



COMPARATIVE OPERATIONAL EFFICIENCY OF PRIVATE AIRLINES IN INDIA

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INTRODUCTION

The aviation sector has become the most important segment in the economic development of a nation. It plays a vital role in moving people or products from one place to another, be it domestic or international, especially when the distances involved are far. Stiff competition and favorable initiatives of the Government of India added fuel to enlarge both flights and fleets. Now ordinary citizens easily access the aviation service from their respective air terminals. In a highly competitive environment the provision of high quality services to passengers is the core competitive advantage for an airline's profitability and sustained growth. In the past decade, as the air transportation market has become even more challenging, many airlines have turned to focus on airline service quality to increase service satisfaction. The aviation industry in India has gone through yet another very difficult year of operations due to high operating costs and slump in demand, resulting into industry showing substantial losses for Fiscal 2013. Crude oil prices continued to be very high and airlines were not able to pass on full impact of increase to the passengers. In addition, depreciation of Indian rupee against US Dollar had put significant pressure on the cost line of the airlines.

IMPORTANCE OF THE STUDY

The Indian civil Aviation industry has helped in the growth of the Indian economy. The private Airlines have also contributed to the Indian Airlines industry of Air Transportation. The private Airlines have played a major role in this mass cargo transportation of food grains and other things in Import and Export. The private Airlines consist of both major Air Transport of Passenger on one hand and also relatively load on the Goods of cargo on the other. They are not only play an important role in Air Transportation of private Airlines and cargo but also contribute substantial value addition in term of service quality, passenger satisfaction, Innovation and cost effectiveness of the Private Airlines in India. In this paper, an attempt to analysis comparative operational efficiency of Selected Private Airlines in India.

METHODOLOGY

The study is empirical in nature and executed using the data published by civil aviation in India. The research study is based on secondary data. The financial data related to the selected Private Airlines were collected from website and Annual reports of selected Private Airlines.

PERIOD OF THE STUDY

The present study covers a period of five years taking from March 2009 to March 2013.

SAMPLING DESIGN

The sample Private Airlines are selected on the basis of convenient sampling method .A sample of four Private Airlines has been selected on the basis of availability of data and also these four Private Airlines are the main largest Air Transport in the private Airlines.

The following Private Airlines have been selected for the study

- i. Jet Airways
- ii. Spice Jet
- iii. Kingfisher Airlines
- iv. Jagson Airlines



INCOME AND EXPENSES OF JET AIRWAYS, SPICE JET, KINGFISHER AIRLINES AND JAGSON AIRLINES

The following table highlights the income and expenses earned during the study period. t –Test for Jet Airways, Spice Jet, Kingfisher airlines and Jagson Airlines Limited.

Null Hypothesis: There is no significant relationship between Income and Expenses of Jet Airways, Spice Jet, Kingfisher airlines and Jagson Airlines

The following table.1 gives the particulars of Income and Expenses of sample airlines during the period of 2008-2009 to 2012-2013.

Table 1, Income and Expenses of Jet Airways, Spice Jet, Kingfisher Airlines and Jagson Airlines (Rs.In crores)

Year	Jet Airways		Spice Jet		Kingfisher airlines		Jagson Airlines	
	Income	Expenses	Income	Expenses	Income	Expenses	Income	Expenses
2008-09	12014.90	10969.32	1438.58	5822.37	5868.07	679.13	7.55	7.89
2009- 10	10688.39	8329.85	1786.48	4747.51	4734.62	1498.84	11.69	13.10
2010-11	13033.09	10267.73	2242.09	5289.34	6314.96	670.30	10.79	13.65
2011-12	15477.39	13369.66	2950.83	7651.81	5823.91	5	17.66	13.12
2012- 13	17509.71	15946.66	4019.11	3309.65	683.46	0.05	0.49	1.35
Mean	13744.70	11776.64	2487.42	5364.13	4685	4	9.64	9.82
SD	2739.40	2946.85	1026.21	1585.10	2311.29	1.013	6.28	5.29

T-Test Paired Two Samples for Mean Income and Expenses of Airways Limited

	Jet Airways	Spice Jet	Kingfisher airlines	Jagson Airlines
Mean	1968.05	460.77	679.13	0.19
SD	675.03	775.45	1498.84	2.81
Std Error Mean	301.88	346.79	670.30	1.25
Observation	5	5	5	5
Hypothesized Mean Difference	0.05	0.05	0.05	0.05
Df	4	4	4	4
T stat	6.52	1.328	1.013	0.15

Source: Computed.

