

Factors Affecting the Sales of Airlines in India with Special Reference to Air India



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Abstract: India's aviation industry is largely untapped with enormous growth opportunities, provided that air transport is still expensive to most of the country's population, almost 40 per cent of whom are the upwardly mobile middle class. The industry will engage and work with policy makers to adopt effective and rational decisions to improve India's civil aviation industry. The primary aim is to identify the factors responsible for low sales of Air India. Secondly, the aim is to evaluate the causal relationship between factors identified and the dependent variable airline choice. It was found that Air India should reduce the cost of ticket on both domestic and international flights. Customer doesn't find services delivered up to the mark. The quality of food, service of cabin-crew, lateness of flight and safety should be improved by Air India to remain competitive in the market. It has become and more imperative for the Air India to prove its mettle and not just settle on the taxpayers money bailed out by the exchequer but also on price, service and safety ground.

Keywords: Sales, Air India, Airlines, India

I. INTRODUCTION

The transport sector of the country plays an integral part in the growth and development of the economy. India is currently the ninth largest aviation market in the world, according to the Indian Aerospace Industry Analysis report. As far as air cargo tonnage is concerned, India is leading the South Asian region, which includes Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka. India currently has 128 airports, including 15 international airports. Over the past three years, India's civil aviation industry has emerged as one of the country's fastest growing industries. India is currently the world's third largest domestic market for civil aviation. India has become the third largest domestic aviation market in the world and is expected to be the third largest air passenger* market by 2024 to surpass the UK.

II. LITERATURE REVIEW

Gilbert and Wong (2003) have compared and measured the differences in expectations of passengers' of airline service quality on the factors like Assurance, Facilities, Reliability and Flight Patterns, Employees, Responsiveness dimensions and Customization. Other researchers have analyzed the relationship between behavioral loyalty, passenger satisfaction, and airline service quality, (Ostrowski & O'Brien, 1993; Chan, 2000). Etherington and Var (1984) and Furrer, Liu, and Sudharshan (2000) have studied the relationships between airline service and service quality.

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(Crespo-Almendros & Del Barrio-García, 2016) found that, while purchasing any airline ticket discounts are the major contributors for online buyers while accommodation is vital for expert users. (Alireza Aghighi, 2015) found that sale promotion also adds to the sales of airline ticket but the attitude and behaviour of the customer should be borne in mind. A study conducted on the online buying behaviors clearly indicated that the ease of use and perceived usefulness are the key driver for buying a airline ticket (Ruiz-Mafé, Sanz-Blas, & Aldás-Manzano, 2009) (Daramola, Okafor, & Bello, 2014; Groves & Gini, 2013). The purpose of the given research is to find out factors which negatively affect sales of Air India and to provide recommendations to improve passenger satisfaction based on actual situation, theoretical and practical research results.

III. OBJECTIVE OF THE STUDY

After many private players in the airline industry the present focus is that how can Air India improve passenger experience and satisfaction to improve sales. Over the past few years, market share, passenger satisfaction and operating revenue of Air India has declined drastically. Objective of the study is to identify the underlying causes of passenger dissatisfaction and evaluate the causal relationship between those factors and airline choice. The primary aim is to identify the factors responsible for low sales of Air India. Secondly, the aim is to evaluate the causal relationship between factors identified and the dependent variable airline choice.

IV. HYPOTHESIS DEVELOPMENT

Based on the review of literature and the objective Following are the hypotheses formulated from the causes identified:

H₀₁: Air fare has a direct and negative impact on airline choice

H₀₂: On time performance has a direct and negative impact on airline choice

H₀₃: Age of aircraft has a direct and negative impact on airline choice

H₀₄: In-flight service has a direct and negative impact on airline choice

H₀₅: Airline staff has a direct and negative impact on airline choice

V. METHODOLOGY

The study's general approach is focused on survey.

In addition, it uses detailed cross-sectional research design. The target population is Air India's passengers. Non-probability convenience sampling is the sampling method used. There are registered and evaluated a total of 110 responses. In this study, Structured Questionnaire is the tool used to collect data. Validity testing is conducted to ensure that the questionnaire actually measures the intended purpose. Collected data will be marked, stored, cleaned and tabulated. In this analysis, the data collected were analyzed using both quantitative and qualitative analytical techniques to address research questions. Analysis is performed using the SPSS software package. The results are presented in tables and charts.

VI. DATA ANALYSIS

Normality test

Normality test of standardized residual

	Standardized residual
Skewness	.497
Kurtosis	.906
Shapiro wilk sig value	.063

Skewness and Kurtosis are within acceptable range of -1.96 to +1.96. Even Shapiro wilk is not significant which means null hypothesis is not rejected. Hence, we can conclude that standardized residuals are normal.

