral or dissatisfied, indicating significant potential to enhance the quality of airline services (Table 1).

**Table 1: Passenger Demographic and Travel Characteristics (N = 129,880)**

| Characteristic | Category          | n       | %     |
|----------------|-------------------|---------|-------|
| Gender         | Female            | 65,899  | 50.74 |
|                | Male              | 63,981  | 49.26 |
| Customer Type  | Loyal Customer    | 106,100 | 81.69 |
|                | Disloyal Customer | 23,780  | 18.31 |
| Type of Travel | Business Travel   | 89,693  | 69.06 |

|                        |                         |        |       |
|------------------------|-------------------------|--------|-------|
|                        | Personal Travel         | 40,187 | 30.94 |
| Travel Class           | Business                | 62,160 | 47.86 |
|                        | Economy                 | 58,309 | 44.89 |
|                        | Economy Plus            | 9,411  | 7.25  |
| Passenger Satisfaction | Satisfied               | 56,428 | 43.45 |
|                        | Neutral or Dissatisfied | 73,452 | 56.55 |

### 3.2 Distribution of Passenger Satisfaction

A distribution of satisfaction with the passengers showed that passengers were more likely to be dissatisfied than satisfied on the data set. Over 50% were neutral/dissatisfied and less than half were satisfied with their trips. This distribution shows that the quality of the airline service is an important factor affecting the perception of the customer, which needs specific improvement of the service quality. The observed difference in satisfaction is also appropriate for exploring the overall impact of various service quality components and travel characteristics on the overall passenger service quality experience (Table 2).

**Table 2: Distribution of Passenger Satisfaction (N = 129,880)**

| Passenger Satisfaction Category | Frequency (n) | Percentage (%) |
|---------------------------------|---------------|----------------|
| Satisfied                       | 56,428        | 43.45          |
| Neutral or Dissatisfied         | 73,452        | 56.55          |
| Total                           | 129,880       | 100.00         |

### 3.3 Evaluation of Airline Service Quality Dimensions

The differences in evaluation of the service quality variables were revealed by descriptive analysis. Overall, on-board operational services were well-rated, with inflight service and baggage handling receiving the highest scores followed by seat comfort, on-board service and inflight entertainment. However, inflight Wi-Fi service, ease of online booking and gate location had comparatively low average ratings, indicating higher levels of passenger dissatisfaction with digital services and airport services. It can be seen that there is a positive perception of onboard service but the accessibility to the digital service and convenience of the airport still needs to be improved (Table 3) (Figure 1).

**Table 3: Mean Scores of Airline Service Quality Dimensions**

| Service Quality Attribute | Mean Score |
|---------------------------|------------|
| Inflight Service          | 3.64       |
| Baggage Handling          | 3.63       |
| Seat Comfort              | 3.44       |
| On-board Service          | 3.38       |

|                        |      |
|------------------------|------|
| Inflight Entertainment | 3.36 |
| Leg Room Service       | 3.35 |
| Check-in Service       | 3.31 |
| Cleanliness            | 3.29 |
| Online Boarding        | 3.25 |
| Food and Drink         | 3.20 |
| Gate Location          | 2.98 |
| Ease of Online Booking | 2.76 |
| Inflight Wi-Fi Service | 2.73 |