Result

Jet Airways

Comparing the calculated value of 't'(6.52) with table value of 't' for degrees of freedom =(5-1)=4, and at 5% level of significance(2.77) two tail test, it is clear that the calculated value of 't' is greater than that of the table. So the null hypothesis is rejected. It reveals that increase in income will result in increase in expenses

Spice Jet

Comparing the calculated value of 't'(1.328) with table value of 't' for degrees of freedom =(5-1)=4, and at 5% level of significance(2.77) two tail test, it is clear that the calculated value of 't' is lesser than that of the table. So the null hypothesis is accepted. It reveals that decrease in income will result in decrease in expenses.

Kingfisher Airlines

Comparing the calculated value of 't'(1.013) with table value of 't' for degrees of freedom =(5-1)=4, and at 5% level of significance(2.77) two tail test, it is clear that the calculated value of 't' is lesser than that of the table. So the null hypothesis is accepted. It reveals that decrease in income will result in decrease in expenses.



Jagson Airlines

Comparing the calculated value of 't'(0.15) with table value of 't' for degrees of freedom =(5-1)=4, and at 5% level of significance(2.77) two tail test, it is clear that the calculated value of 't' is lesser than that of the table. So the null hypothesis is accepted. It reveals that decrease in income will result in decrease in expenses.

Co-efficient of Variation

Compare the Performance of Private Airline companies by using statistical tool as co-efficient of variation is used.

$$C.V = \frac{SD}{Mean} \times 100$$

The following table 4.14.1 gives the particulars of Private Airline companies Operating Profit during the period of 2008-2009 to 2012-2013.

Table- 2, Operating Profit of the Selected Private Airline Companies (Rs.In crores)

Year	Jet Airways	Spice Jet	Kingfisher Airlines	Jagson Airlines
2008-2009	601.82	3.16	553.20	0.68
2009-2010	2108.72	51.96	320.41	1.80
2010-2011	2514.79	429.73	944.04	3.93
2011-2012	1855.02	505.44	2158.40	13.12
2012-2013	902.93	598.36	2808.27	1.35
Mean	1596.66	317.74	1356.86	4.18
SD	812.85	272.08	1076.98	5.15
C.V	50.91	85.63	79.37	123.21

Among the four Private Airline companies, the Operating Profit of Jet Airways Limited is more consistent as the co-efficient of variation is less and also Jet Airways Limited is having better Operating Profit as the average is higher.

The following table 3 gives the particulars of Private Airline companies Interest Earned during the period of 2008-2009 to 2012-2013

Table - 3, Interest Earned by the Selected Private Airline Companies (Rs.In crores)

Year	Jet Airways	Spice Jet	Kingfisher Airlines	Jagson Airlines
2008-2009	1450.86	266.32	2029.33	2.03
2009-2010	1824.74	374.95	2245.59	1.70
2010-2011	1872.72	409.78	2340.32	1.62
2011-2012	2011.24	439.68	1276.34	0.68
2012-2013	1118.98	52.26	1436.15	0.01
Mean	1655.71	308.60	1865.55	1.208
SD	364.73	157.57	481.72	0.837
C.V	22.03	51.06	25.82	69.29

Among the four Private Airline companies, Interest Earned of Jet Airways Limited is more consistent as the co-efficient of variation is less. Kingfisher Airlines is having better Interest Earned as the average is higher.

The following table 4 gives the particulars of Selected Private Airline companies Other Income Earned during the period of 2008-2009 to 2012-2013.



Table - 4, Other Income Earned by the Selected Private Airline Companies (Rs.In crores)

Year	Jet Airways	Spice Jet	Kingfisher Airlines	Jagson Airlines
2008-2009	443.75	143.59	598.90	034
2009-2010	249.82	97.03	333.30	0.39
2010-2011	250.57	61.01	81.58	1.07
2011-2012	252.71	71.32	330.50	17.66
2012-2013	657.12	75.85	182.08	0.49
Mean	425.39	89.76	305.27	3.99
SD	177.12	32.83	195.48	7.65
C.V	41.64	36.58	64.04	191.73

Among the four Private Airline companies, the other income earned of Spice Jet Limited is more consistent as the co-efficient of variation is less. Jet Airways Limited is having better other income earned as the average is higher. The following table 5 gives the particulars of Private Airline companies Employee expenses during the period of 2008-2009 to 2012-2013.