Normality test of dependent variable

	Dependent variable
Skewness	.055
Kurtosis	-.301
Shapiro wilk sig value	.163

Skewness and Kurtosis are within acceptable range of -1.96 to +1.96. Even Shapiro wilk is not significant which means null hypothesis is not rejected.

Reliability test

Internal consistency reliability test is done to measure if items of a construct are measuring the concept they are intended to measure. It is tested using Cronbach's alpha. Reliability should be greater than .7. Cronbach's alpha was calculated for all constructs and then recalculated if it could be improved by deleting some of its items.

Final values of Cronbach's alpha for each construct:

	Cronbach's alpha	Cronbach's alpha if item deleted
Price	.609	.718
Safety	.785	-
Staff	.791	-
Service	.655	.694
Time	.592	.714-
Airline choice	.721	-

For a data to be eligible for factor analysis, it must follow some requisite pre-conditions which are tested on the basis of below two parameters:

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.750
Bartlett's Test of Sphericity	Approx. Chi-Square	481.029
	df	91
	Sig.	.000

- Bartlett's Sphericity Test is used to test the null hypothesis that the item-to-item correlation matrix is an identity matrix. It's being tested by Chi-Square. Chi-Square statistics are significant at a level of 0 percent significance. Thus, the null hypothesis is rejected. The data is therefore suitable for factor analysis.
- The Kaiser-Meyer-Olkin (KMO) test is used to assess the adequacy of the sampling data collected. The cumulative KMO is predicted to be greater than 0.7. The KMO value is 0.750 which means that the sample is sufficient for factor analysis and is usually distributed as well.
- After performing above tests, factor analysis was done.
- Factor Extraction Method: Principal Axis Factoring is used because variables have some correlation between them.
- Rotation Method: Direct Oblimin is used which is an oblique rotation technique.
- Factor Analysis was done in much iteration to get most relevant factors. Steps followed were:
- Suppressed factor loadings less than 0.4
- Anti-image correlation matrix: Diagonal values should be greater than 0.5

Price 1	.578
Price 2	.562
Time 1	.813
Time 2	.737
Safety 2	.832
Safety 3	.777
Services 1	.742
Services 2	.763
Staff 1	.803
Staff 2	.848
Staff 3	.837
Dependent 1	.699
Dependent 2	.628
Dependent 3	.621

- Try changing rotation method from direct oblimin to promax
 - Total variance explained: the cumulative percentage is greater than 50%. In other words, 6 factors account for 76,521 per cent of the variance in the airline choice variable.

Total Variance Explained

Factor	Initial Eigenvalues		
1	4.202	30.014	30.014
2	1.879	13.420	43.434
3	1.505	10.749	54.183
4	1.442	10.299	64.482
5	1.011	7.219	71.700
6	.675	4.820	76.521
7	.578	4.131	80.652
8	.508	3.630	84.282
9	.484	3.460	87.742
10	.425	3.035	90.777
11	.369	2.635	93.411
12	.365	2.606	96.018
13	.324	2.311	98.329
14	.234	1.671	100.000

Extraction Method: Principal Axis Factoring.

Pattern Matrix^a

	Factor					
	1	2	3	4	5	6
Staff3	.705					
Staff2	.659					
Staff1	.554					
Dependent3		.771				
Dependent2		.734				
Dependent1		.566				
Services1			.812			
Services2			.431			
Price2				.857		
Price1				.670		
Safety3					-.754	
Safety2					-.672	
Time2						.715
Time1						.560

Extraction Method: Principal Axis Factoring.

Rotation Method: Oblimin with Kaiser Normalization.^a

a. Rotation converged in 14 iterations.

Naming of factors

Below are the 6 factors extracted after exploratory factor analysis:

Price

This refers to the high air fare of Air India compared to its competitors because of which customer don't prefer to fly with Air India.

The following items are merged under this factor:

- High prices of Air India flights
- Inflated prices of Air India during peak season
- Insufficient discounts given by Air India

Time

This refers to the on-time-performance of Air India. Due to bad OTP, customers are reluctant to take Air India aircrafts.

The following items are merged under this factor:

- Delayed Air India flights
- Reluctant to travel with Air India when it is important to reach timely
- Reluctant to travel with Air India even when it gives heavy discounts

Safety

This refers to the aging aircrafts of Air India which customers don't find aesthetically appealing and reliable.

The following items are merged under this factor:

- Aircrafts are unsafe
- Seats are worn out
- Aircrafts are old

Services

This refers to the in-flight services of Air India provided by the in-flight crew. Customer doesn't find services delivered up to the mark.

The following items are merged under this factor:

- In-flight services not up to the mark
- On-board food is of low quality
- On-board crew is less passenger friendly

Staff

This refers to the delays caused because of unpunctual and inefficient staff of Air India.

The following items are merged under this factor:

- Inefficient on-ground staff
- Staff is less punctual
- Boarding a flight take lot of time

Airline Choice

This refers to the less and unsatisfied customer base of Air India due to above factors. If these factors are taken care of then sales will statistically improve.

