Passenger Occupancy And Z- Score Of Select Aviation Companies- An Empirical Study

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Abstract:

The last decade is vulnerable for the These changes also caused air carriers in India to incur significant losses especially in civil aviation sector. The present condition of civil aviation business in India is exposed to high risk and the industry is in distress condition as per various reports and media sources and this sector has seen considerable changes in operations due to economic downturns and high fuel prices. This sector is experiencing bad conditions to huge changes in Economic Environment, downturns and Market Variation. Passenger load factor is an important parameter for the assessment of the performance of any transport industry (Airlines Industry). It is considered as an performance indicator directly linked to the financial performance, financial health and profitability of transportation companies. Almost all airlines companies have high fixed costs, and these costs can only be recovered through selling tickets. In this context, they often calculate a load factor at which the airline will break even; this is called the break-even load factor.In light of the above, an attempt is made to calculate the passenger load factor, financial health of the companies using insolvency prediction model for selected civil aviation companies in India. This study is carried out for a period of seven years i.e. from 2014-2020.

Keywords: Civil Aviation Business, Passenger Load Factor, Financial Health and Insolvency Prediction Model.

Introduction

The airline business in India is characterized by unsteadyy growth which includee the volatility in jet fuel prices and increase in labour cost. Both financial and financial parameters collectively give an appropriate picture of the happenings in the company at basic level and industry at large. As far as Airline industry is considered, passenger load factor is also a crucial factor that provide a bench mark and shows whether the particular airline is in profit or not. Altman Z-score model is used to predict the insolvency of the firms and the impact of passenger load factor on Z-Score is assessed. The calculation and analysis of Altman's Z-score is conducted for selected Indian carriers.

Indian Aviation Sector and Present passenger traffic Scenario

"The civil aviation market in India is all set to become the world's third largest by 2020. Total passenger traffic stood at a 190.1 million in FY15, registering an increase of 12.47 per cent. By 2020, passenger traffic at Indian airports is expected to increase to 421 million from 190.1 million in 2015. Domestic passenger traffic expanded at a compound annual growth rate (CAGR) of 11.8 per cent over FY06–15. The Airports Authority of India (AAI) aims to bring around 250 airports under operation across the country by 2020.Passengers carried by domestic airlines during January-October 2016 were 813.70 lakh as against 660.60 lakh during the corresponding period of previous year thereby registering a growth of 23.18 percent".[1]

Insolvency Prediction of Companies: The insolvency prediction of companies is calculated using Altman's Z –Score Model.

Passenger Occupancy: "Passenger occupancy measures the capacity utilization of transport services used for public like civil aviation, railways carrying passengers, and intercity bus services. It is generally used to assess how efficiently a transport provider fills seats and generates fare revenue. According to the International Air Transport Association, the worldwide load factor or occupancy ratio for the passenger aviation industry during 2015 was 79.7% according to sources".[3]

Passenger load factor is an important parameter for the assessment of the performance of any transport system. Almost all transport systems have high fixed costs, and these costs can only be recovered through selling tickets. Airlines often calculate a load factor at which the airline will break even; this is called the break-even load factor. At a load factor lower than the break even level, the airline will lose money, and above will record a profit.

Review of Literature

Safiuddin Syed Khaja(2019) in two different studies, one on passenger occupancy and financial health of the select civil aviation companies during 2007-2016 and found that despite high occupancy, most of the companies are in distress zone and another on the impact of passenger load factor on the financial health of the select civil aviation companies and the study revealed that the passenger occupancy of selected civil aviation companies do not have impact on the financial health of the companies. In 2018, he studied the financial health of select Indian Aviation Companies, out of the four companies selected, it was found that two companies are the potential candidate of bankruptcy despite of many measures. Monique Timmermans (2014) studied U.S. Corporate Bankruptcy Predicting models to see how accurate are the bankruptcy predicting models of Altman(1968), Ohlson(1980) and Zmijewski(1984) after recalibration, when they are applied to U.S. listed firms in the period after the BACPA change in bankruptcy law? The predictive power of all three models is low, but for Altman(1964) and Ohlson(1980) bankruptcies are overpredicted, as was expected. For

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[1] www.ibef.org/industry/indian-aviation.aspx

the model of Zmijewski(1984), the amount of non-bankruptcies was overpredicted, which is contrary to what was expected. Ummed & Omvir (2012) in their study Distress Prediction Model-Model for predicting Bankruptcy in Aviation Industry found that of the three firms having Z-Score less than 2.60, two have been declared bankrupt. The lending institution has recalled term loan from one firm. Only one firm is financially stable.

Recent past also , Indian aviation has seen one of the vulnerable sector where companies are going bankrupt whether Kingfisher airlines or any other airlines. Moreover Indian aviation sector has been in trouble in recent times because of financial distress and it is common for both private as well as government owned Air India.

The objectives of the study are to measure the financial health of Select Aviation Companies in India using Insolvency Prediction Model and also to measure the passenger load factor of these companies and come out with findings and suggestions. Seven companies from Indian Civil Aviation Industry are considered for analysis in this study.