Table – 5, Employee Expenses of the Selected Private Airline Companies (Rs.In crores)

Year	Jet Airways	Spice Jet	Kingfisher Airlines	Jagson Airlines
2008-2009	1410.50	134.87	825.42	3.35
2009-2010	1226.55	146.28	689.38	4.70
2010-2011	1342.19	168.39	680.54	3.84
2011-2012	1599.49	231.45	669.51	1.43
2012-2013	1544.24	402.87	349.16	0.62
Mean	1424.59	216.77	642.80	2.788
SD	150.93	110.53	175.98	1.705
C.V	10.59	50.99	27.38	61.15

Among the four Private Airline companies, the Employee expenses of Jet Airways Limited are more consistent as the co-efficient of variation is less. Jet Airways Limited is having better Employee expenses as the average is higher.

The following table 6 gives the particulars of Private Airline companies other expenses like Raw Materials; Power & Fuel cost, Manufacturing expenses, Selling and Administration expenses, miscellaneous expenses during the period of 2008-2009 to 2012-2013.

Table -6, Other Expenses of the Selected Private Airline Companies (Rs.In crores)

Year	Jet Airways	Spice Jet	Kingfisher Airlines	Jagson Airlines
2008-2009	9558.82	1156.93	4996.95	4.54
2009-2010	7103.30	1595.13	4058.13	8.40
2010-2011	8925.54	1582.96	4608.80	9.81
2011-2012	11770.17	2142.62	6982.30	11.69
2012-2013	14405.42	4138.75	2960.49	0.73
Mean	10352.65	2123.28	4721.33	7.088
SD	2813.33	1179.75	1478.26	4.39
C.V	27.17	55.56	31.11	61.94



Among the four Selected Private Airline companies, the other expenses of Jet Airways Limited are more consistent as the co-efficient of variation is less. Jet Airways Limited are having better Other expenses as the average is higher.

GROWTH RATE OF THE SELECTED PRIVATE AIRLINES IN INDIA

The following table 7 highlights Operating Profit by the Private Airlines in India during the study period 2008-2009 to 2012-2013.

Table - 7, Operating Profit of the Jet Airways Limited during the period from 2008-2009 to 2012-2013

(Rs.In crores)

Year	Jet Airways		Spice Jet		Kingfisher Airlines		Jagson Airlines	
	Amount	G R	Amount	G R	Amount	G R	Amount	G R
2008-09	601.83	-	3.19	-	553.20	-	0.68	-
2009-10	2108.72	350.38	51.96	1628.84	320.41	57.92	1.80	264.71
2010-11	2514.79	119.26	429.73	827.04	944.04	294.63	3.93	218.33
2011-12	1855.02	73.76	505.44	117.62	2158.40	228.63	13.12	333.84
2012-13	902.93	48.67	598.36	118.38	2808.27	130.11	1.35	10.29

GR – Growth Rate

The data presented in the Table 7 shows that the amount of Operating Profit of Jet Airways Limited was at Rs. 601.08 crores in 2008-2009 and it has increased to Rs. 902.93 during the period of 2012-2013 with growth rate of 48.67. Operating Profit of Spice Jet was at Rs. 3.19 crore in 2008-2009 and it has increased to Rs. 598.36 during the period of 2012-2013 with growth rate of 118.38. Operating Profit in Kingfisher Airlines Limited was at Rs. 553.20 crores in 2008-2009 and it has increased to Rs. 2808.27 during the period of 2012-2013 with growth rate of 130.11.

Table – 8, Interest Earned by the Spice Jet Limited during the period from 2008-2009 to 2012-2013

(Rs.In crores)

Year	Jet Airways		Spice Jet		Kingfisher Airlines		Jagson Airlines	
	Amount	G R	Amount	G R	Amount	G R	Amount	G R
2008-09	1450.86	-	266.52	-	2029.33	-	2.03	-
2009-10	1824.74	125.77	374.95	59.12	2245.59	110.66	1.70	83.74
2010-11	1872.72	102.63	409.70	109.27	2340.32	104.22	1.62	95.29
2011-12	2011.24	107.40	439.68	107.32	1276.34	54.54	0.68	41.98
2012-13	1118.98	55.64	52.26	11.89	1436.15	112.52	0.01	1.47

The data presented in the Table 8 shows that the amount of Interest earned by the Jet Airways Limited was at Rs. 1450.86 crore in 2008-2009 and it has decreased to Rs. 1118.98 during the period of 2009-2010 with growth rate of 55.64. Interest earned by the Spice Jet Limited was at Rs. 266.52 crore in 2008-2009 and it has decreased to Rs. 52.26 during the period of 2012-2013 with growth rate of 11.89. Interest earned by the Kingfisher Airlines Limited was at Rs. 2029.33 crore in 2008-2009 and it has decreased to Rs. 1436 during the period of 2012-2013 with growth rate of 112.52. Interest earned by the Jagson Airlines Limited was at Rs. 2.03 crore in 2008-2009 and it has decreased to Rs. 0.01 during the period of 2012-2013 with growth rate of 1.47.