The following are the items converged under this:

- Frequency of travel
- Future relationship with Air India
- Brand ambassador of Air India

Linear Regression

It measures the relationship between the dependent variable, airline choice, and the factors extracted which serve as the independent variables. Factor score calculated during EFA is used to perform regression.

- Dependent variable: Airline Choice
- Independent variables: Price, Time, Safety, Services and Staff

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Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.720 ^a	.518	.513	3.29862	1.813

Correlation (R) between dependent and independent variables is 0.720 which is statistically significant at 0% significance level.

Durbin-Watson should be between 1.5 to 2.5. Value 1.813 which means there is not autocorrelation.

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.356	5	2.671	3.836	.003 ^b
	Residual	68.246	98	.696		
	Total	81.602	103			

a. Dependent Variable: REGR factor score 2 for analysis 6

b. Predictors: (Constant), REGR factor score 6 for analysis 6, REGR factor score 3 for analysis 6, REGR factor score 4 for analysis 6, REGR factor score 5 for analysis 6, REGR factor score 1 for analysis 6

As we can see in Anova table, F value is significant at significance level 0.003. Hence null hypothesis is rejected. This means regression model and intercept model both are equal.

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	7.685E-17	.082		.000	1.000
	REGR factor score 1 for analysis 6	-.240	.126	-.242	-1.908	.059
	REGR factor score 3 for analysis 6	.311	.121	.313	2.564	.012
	REGR factor score 4 for analysis 6	-.103	.097	-.103	-1.060	.292
	REGR factor score 5 for analysis 6	-.007	.119	-.007	-.057	.955
	REGR factor score 6 for analysis 6	.423	.122	.407	3.465	.001

a. Dependent Variable: REGR factor score 2 for analysis 6

In Coefficient table we can see that t value is significant for only 2 factors which are:

- Services
- Time

Hence, following will be final regression equation:

$$\text{Airline Choice}(Y) = 0.313 * \text{In-flight Services}(X_1) + 0.407 * \text{On-Time-performance}(X_2)$$

Regression suggestions

- On time performance has maximum impact (0.407) on airline choice. Hence, by increasing timeliness of Air India aircrafts its sales can be significantly improved. This can be done by making sure the staff and crew is punctual, flights take-off at right time and on-ground staff is quick

- Inflight services have 0.313 unit impact on airline choice. Hence by increasing services provided to passengers in-flight, customer satisfaction can be significantly improved. This can be done by making sure that food provided is of good quality, in-flight crew is responsive, passenger friendly and not rude.
- Price, safety and staff do not significantly impact airline choice hence they can be ignored when the objective is to increase bottom and top line.

Major Factors responsible for the downfall of Air India

Air India is India's flag carrier. It is operated by Air India Limited, a government-owned company, and operates a fleet of Airbus and Boeing aircraft serving 94 domestic and international destinations.

- The merger of the former Indian airlines and Air India, which took place despite the fact that both carriers are completely opposite each other. There have been many variations between the two companies in terms of work culture, areas of service, remuneration, working conditions, entitlements, etc. The merger resulted in massive dissatisfaction and anger among the workers. The issues were compounded by the ensuing demerger of ground handling and engineering firms. Through retrospect, it seems that a no-merger situation might have been preferable.
- The wrongful purchase of new planes- Before the merger, Air India bought 68 new planes. While Indian Airlines bought 43. These 111 planes costed a total of Rs.70,000 crores. This was when the Air India was running on heavy debt. Also, Indian Airlines was struggling with low fares and high competition. However, after the purchase the airline was unable to maintain the planes.
- A turnaround plan that didn't work- In 2011, the UPA-II government decided to pump in equity of Rs. 48,212 crore for a period of 20 years starting 2011-12 and ending in 2031-32 to stop Air India from bleeding.

Air India was expected to show positive earnings from the financial year and a cash surplus from 2017 onwards. The opposite happened. Air India's inability to service the annual interest payments led to the losses amounting to Rs 52,000 crore this year.

In the meantime, the national carrier had exhausted the Rs 25,000 crore committed under the turnaround plan.

VII. IMPLICATION OF THE STUDY

This study will help Air India in following ways:

- Improved retention
- Improved passenger satisfaction
- Improved top line and bottom line
- Improved brand equity and goodwill

VIII. CONCLUSION AND SUGGESTIONS

With the arrival of many private low cost carriers and international carriers, Air India should reduce the cost of ticket on both domestic and international flights. Customer doesn't find services delivered up to the mark. The quality of food, service of cabin-crew, lateness of flight and safety should be improved by Air India to remain competitive in the market. It has become and more imperative for the Air India to prove its mettle and not just settle on the taxpayers money bailed out by the exchequer but also on price, service and safety ground.

(SADRAG) and Uday Bhav Society for Women Empowerment organization.

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