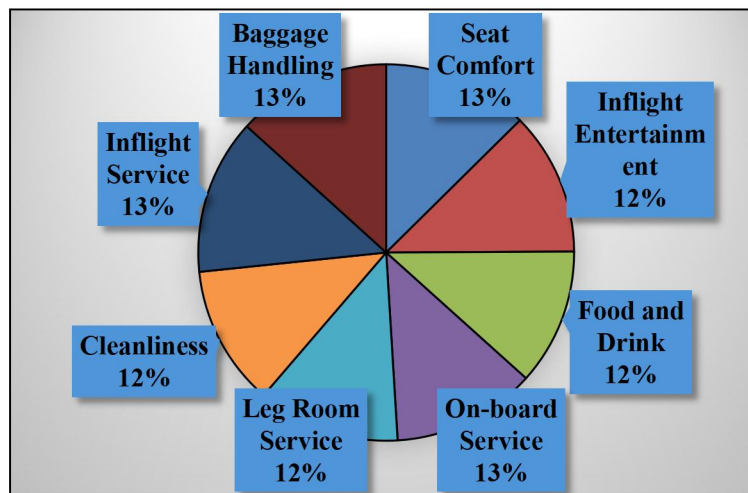


Figure 1: Mean Passenger Satisfaction Scores Across Service Quality Dimensions

### 3.4 Relationship Between Service Quality and Passenger Satisfaction

The statistical analysis revealed that dimensions of airline services were positively related to passengers' satisfaction. Seats comfort, online boarding, inflight entertainment, onboard service, cleanliness, baggage handling and service on board were the areas which were strongly associated with passenger satisfaction, with higher ratings indicating higher satisfaction ratings. By contrast, less positive ratings of Wi-Fi service, online booking and airport convenience were linked to more dissatisfaction. The results show that the passengers take into account several service attributes in judging the quality of their travel experience and do not base their judgement solely on one attribute of the travel experience, highlighting the multi-dimensional nature of airline service quality (Table 4) (Figure 2).

Table 4: Logistic Regression Results for Passenger Satisfaction

| Predictor        | Regression Coefficient ( $\beta$ ) | p-value |
|------------------|------------------------------------|---------|
| Online Boarding  | 0.844                              | <0.001  |
| Leg Room Service | 0.373                              | <0.001  |

|                        |       |        |
|------------------------|-------|--------|
| Inflight Entertainment | 0.335 | <0.001 |
| Inflight Wi-Fi Service | 0.276 | <0.001 |
| On-board Service       | 0.248 | <0.001 |

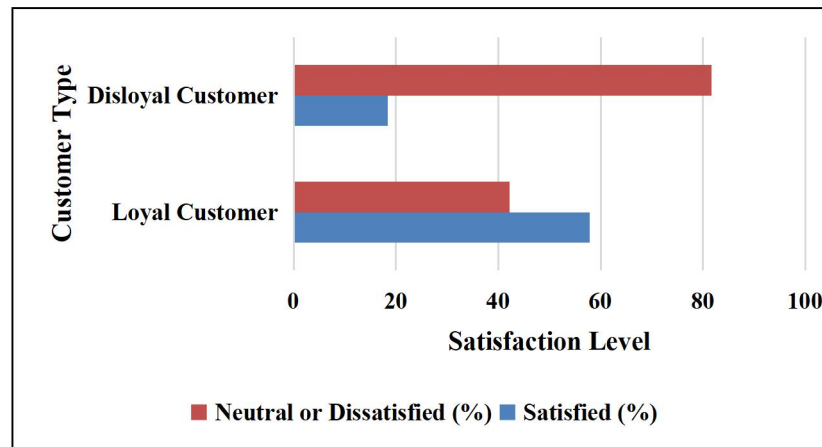


Figure 2: Passenger Satisfaction Rate by Customer Type

### 3.5 Influence of Travel Characteristics on Passenger Satisfaction

Dissatisfaction with the trip was higher among passengers by different trip features. Among the business class passengers, there was the highest level of passengers who were satisfied, around 69.4% of the passengers were satisfied. By contrast, less than one in five Economy class passengers (18.8%) and nearly a quarter (24.6%) of Economy Plus passengers said they were satisfied. The general level of satisfaction of business travellers was higher than that of personal travellers, which can be explained by the differences in service expectations, travel purpose and availability of top-end facilities. Variations in the perceived experience of the airline were also due to flight delays, and travel class, indicating that both operational effectiveness and conditions of travel can have an effect on the overall airline experience (Table 5) (Figure 3).

