

DETERMINANTS OF PASSENGER SATISFACTION: EMPIRICAL EVIDENCE FROM THE GOAN MARKET

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Abstract

In the modern aviation landscape, service quality has transitioned from a competitive advantage to a strategic necessity. This study investigates the determinants of passenger satisfaction within the Goan aviation market, focusing on travelers at Dabolim and Manohar International Airports. Utilizing a descriptive research design and a quantitative approach, data was collected from 308 respondents using convenience and snowball sampling. The research evaluates key service dimensions, including pre-flight operations, in-flight safety, and staff professionalism, through the lens of the SERVQUAL and Expectancy-Disconfirmation models. Statistical analysis, including Mean scores and Chi-Square testing, revealed a high aggregate satisfaction across all studied variables. In-flight safety emerged as the highest-performing dimension (Mean = 3.98), followed by staff behavior and communication (Mean = 3.84). The results indicate that while price is a significant factor for approximately 20.78% of travelers, the majority prioritize service excellence and reliability. All null hypotheses were rejected ($p < 0.001$), confirming that service quality dimensions have a statistically significant impact on passenger contentment. The findings suggest that airlines must bridge the "satisfaction gap" by maintaining consistent service standards to foster long-term loyalty in a hyper-competitive environment.

Keywords: Passenger Satisfaction, Service Quality, SERVQUAL, Goan Aviation, In-flight Safety, Staff behaviour.

1.1 Introduction

In the hyper-competitive aviation landscape, customer satisfaction has shifted from a luxury to a core strategic necessity. Because airline offerings are intangible and service-driven, passenger perception is shaped by a continuous journey—from digital booking and ground handling to in-flight amenities and crew interaction.

The industry is currently defined by a "satisfaction gap," where the difference between pre-flight expectations and post-flight reality determines brand loyalty. While full-service carriers compete on comfort, low-cost carriers focus on efficiency; however, both must master **reliability, responsiveness, and empathy** to retain travellers. In the digital age, a single negative experience can be amplified via social media, making service recovery as vital as initial delivery.

Despite challenges like volatile fuel costs, infrastructure limitations, and uncontrollable weather delays, airlines must prioritize punctuality and safety. Success now depends on balancing operational efficiency with a seamless, personalized passenger experience to foster long-term financial sustainability and market reputation.

1.2 Theoretical Background

The relationship between service delivery and traveler behavior is grounded in several established academic frameworks. These theories explain how passengers evaluate their journey—from initial expectations to final brand loyalty.

1.2.1. The Expectancy-Disconfirmation Model

Developed by Richard L. Oliver, this model is the primary framework for understanding customer satisfaction. It suggests that travelers do not evaluate service in a vacuum; instead, they compare the actual performance of the airline against their pre-flight expectations.

- **Positive Disconfirmation:** Satisfaction occurs when the flight experience exceeds the passenger's initial expectations.
- **Negative Disconfirmation:** Dissatisfaction is the result of service falling short of what was anticipated.
- **Simple Confirmation:** This occurs when the airline's performance exactly matches the traveler's expectations.

1.2.2. The SERVQUAL Model

Aviation services are multidimensional. The SERVQUAL model, proposed by Parasuraman, Zeithaml, and Berry, identifies five specific pillars that passengers use to judge service quality:

- **Tangibles:** The physical appearance of the aircraft, the comfort of the seats, and the professional grooming of the cabin crew.
- **Reliability:** The airline's ability to provide the promised service accurately and dependably, specifically regarding punctuality.
- **Responsiveness:** The eagerness of staff to assist passengers and provide efficient, timely service.
- **Assurance:** The expertise and politeness of employees, which builds a sense of safety and trust.

- **Empathy:** Providing personalized, individualized attention to meet specific traveler needs.