**Table – 9,Employee Expenses of the Jet Airways Limited during the period from 2008-2009 to 2012-2013
(Rs.In crores)**

Year	Jet Airways		Spice Jet		Kingfisher Airlines		Jagson Airlines	
	Amount	G R	Amount	G R	Amount	G R	Amount	G R
2008-09	1410.50	-	134.87	-	825.42	-	3.35	-
2009-10	1226.55	86.96	146.28	108.46	689.38	83.52	4.70	140.30
2010-11	1342.19	109.43	168.39	115.11	680.54	98.72	3.84	81.70
2011-12	1599.49	119.17	231.45	137.45	669.51	98.38	1.43	37.24
2012-13	1544.24	96.55	402.87	174.06	349.16	52.15	0.62	43.36

The data presented in the Table 9 shows that the amount of Employee expenses of the Jet Airways Limited was at Rs. 1410.50 crore in 2008-2009 and it has increased to Rs. 1544.24 during the period of 2012-2013 with growth rate of 96.55. Employee expenses of the Spice Jet Limited was at Rs. 134.87 crore in 2008-2009 and it has increased to Rs. 402.87 during the period of 2012-2013 with growth rate of 174.06. Employee expenses of the Kingfisher Airlines Limited was at Rs. 825.42 crore in 2008-2009 and it has increased to Rs. 349.16 during the period of 2012-2013 with growth rate of 52.15. Employee expenses of the Jagson Airlines Limited was at Rs. 3.35 crore in 2008-2009 and it has increased to Rs. 0.62 during the period of 2012-2013 with growth rate of 43.36

**Table -10,Other Expenses of the Jet Airways during the period 2008-09 to 2012-13
(Rs.In crores)**

Year	Jet Airways		Spice Jet		Kingfisher Airlines		Jagson Airlines	
	Amount	G R	Amount	G R	Amount	G R	Amount	G R
2008-09	9558.82	-	1156.93	-	4996.95	-	4.54	-
2009-10	7103.30	74.31	1595.13	137.88	4058.13	81.21	8.40	185.02
2010-11	8925.54	125.6	1582.96	99.24	4608.80	113.57	9.81	116.79
2011-12	11770.1	131.8	2142.62	135.36	6982.30	151.50	11.69	119.16
2012-13	14405.4	122.3	4138.75	193.16	2960.49	42.40	0.73	8.36

Table 10 shows that the amount of other expenses of the Jet Airways Limited was at Rs. 9558.82 crore in 2008-2009 and it has increased to Rs. 14405.42 during the period of 2012-2013 with growth rate of 122.39. Other expenses of the Spice Jet Limited was at Rs. 1156.93 crore in 2008-2009 and it has increased to Rs. 4138.75 during the period of 2012-2013 with growth rate of 193.16. Other expenses of the Kingfisher Airlines Limited was at Rs.4996.95 crore in 2008-2009 and it has increased to Rs. 2960.49 during the period of 2012-2013 with growth rate of 42.40. Other expenses of the Jagson Airlines Limited was at Rs. 4.54 crore in 2008-2009 and it has increased to Rs. 0.73 during the period of 2012-2013 with growth rate of 8.36.

CORRELATION

Correlation is a statistical measure that indicates the extent to which two or more variables fluctuate together. A positive correlation indicates the extent to which those variables increase or decrease in parallel; a negative correlation indicates the extent to which one variable increases as the other decreases.

CORRELATION ANALYSIS

Ho: There is no significant relationship between Income and Expenses of Selected Private Airline companies.

Ho: There is no significant relationship between other income and interest earned of Selected Private Airline companies.



Ho: There is no significant relationship between Employee Expenses and Other Expenses of Selected Private Airline companies.

Table -11, Correlation

COMPANY NAME	Income and Expenses	Other Income and Interest Earned	Employee Expenses and Other Expenses
JET AIRWAYS	+0.974	-0.9764	-0.9764
SPICE JET	+0.925	-0.1718	-0.1718
KINGFISHER AIRLINES	+0.765	-0.025	-0.025
JAGSON AIRLINES	+0.897	-0.3515	-0.3515

CONCLUSION

The Indian Aviation Sector has witnessed tremendous growth in the recent past which is driven by sound demographic, macroeconomic, government aided reforms & market dynamics. Almost 35 % of exports from India & 97% foreign tourists to India arrive by Air each year. Aviation sector has undergone a major facelift in past 5-6 years.

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