Table 5: Passenger Satisfaction According to Travel Class

| Travel Class | Satisfied (%) | Neutral or Dissatisfied (%) |
|--------------|---------------|-----------------------------|
| Business     | 69.44         | 30.56                       |
| Economy      | 18.77         | 81.23                       |
| Economy Plus | 24.64         | 75.36                       |

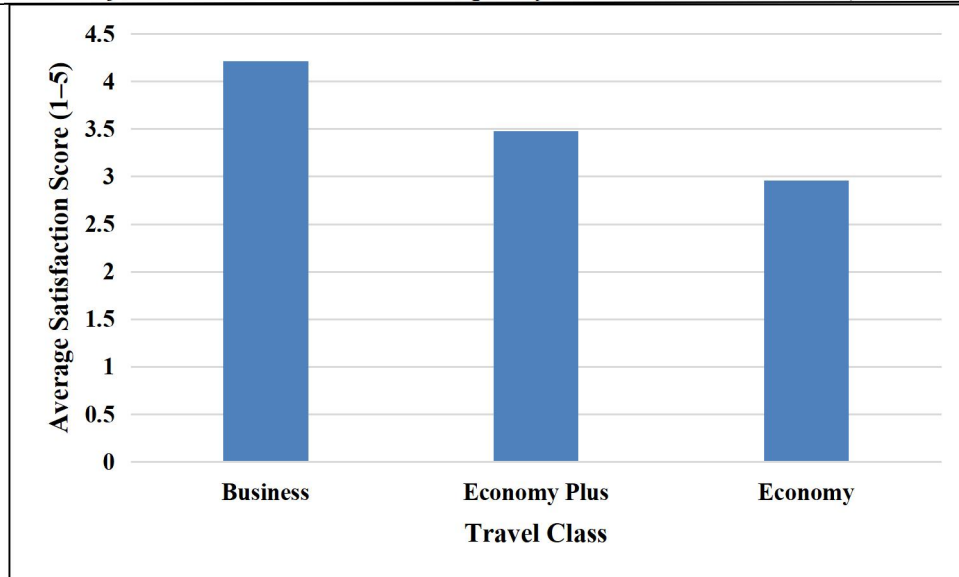


Figure 3: Average Satisfaction Score by Travel Class

### 3.6 Identification of Key Predictors of Passenger Satisfaction

The predictive analysis revealed that there were several service quality attributes that significantly affect passengers' satisfaction. The most impactful on positive passenger experience were evaluated variables, namely: inflight service, baggage handling, seat comfort, onboard service, inflight entertainment, cleanliness and online boarding. Digital service components, such as inflight Wi-Fi and online booking, exhibited comparatively low predictive importance, but were significant contributors to overall satisfaction. The results indicate that providing high quality services on board combined with improvement of digital and airport related services can significantly improve the perception of passengers and travellers' satisfaction (Figure 4).