1.2.3. The Three-Factor Theory of Customer Satisfaction

This theory further categorizes service elements based on how they influence a passenger's emotional response:

- **Basic Factors:** These are the "must-haves," such as flight safety. While their presence does not necessarily increase satisfaction, their absence leads to extreme dissatisfaction.
- **Performance Factors:** Attributes that directly correlate with satisfaction levels; for instance, high legroom leads to satisfaction, while poor legroom leads to dissatisfaction.
- **Excitement Factors:** These are unexpected "wow" moments, like receiving a free seat upgrade. These significantly increase satisfaction but do not cause unhappiness if they are missing.

1.2.4. Modern Strategic Necessities

In today's aviation market, service quality has evolved from a luxury into a core strategic requirement for financial sustainability.

- **The Satisfaction Gap:** Brand loyalty is determined by the "gap" between what a passenger expects before the flight and the reality they experience post-flight.
- **The Human Element:** Beyond physical amenities, the empathy and behavior of the crew are decisive in forming a long-term brand image.
- **Service Recovery:** In an era where a single negative experience can be amplified via social media, the ability to resolve service failures through "justice-based recovery" is vital.

1.3 Objectives of the Study

- To study the major factor affecting passenger choosing an airline.
- To study how in-flight services play a role in passenger satisfaction.
- To study the impact of staff behavior and communication on passenger experience.

1.4 Scope of the Study

The scope of this study is focused on evaluating the various factors that influence passenger satisfaction within the aviation sector of Goa. By analyzing data from 308 travelers at Dabolim and Manohar International Airports, the research examines key service dimensions, including booking efficiency, ticket pricing, and in-flight amenities. A significant emphasis is placed on the impact of staff behavior, communication, and safety protocols on the overall traveler experience. Utilizing the SERVQUAL and Expectancy-Disconfirmation models, the study identifies critical performance benchmarks and

service gaps. Ultimately, these findings offer actionable insights into passenger expectations, providing a framework for airlines to enhance operational quality and service delivery in a competitive market.

2. Literature Review

The selection and satisfaction of airline passengers are primarily driven by a combination of **reliability, tangibility, and price sensitivity**. According to **Agarwal and Gowda (2020)** and **Goyal et al. (2016)**, core factors such as punctuality, cleanliness, and seating comfort are fundamental expectations that dictate an airline's competitive edge. For business travelers, **Lippitt et al. (2023)** emphasize that while Wi-Fi is a bonus, consistent service reliability remains a "must-have." However, the relationship between quality and loyalty is fragile; **Vinoj Wilfred et al. (2024)** and **Asif Iqbal et al. (2023)** warn that even satisfied passengers may defect if they are highly price-conscious. Furthermore, **Yang et al. (2017)** note that even in the low-cost sector, service quality remains a vital determinant of repeat patronage, proving that price is rarely the sole factor in consumer decision-making.

Beyond physical amenities, the **human element and service recovery** play a decisive role in shaping long-term brand image and word-of-mouth behavior. **Usman et al. (2023)** and **Adhitama et al. (2017)** highlight that proactive staff behavior and empathy significantly enhance the emotional journey of the passenger, leading to stronger brand trust. When service failures occur, **De Souza and Desai (2023)** argue that justice-based recovery is essential to maintain satisfaction, while **Pappachan (2023)** suggests that high-quality service coupled with rewarding loyalty schemes effectively drives positive recommendations. As the industry shifts toward big data, **Hong et al. (2023)** and **Park et al. (2019)** suggest that airlines must move beyond traditional surveys to analyze real-time digital feedback to meet the diverse, culturally specific expectations identified by **Punel et al. (2019)**.

3. Research Methodology

This study utilizes a systematic framework to examine the factors influencing passenger satisfaction and loyalty in the aviation sector. The methodology is structured as follows:

3.1 Research Design

- **Descriptive Nature:** The study adopts a descriptive research design to accurately profile passenger perceptions, preferences, and experiences without manipulating variables.
- **Quantitative Approach:** A quantitative strategy is employed to transform traveler

feedback into numerical data for objective analysis.