Passenger Load Factor and Z-Score of Selected Civil Aviation Companies
(Source: Calculated from the data collected from capitaline database and

Year	Indigo PLF	Indigo Z-Score	Spicejet PLF	Spicejet Z-Score	Air India PLF	Air India Z-Score	GoAir PLF	GoAir Z-Score	Vistara PLF	Vistara Z-Score	Alliance Air PLF	Alliance Air Z-Score	Air India Express PLF	Air India Express Z-Score
2014	79.4	2.80	81.8	-14.94	77.2	2.67	79.1	4.05	-	3.2	68.3	10.93	73.5	3.2
2015	84.1	4.62	91	-17.44	79.2	2.77	83.7	3.62	69.4	3.2	66.5	10.22	80.1	-11.12
2016	85.2	6.35	92.9	-8.81	79.2	4.62	88	3.94	78	-7.04	68.8	3.2	59.2	-5.94
2017	88.2	5.49	94.7	-3.55	80.5	2.45	88.6	4.55	85.9	-27.82	78.2	3.2	60.7	3.2
2018	86.8	5.71	93	-0.32	81.1	1.91	88.4	4.33	84.2	2.89	69.1	3.2	64.1	2.71
2019	86.8	4.82	93	-2.63	84.3	0.94	88.4	5.29	84.2	3.30	69.1	16.93	64.1	2.64
2020	87.1	4.27	92	-0.53	84.5	0.74	89.1	2.03	81.8	1.79	65.4	2.16	61.8	-0.54

http://dgca.nic.in)

S.No.	Name of the Airline Company	Beta Value	R-Square Value	Sig. value
1	Indigo	0.683	0.467	0.062
2	Spicejet	0.225	0.051	0.592

3	Air India	0.05	0.003	0.906
4	GoAir	0.247	0.061	0.556
5	Vistara	-0.294	0.086	0.48
6	Alliance Air	0.124	0.015	0.769
7	Air India Express	-0.24	0.058	0.567

(Source: Data extracted from output of analysis in SPSS)

Observations and Findings

The passenger load factor of Indigo Airline over the years is more than 80% except for the years 2014 and 2021. But most of the years the company is either in distress zone or grey zone except for one-year i. e. 2016, the company is in the safe zone.The passenger load factor of SpiceJet over the years is more than 90% except for the years 2014 and 2021. But whole of the years, company is in distress zone with a negative Z-score. The passenger load factor of Air India over the years is more than 75% except for the year 2021. But most of the years company is in distress zone except for the year 2016 where company is in grey zone.The passenger load factor of GoAir over the years is more than 80% except for the years 2014 and 2021. But whole of the years the company is either in grey zone or in distress zone.The passenger load factor of Vistara over the years is more than 75% except for the years 2014, 2015, and 2021 but in the year 2014, there is no any passenger load factor is available. But whole of the years, the company is in distress zone.   The passenger load factor of Alliance Air over the years is more than 65% except for the year 2021. But most of the years, company is either in distress zone or in safe zone.The passenger load factor of Air India Express over the years is more than 60% except for the years 2016 and 2021. But whole of the years, the company is in distress zone with either negative or positive Z-score.

From the regression analysis, it is revealed that the r-square value is 0.467   with a significant value of 0.062 which means that there is no significant impact of passenger occupancy on the financial health of the indigo airlines. In case of Spicejet, it is also revealed that the r-square value is 0.051 with a significant value of 0.592 which means that there is no significant impact of passenger occupancy on the financial health of the Spicejet.   In case of Air India, it is also revealed that the r-square value is 0.003with a significant value of 0.906 which means that there is no significant impact of passenger occupancy on the financial health of Air India. In case of GoAir, it is also revealed that the r-square value is 0.061 with a significant value of 0.556 which means that there is no significant impact of passenger occupancy on the financial health of the GoAir. In case of Vistara, it is also revealed that the r-square value is 0.086 with a significant value of 0.48 which means that there is no significant impact of passenger occupancy on the financial health of the Vistara. In case of   Alliance Air,   it is also revealed that the r-square value is 0.015 with a significant value of 0.769 which means that there is

no significant impact of passenger occupancy on the financial health of Alliance Air. In case of Alliance Air, it is also revealed that the r-square value is 0.015 with a significant value of 0.769 which means that there is no significant impact of passenger occupancy on the financial health of Alliance Air. In case of Air India Express, it is also revealed that the r-square value is 0.058with a significant value of 0.567which means that there is no significant impact of passenger occupancy on the financial health of Air India Express.

Conclusion and Suggestions

From the above analysis, it is concluded that the passenger load factor of Indigo Airline is more than 80%, and the passenger occupancy of the company has 46.7 % impact on its financial health, the company is in the safe zone. The passenger load factor of SpiceJet over the years is more than 90% and the passenger occupancy of the company has 5.1 % impact on it financial health, the company is in distress zone. The passenger load factor of Air India over the years is more than 75% and the passenger occupancy of the company has 0.3 % impact on it financial health, the company is in distress zone. The passenger load factor of GoAir over the years is more than 80%, and the passenger occupancy of the company has 6.1 % impact on its financial health, the company is either in grey zone or in distress zone. The passenger load factor of Vistara over the years is more than 75% and the passenger occupancy of the company has 8.6 % impact on it financial health, the company is in distress zone. The passenger load factor of Alliance Air over the years is more than 65%, and the passenger occupancy of the company has1.5 % impact on its financial health, the company is either in distress zone or in safe zone. The passenger load factor of Air India Express over the years is more than 60% and the passenger occupancy of the company has 5.8 % impact on it financial health, the company is in distress zone.

The Airline companies in India are prone to financial distress because of many reasons. Aviation sector has already seen many bankruptcy filings in the world. The present study reveals that the financial health of all the selected Indian Airlines companies is either in grey zone or in distress zone despite of very high occupancy. These companies need to take necessary corrective measures to prevent them from possible bankruptcy.

It is suggested that all the selected aviation companies needs to enhance its earnings through expansion of the business and adopting new policies for development of the business. Several schemes may be introduced to attract customers and improve the earning ability of the firm. The pricing strategy of the airlines companies and the cost management policies should be reconsidered.

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