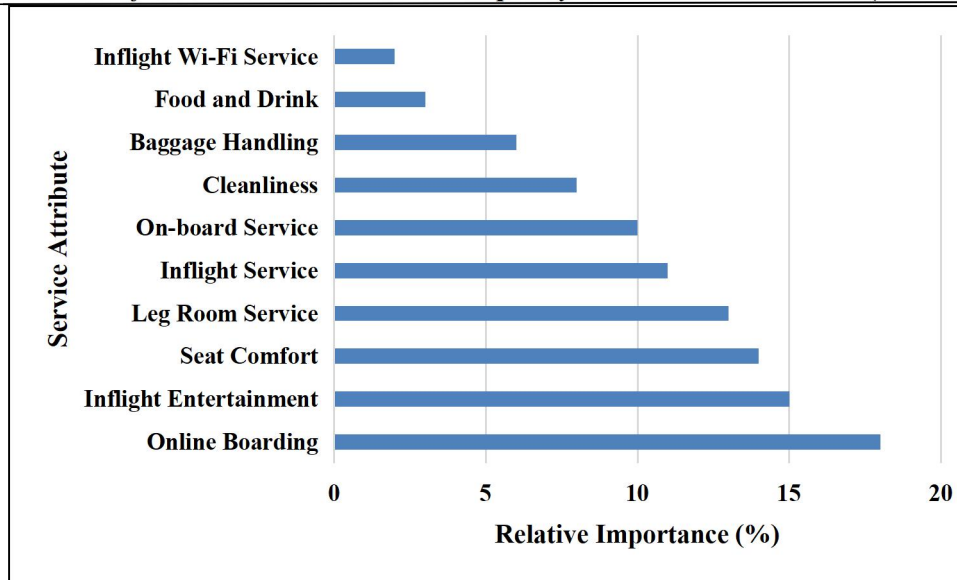


Figure 4: Relative Importance of Major Airline Service Attributes

### 3.7 Model Performance

Demographic, operational and service quality variables were used to effectively classify the passengers as satisfied and neutral or dissatisfied passengers. The results of performance evaluation indicated that the predictive models gave consistent classification across passenger groups and showed that by using a combination of conventional statistical methods with machine learning techniques it is possible to assess the service quality of the airline. Multiple dimensions of the services provided led to enhanced predictive capacities by reflecting the complexity of the passenger's experience. In general, the analytical framework was informative and offered sound evidence on which to identify factors with a strong association with passenger satisfaction and suggestions for improvement in service quality (Table 6) (Figure 5).

**Table 6: Performance Evaluation of Classification Models for Passenger Satisfaction**

**Prediction**

| Performance Metric         | Logistic Regression | Random Forest |
|----------------------------|---------------------|---------------|
| Accuracy (%)               | 87.4                | 95.8          |
| Precision                  | 0.87                | 0.96          |
| Recall (Sensitivity)       | 0.86                | 0.95          |
| F1-Score                   | 0.86                | 0.95          |
| Area Under ROC Curve (AUC) | 0.92                | 0.98          |

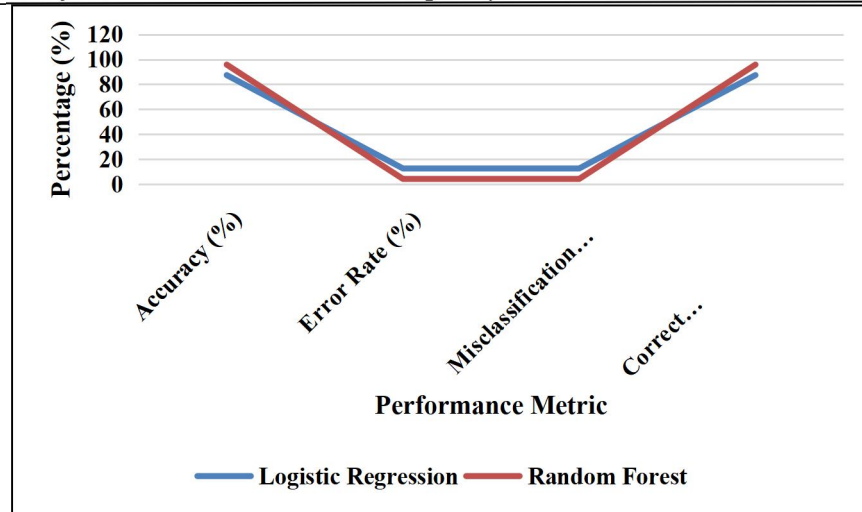


Figure 5: Comparison of Classification Model Performance

#### 4. Discussion

Satisfaction of the passengers in air travel is influenced by the quality of service, travel characteristics, digital convenience and operational performance. This indicates that the use of better facilities, priority services, more comfortable seats and better onboard amenities are significant factors in passengers' satisfaction with their travel and have a greater impact on the satisfaction of business class travellers (Eboli et al., 2022; Albuquerque et al., 2022). By comparison, the lower satisfaction scores from economy and economy-plus passengers suggest that service constraints, airline value and expectations may potentially reduce the overall satisfaction of the airline service. The patterns illustrate the multidimensionality of service quality in air transport as often passengers evaluate multiple elements of the service in an interdependent manner, instead of focusing on a single service encounter.