- **Statistical Tools:** Data is processed using descriptive and inferential statistics, including **Mean, Standard Deviation, Chi-Square tests, Linear Regression, and Correlation Analysis.**

3.2 Area of the Study

- **Geographic Focus:** The research is centered in **Goa**, a major hub for domestic and international tourism, trade, and education.
- **Aviation Hubs:** Data collection focuses on passengers utilizing **Dabolim International Airport** and **Manohar International Airport (Mopa).**
- **Diverse Demographic:** The study captures a broad spectrum of travelers across various age groups, income levels, and flight frequencies to ensure a comprehensive data set.

3.3 Sources of Data

- **Primary Data:** Original information was gathered via a **structured questionnaire**

designed to measure specific satisfaction metrics, including booking ease, pricing, staff conduct, and in-flight services.

- **Secondary Data:** Contextual support was drawn from academic journals, books from the **Rosary College** and **Dr. Francisco Luis Gomes District libraries**, and reputable digital databases.

3.4 Sampling Techniques and Size

- **Sampling Method:** A combination of **Convenience and Snowball sampling** was utilized. The survey was distributed digitally through social media platforms and professional networks to reach active travelers.
- **Data Collection Tool:** A Google Forms link was used to facilitate rapid, cost-effective, and user-friendly responses.
- **Sample Size:** The study successfully reached a total of **308 respondents**, providing a statistically significant baseline for academic analysis and meaningful conclusions.

4. Analysis and discussion

Table 4.1: Summary of Demographics

		Frequency	Percent	Mean	Standard deviation
Age	Below 18	30	9.7	2.17	.680
	19-30	214	69.5		
	31-50	45	14.6		
	Above 50	19	6.2		
Gender	Male	126	40.9	1.59	.492
	Female	182	59.1		
Occupation	Business	3	1.0	2.76	1.020
	Student	182	59.1		
	Homemaker	22	7.1		
	Employed	87	87		
	Others	14	14		
Qualification	SSC	30	9.7	2.56	.819
	HSCC	107	34.7		
	Graduate	140	45.5		
	Post Graduate	29	9.4		
	PhD	2	.6		
Annual Income	Below 100000	200	64.9	1.68	.768
	100000-500000	78	25.3		
	500000-1000000	19	6.2		
	Above 1000000	11	3.6		

Source: Primary data

- **Dominant Age Group:** The majority of respondents (**69.5%**) fall within the **19–30 age bracket**, indicating a youthful traveler base.
- **Gender Distribution:** Female respondents represent the larger portion of the sample at **59.1%**.

- **Occupation & Income:** Students make up over half the sample (**59.1%**), which correlates with the high percentage of respondents (**64.9%**) earning **Below 1,00,000 annually**.
- **Education:** The sample is well-educated, with **45.5%** being Graduates and **34.7%** holding HSSC qualifications.

Table 4.2: Preferred Airline Analysis

Airline Category	Frequency	Percentage (%)
Qatar Airways	113	36.7
Indigo	90	29.2
Air India	68	22.1
Gulf Air	21	6.8
Others	16	5.2
Total	308	100.0

Source: Primary data

The data reveals a diverse range of airline preferences among passengers in Goa, with **Qatar**

Airways emerging as the leading choice at **36.7%**. This high preference for an international full-service carrier suggests that a significant portion of the sample prioritizes global connectivity and premium service quality, likely due to the region's strong links to international tourism and overseas employment.

Indigo follows closely as the second most preferred airline (**29.2%**), reflecting the strong market hold of low-cost carriers (LCCs) among the price-sensitive student and domestic traveller segments identified in the demographic profile. **Air India** maintains a substantial presence with **22.1%**, while **Gulf Air** and other carriers represent smaller segments of the market. Collectively, these figures indicate that while affordability is a major driver for nearly a third of the respondents, the majority still lean toward established full-service airlines for their travel needs.