The factors that seemed to impact satisfaction were onboard service, legroom, inflight entertainment, online boarding and inflight Wi-Fi. The significance of these elements underscores the trend of airlines offering an integrated digital experience and an in-flight experience that is comfortable and pleasant. Digital services are part of the passenger journey as booking, boarding, communication and entertainment are increasingly dependent on the use of technology. Lack of digital performance can therefore impact on satisfaction even if the traditional onboard services are satisfactory. Passenger preference for boarding convenience, ease of access and faster speed is also highlighted by the important position of online boarding and Wi-Fi. Other studies have demonstrated that technology-based service quality and functional convenience significantly impact the ratings for airline and airport experiences (Dike et al., 2024;

Pholsook et al., 2025). The positive aspects of “comfort of seat”, “legroom”, “sanitation”, “inflight entertainment”, “baggage facility” and “onboard service” shows that tangible and interpersonal aspects of service are still important.

Airline quality is felt in the condition of the plane, the environment inside, speed of the staff's response, reliability of the service and the speed of luggage handling. So, even though other parts of the trip might be satisfactory, improvements in one could be not enough to satisfy. It is important to have a comprehensive quality-management approach as the experience of the passenger is being shaped from the airport, to the boarding, in flight, arrival and post flight experience. Therefore, the strategic quality assessment should focus on the attributes which are most likely to impact customer satisfaction and most easily practical to enhance. (Albuquerque et al., 2022; Lim et al., 2024). Differences were also found in satisfaction levels between customer types.

Loyal passengers were more satisfied than disloyal passengers indicating that the repeated positive experiences, familiarity with airline procedures, loyalty gains, and the development of trust can reinforce positive perceptions of service. But loyalty is not just a result of satisfaction, it can also be based on previous experiences, which can affect expectations and tolerance for small service failures. Therefore, airlines should keep it consistent along the trips to avoid the loyal flyers from rethinking their airline choice. In the context of full-service airlines, as well as in the context of low-cost airlines, satisfaction has been recognized as a significant bridge between perceived service quality and loyalty, repurchase intention, and behavioural intention (Lin, 2022; Law et al., 2022). Additionally, the service quality-loyalty link can differ depending on the passengers' price sensitivity and priorities. There are those who are more interested in the lowest fare and are willing to sacrifice on amenities, and there are those who are more interested in comfort, responsiveness, reliability and convenience, who may prioritize these above all else.

Economy passengers are not as satisfied as others, perhaps because they don't get the value they think they're paying for. Low cost travel, therefore, is not judged simply on cost: passengers will judge whether the service package offers them enough value. The factors of perceived value, travel motivation, price sensitivity and quality-seeking behavior should be considered in airline segmentation and service planning strategies (Pengurusan et al., 2022; Huang, 2023). Managerial awareness should be given to business travel status and travel class. Business travelers tend to have higher demands for on-time performance, spaces, interactivity, productivity, and regularity in travel plans as a failure to meet their travel plans can have professional and financial

repercussions.

While business class passengers indicated higher overall satisfaction, this could also reflect higher expectations for satisfaction. Thus, the impact of certain services properties may differ within the different passenger groups and for some groups, certain properties may seem like basic, while for other groups they may seem as performance enhancing. Segment-specific analysis can be helpful to identify key requirements that are not features that provide an extra satisfaction for frequent travellers and business travellers (Lippitt et al., 2023). Departure and arrival delays continue to be a significant operational issue as they have a negative impact on the overall passenger experience, particularly when service in-flight is good. Delays affect connecting flights, business appointments, hotel bookings and airline reliability. So airlines need to apply operational performance and customer-service management, but not as two distinct elements, but as part of the whole.

If delays are inevitable, effective communication, proactive rebooking, good explanation and handling of disruption could lessen dissatisfaction. Evaluation of airline quality should therefore encompass both service encounters and the dependability of their operations, as passengers resort to their service in the context of their assessment of reliability, comfort, value and service delivery (Badrillah et al., 2025). The higher accuracy of the Random Forest model compared to the Logistic Regression model suggests that there potentially are complex, nonlinear relationships and interactions between the service variables and passenger satisfaction. While statistical models are still relevant for estimating directional relationships, machine learning models can identify patterns that can be overlooked by imposing linearity and independence assumptions on conventional statistics. In conclusion, the synergic application of statistical and machine learning techniques gives a more solid foundation for service quality assessment. Theory-driven machine learning is especially important, as the predictive accuracy is paired with a meaningful interpretation of the passengers' perceptions (Lim et al., 2024).

The results are applicable to tourism and airline managements. Online boarding, digital connectivity, inflight entertainment, legroom, cleanliness, baggage handling and staff service quality need to be the focus of investment. Service strategies should also be segmented by travel class, type of customer, type of travel and value expectations. However, a secondary dataset has the disadvantage of having less control over sampling procedures, airline type, cultural context, and other factors like ticket costs, type of route, passenger income, and previous service failure. Further studies are needed to account for airline-specific and country-specific variations, and

include the use of behavioural loyalty and qualitative data to understand passengers' ratings of the service attributes.

## **5. Conclusion**

Cdaomprehensive data base of passengers' satisfaction and used quantitative analysis to assess the effect of various dimensions of airline service quality. The results showed that some of the key factors that influenced passenger satisfaction were service attributes like online boarding, inflight entertainment, seat comfort, legroom, onboard service, baggage handling and inflight Wi-Fi. The general differences in satisfaction between travellers of the various classes, between various types of travellers and between travellers on different travel purposes further illustrated that the perceptions of the passengers were not only influenced by service quality but also by travel-related factors. As a consequence, all three research goals were met by identifying the most important dimensions of service quality that influence passengers' satisfaction, examining how passengers' and trip attributes impact their satisfaction, and pinpointing the greatest drivers of a positive airline experience. The study offers practical implications for airline managers by highlighting the need for a more robust digital offering, better operational reliability, an on-board comfort boost, and customer-centric service strategies for various passenger segments. Academically, the research adds to tourism and hospitality literature as it brings together the use of traditional statistical techniques and machine learning methods to establish the overall understanding of the service quality of the airline. Going forward, it is recommended that the airline industry continually monitor the expectations of passengers, provide better personalized service to them and implement technological advances to enhance its overall quality in order to boost customer satisfaction, loyalty and competitiveness.

## **References**

1. Albuquerque, A. P. G. D., Melo, F. J. C. D., & Dumke de Medeiros, D. (2022). Airline quality assessment towards strategic tourism management improvements. *Tourism Review*, 77(2), 570-591.
2. Badrillah, M. I. M., Shuib, A., & Nasir, S. (2025). Service at Altitude: How airline service quality shapes passenger choices. *South East Asia Journal of Contemporary Business, Economics and Law*, 34(1), 72-78.
3. Božić, D., Hunjak, D., Domitrović, A., & Grigoroudis, E. (2024). Multicriteria satisfaction analysis to analyse passenger perceptions of air travel service quality in Croatia. *Journal of the Operational Research Society*, 75(11), 2267-2281.
4. Dike, S. E., Davis, Z., Abrahams, A., Anjomshoe, A., & Ractham, P. (2024). Evaluation of