Table 4.3: Major Factors Influencing Passenger Choice and Satisfaction

Factor	Number of Respondents	Percentage (%)	Mean Score	Rank
Service Quality	99	32.14%	3.84	1
Price	64	20.78%	3.78	2
Comfort	55	17.86%	3.71	3
Punctuality	33	10.71%	3.65	4
Food and Beverages	22	7.14%	3.60	5
Overall Experience	16	5.19%	3.55	6
Safety and Security	9	2.92%	3.49	7
Boarding/Booking Process	6	1.95%	3.42	8
Entertainment	4	1.31%	3.38	9
Total	308	100.0%		

Source: Primary Data

The data distribution among the **308 participants** provides a comprehensive look at the hierarchical needs of modern air traveller's. **Service Quality** stands out as the most critical determinant, with **99 respondents (32.14%)** identifying it as their primary concern. This is further validated by its top **Mean Score of 3.84**, confirming that the excellence of service delivery is the most consistent expectation across the study group.

Economic factors also play a significant role, as **Price** was prioritized by **64 respondents (20.78%)** with a strong **Mean Score of 3.78**, placing it **2nd** in the rankings. This highlights a substantial market segment that balances service expectations against financial costs. Furthermore, physical well-being

and operational efficiency remain essential, with **Comfort (17.86%)** and **Punctuality (10.71%)** securing the **3rd** and **4th** ranks respectively.

Interestingly, while secondary features such as **Food and Beverages (Mean: 3.60)** and **Overall Experience (Mean: 3.55)** contribute to general contentment, they carry less weight in the initial decision-making process compared to core service and cost. Factors like **Safety and Security**, **Booking Processes**, and **Entertainment** received the lowest mean scores and frequencies. This suggests that while these elements are necessary for a functional journey, they are often viewed as standard requirements rather than competitive differentiators that drive loyalty.

Table 4.4: Satisfaction with Pre-flight Customer Service

Rating (Scale 1–5)	Frequency (N)	Percentage (%)	Mean Score	Std. Deviation
1 (Highly Dissatisfied)	2	0.65%	3.76	0.776
2 (Dissatisfied)	7	2.27%		
3 (Neutral)	106	34.42%		
4 (Satisfied)	142	46.10%		
5 (Highly Satisfied)	51	16.56%		
Total	308	100.0%		

Source: Primary Data

To confirm the reliability of these findings, a **Chi-Square Goodness-of-Fit** test was applied.

(H0a): There is no impact of pre-flight services on customer satisfaction.

Table 4.5: Chi-Square Test for Pre-flight Customer Service

Statistical Metric	Value
Chi-Square Statistic	232.16
Degrees of Freedom	4
P-Value (p)	< 0.001
Significance Level (α)	0.05

- **Dominant Positive Sentiment:** Under normal coding, the data reveals that 62.66% of passengers are satisfied with pre-flight services (combined "Satisfied" and "Highly Satisfied" ratings).
- **Significant Performance Benchmark:** The Mean Score of 3.76 stands well above the neutral midpoint (3.0), suggesting that ground operations (check-in, boarding, and staff interaction) are viewed as a service strength.
- **Minimal Dissatisfaction:** Only a very small segment of the population (2.92%) reported negative experiences (Ratings 1 and 2), indicating high efficiency in pre-flight handling.
- **Consistent Quality:** The Standard Deviation of 0.776 shows that the majority of passenger responses are tightly grouped around the positive end of the scale, proving service consistency.
- **Statistical Conclusion:** The P-value (< 0.001) confirms that this satisfaction is not a random result but a statistically significant trend that positively contributes to the overall passenger experience in the South Goa airline sector.

Table 4.6: Satisfaction with In-flight Safety Measures

Rating (Scale 1–5)	Frequency (N)	Percentage (%)
1 (Highly Dissatisfied)	1	0.32%
2 (Dissatisfied)	7	2.27%
3 (Neutral)	62	20.13%
4 (Satisfied)	165	53.57%
5 (Highly Satisfied)	73	23.70%
Total	308	100.0%

Source: Primary Data

To statistically validate the findings from Table 4.5, the following research hypotheses were formulated to test the relationship between in-flight safety and passenger satisfaction.

(H0b): There is no significant impact of in-flight safety measures on customer satisfaction, and any observed satisfaction is due to random variation.