- passengers' expectations and satisfaction in the airline industry: an empirical performance analysis of online reviews. *Benchmarking: An International Journal*, 31(2), 611-639.
5. Eboli, L., Bellizzi, M. G., & Mazzulla, G. (2022). A literature review of studies analysing air transport service quality from the passengers' point of view. *Promet-Traffic&Transportation*, 34(2), 253-269.
  6. Erturgut, R., & Gürler, H. E. (2023). The effect of airline passengers' satisfaction on loyalty: do region and airline Carrier matter? A meta-analysis study. *Transportation in Developing Economies*, 9(2), 11.
  7. Eshaghi, M. S., Afshardoost, M., Lohmann, G., & Moyle, B. D. (2024). Drivers and outcomes of airline passenger satisfaction: A Meta-analysis. *Journal of the Air Transport Research Society*, 3, 100034.
  8. Huang, Y. C. (2023). Low-cost airlines not so low-cost—exploring the relationships among travel motivation, service quality and satisfaction: the moderating roles of perceived value. *Research in Transportation Business & Management*, 49, 101008.
  9. Jiang, X., Zhang, Y., Li, Y., & Zhang, B. (2022). Forecast and analysis of aircraft passenger satisfaction based on RF-RFE-LR model. *Scientific reports*, 12(1), 11174.
  10. Law, C. C., Zhang, Y., & Gow, J. (2022). Airline service quality, customer satisfaction, and repurchase Intention: Laotian air passengers' perspective. *Case Studies on Transport Policy*, 10(2), 741-750.
  11. Leon, S., & Dixon, S. (2023). Airline satisfaction and loyalty: Assessing the influence of personality, trust and service quality. *Journal of Air Transport Management*, 113, 102487.
  12. Lim, J., Lee, M., & Jang, J. (2024). Revisiting passengers' perceptions of airline service quality: A theory-driven machine learning approach using big data. *Journal of Quality Assurance in Hospitality & Tourism*, 1-22.
  13. Lin, H. F. (2022). The mediating role of passenger satisfaction on the relationship between service quality and behavioral intentions of low-cost carriers. *The TQM Journal*, 34(6), 1691-1712.
  14. Lippitt, P., Itani, N., O'Connell, J. F., Warnock-Smith, D., & Efthymiou, M. (2023). Investigating airline service quality from a business traveller perspective through the integration of the Kano model and importance–satisfaction analysis. *Sustainability*, 15(8), 6578.
  15. Moon, H. G., Lho, H. L., & Han, H. (2021). Self-check-in kiosk quality and airline non-contact service maximization: how to win air traveler satisfaction and loyalty in the post-pandemic world?. *Journal of Travel & Tourism Marketing*, 38(4), 383-398.
  16. Munoz, C., Laniado, H., & Córdoba, J. (2020). Development of a robust customer satisfaction index for domestic air journeys. *Research in Transportation Business & Management*, 37, 100519.
  17. Noviantoro, T., & Huang, J. P. (2022). Investigating airline passenger satisfaction: Data mining method. *Research in Transportation Business & Management*, 43, 100726.
  18. Park, S., Lee, J. S., & Nicolau, J. L. (2020). Understanding the dynamics of the quality of airline service attributes: Satisfiers and dissatisfiers. *Tourism management*, 81, 104163.

19. Pengurusan, J. F., Dhahi, A., & Dhahi, Z. C. A. (2022). Impact of airline service quality on passenger satisfaction and loyalty: Moderating influence of price sensitivity and quality seekers. *Transformations in Business & Economics*, 21(3), 57.
20. Pholsook, T., Ramjan, S., & Wipulanusat, W. (2025). Enhancing airport services: data-driven analysis of passenger satisfaction and service quality in Southeast Asia. *Engineering Management in Production and Services*, 17(2), 37-62.
21. Shen, C., & Yahya, Y. (2021). The impact of service quality and price on passengers' loyalty towards low-cost airlines: The Southeast Asia perspective. *Journal of Air Transport Management*, 91, 101966.
22. Tahanisaz, S. (2020). Evaluation of passenger satisfaction with service quality: A consecutive method applied to the airline industry. *Journal of Air Transport Management*, 83, 101764.
23. Teejmahal20. (2020). Airline passenger satisfaction [Data set]. Kaggle. <https://www.kaggle.com/datasets/teejmahal20/airline-passenger-satisfaction>
24. Tunca, S., & Balcioglu, Y. S. (2026). Soaring or Plummeting? Uncovering the Hidden Drivers of Airline Customer Satisfaction in the Post-Pandemic Era. *International Journal of Global Business and Competitiveness*, 1-11.