Table 4.7: Hypothesis Testing for In-flight Safety Measures

Statistical Measure	Value
Mean Score	3.98
P-Value (p)	< 0.001
Significance Level (α)	0.05

- **High Aggregate Satisfaction:** A dominant majority of the participants (77.27%) reported positive experiences, with 53.57% identifying as "Satisfied" and 23.70% as "Highly Satisfied."
- **Minimal Service Failure:** Negative feedback was remarkably low, as only 2.59% of the sample expressed any level of dissatisfaction (Ratings 1 and 2), suggesting that safety protocols are a core operational strength.
- **Strong Central Tendency:** The Mean Score of 3.98 indicates that the average passenger sentiment is nearly at the "Satisfied" benchmark, reflecting a high degree of confidence in the airline's safety standards.
- **Data Consistency:** The Standard Deviation of 0.748 shows that responses are closely clustered around the positive end of the scale, implying a uniform and reliable perception of safety among travelers.
- **Statistical Significance (P-Value):** The calculated P-value is < 0.001, which is well below the standard alpha threshold of 0.05. This confirms that the high satisfaction levels are statistically significant and not the result of random sampling error.
- **Hypothesis Decision:** Because the P-value (p < 0.001) is minimal, we **Reject the Null Hypothesis (H0b)**, proving that in-flight safety measures have a substantial and measurable impact on passenger satisfaction.

Table 4.8: Composite Analysis of Staff Behavior and Communication

(Combined Metric: Cabin Crew Service + Flight Information Updates)

Rating (Scale 1–5)	Category	Frequency (N)	Percentage (%)
5	Highly Satisfied	55	17.86%
4	Satisfied	160	51.95%
3	Neutral	81	26.30%
2	Dissatisfied	11	3.57%
1	Highly Dissatisfied	1	0.32%
Total		308	100.0%

Source: Primary Data

Following the descriptive breakdown of passenger responses, a one-sample T-test was conducted to statistically validate the impact of staff behavior and communication on the overall traveler experience. By comparing the observed composite mean against the neutral midpoint, Table 4.9 presents the inferential evidence required to determine the significance of the 'human element' in service delivery.

Table 4.9: Hypothesis Testing for Staff Behaviour and Communication

Statistical Metric	Value
Composite Mean Score	3.84
Test Value (Neutral Point)	3.00
P-Value	< 0.001
Significance Level (α)	0.05

- **Unified Service Excellence:** When both staff behavior and communication are viewed as a single construct, the data reveals a high satisfaction rate of **69.81%** (combined "Satisfied" and "Highly Satisfied").
- **Reliability of the Construct:** A Cronbach's Alpha of **0.82** indicates that the two questions are highly correlated and accurately measure the same underlying objective (Staff Impact).
- **Positive Mean Trend:** The **Composite Mean of 3.84** is significantly above the neutral midpoint of 3.0, proving that passengers in South Goa generally perceive airline staff as professional and informative.
- **Low Friction Points:** Only a minor fraction (**3.89%**) of passengers reported negative interactions, suggesting that staff-related issues are outliers rather than systemic problems.
- **Statistical Validation:** The **P-value (< 0.001)** confirms that the positive impact of staff on the passenger experience is a statistically significant reality for the population studied.

5. Conclusion

The study concludes that passenger satisfaction in the Goan aviation market is predominantly driven by service quality and operational reliability. Empirical evidence reveals a high level of contentment across key touchpoints, particularly in-flight safety, which recorded the highest mean score of 3.98. This confirms that core technical requirements are being met effectively. Furthermore, the human element—comprising staff behavior and communication—acts as a significant determinant of a positive traveler experience, with a 69.81% satisfaction rate.

Statistically, the rejection of all null hypotheses ($p < 0.001$) underscores that these satisfaction levels are systemic and not coincidental. While price remains a secondary priority for many, the preference for full-service carriers like Qatar Airways suggests that travelers prioritize a seamless, high-quality journey over mere cost savings. Overall, the research highlights that maintaining consistent service standards from pre-flight to arrival is essential for airlines to bridge the "satisfaction gap" and secure a competitive advantage.

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