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An empirical analysis of environmental factors governing financial performance of Indian aviation sector

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Abstract
This research makes a humble effort to analyse the environmental and economic factors which are instrumental towards influencing the financial performance of the Indian aviation industry, focusing on three key Indian airline company, Air India, Jet Airways, and SpiceJet over the period 2004–05 to 2018–19. The study period highlights the phase of liberalization, rising competition, escalation of fuel price and economic instability that significantly affected the profitability of the sector. Regression analysis is used as a diagnostictools to explores the relationship between various select financial ratios and Earnings Per Share (EPS). The results disclose that the Debt-Equity Ratio (DER) negatively influences EPS, signifying the sector's susceptibility to high leverage, on the other hand the Current Ratio (CR) shows a noteworthy positive influence, emphasizing the prominence of liquidity in this sector. The findings of the research signal the aviation companies towards financial restructuring in order to sustain in this volatile industry.

Keywords: Financial performance, Indian aviation sector, regression analysis, environmental factors

Introduction

Background of the study

The period from 2004–05 to 2018–19 may be regarded as a transformative phase in the evolution of the Indian aviation industry. The liberalization of the sector, increasing participation of private airlines, emergence of low-cost carriers, expansion of airport infrastructure, rising disposable incomes, and growing affordability of air travel contributed significantly to the expansion of passenger traffic and the overall size of the Indian aviation market. The entry and expansion of low-cost carriers intensified competition and made air travel accessible to a wider segment of the population. However, the rapid expansion of the industry was accompanied by considerable financial and operational challenges. The Indian airline industry increasingly faced a difficult combination of high operating costs, aggressive price competition, excess capacity, volatile aviation turbine fuel (ATF) prices, exchange-rate fluctuations, and infrastructural and regulatory constraints (Saranga & Nagpal, 2016) [23]. The competitive transformation of the industry became particularly evident following the entry of low-cost carriers. The period between 2003 and 2006 witnessed the entry and expansion of several low-cost airlines, which intensified price competition and substantially altered the structure of the Indian aviation market. Although passenger traffic increased considerably, the associated price competition and rising operating costs adversely affected airline profitability. Research indicates that the industry's EBITDA margin declined to negative levels during the late 2000s, leading to financial stress, consolidation, exit of weaker airlines, and restructuring within the industry (Saranga & Nagpal, 2016) [23]. Thus, the substantial growth in passenger traffic did not necessarily translate into corresponding improvements in the financial performance of individual airlines.

The financial performance of airlines is particularly sensitive to changes in the external business environment because the industry operates with high fixed costs, substantial capital requirements, and significant exposure to fuel and foreign-exchange movements. Among the external factors, ATF prices constitute one of the most important determinants of airline profitability. Mahtani and Garg (2018) [19], in their analysis of financial distress among Indian airline companies, found that fuel price was the most important factor within the external environmental category. Their study further established that inflation and GDP growth also exerted significant influence on the sustainability of Indian airlines.

These findings suggest that airline financial performance cannot be evaluated exclusively through firm-specific financial ratios; rather, it needs to be examined within the broader economic and industry environment. The volatility of ATF prices represents a major challenge because fuel constitutes a substantial component of airline operating expenditure. An increase in crude oil and ATF prices directly raises operating costs and can significantly reduce operating margins, particularly when airlines are unable to pass the increased costs on to passengers because of intense price competition. The problem is further aggravated by fluctuations in the exchange rate because aviation fuel, aircraft leases, maintenance expenditure, and several other airline-related costs have significant foreign-currency components. The experience of Air India during 2018 [19]–19 illustrates this vulnerability. According to the Ministry of Civil Aviation (2019), Air India's ATF expenditure increased substantially during the year, while exchange-rate variation also increased considerably because of the

depreciation of the Indian rupee against the U.S. dollar. In addition to fuel prices and exchange rates, macroeconomic conditions constitute another important environmental determinant of airline performance. Economic growth affects disposable income, business activity, tourism, and consequently the demand for air travel. Conversely, inflation can increase labour, maintenance, airport, and other operating costs, thereby placing pressure on airline profitability. Mahtani and Garg (2018) [19] found that both GDP growth and inflation were important external factors influencing the financial sustainability of Indian airlines. This indicates that changes in the macroeconomic environment can have both demand-side and cost-side consequences for airline companies.

The Indian aviation industry is also characterized by intense competitive pressure and considerable price sensitivity among passengers. Saranga and Nagpal (2016) [23] observed that high fuel prices, overcapacity, intense price competition, and taxation contributed to making India a particularly challenging aviation market. Their empirical analysis further suggested that operational and technical efficiency plays an important role in determining airline market performance. Consequently, the financial performance of an airline is influenced not only by macroeconomic variables but also by industry-specific factors such as passenger load factor, capacity utilisation, fleet utilisation, operating efficiency, route structure, pricing strategy, and competitive intensity.

Operational efficiency assumes particular significance because airlines incur substantial costs regardless of the level of passenger demand. A low passenger load factor, inefficient aircraft utilisation, excessive capacity, or inappropriate route deployment may increase the cost per passenger and adversely affect profitability. Existing evidence suggests that load factor is among the important operational determinants of financial sustainability in the Indian airline industry (Mahtani & Garg, 2018) [19]. Similarly, research based on Indian airline data has demonstrated that technical efficiency can contribute to better market performance through improved pricing power, while cost efficiency is influenced by several structural and operational characteristics (Saranga & Nagpal, 2016) [23].

The period under consideration also witnessed substantial changes in the competitive and institutional structure of the Indian aviation sector. The emergence of new private carriers, expansion of low-cost airlines, consolidation among existing operators, and the financial distress and eventual exit of some major airlines significantly altered the competitive landscape. The difficulties experienced by airlines such as Kingfisher Airlines and Jet Airways demonstrate that rapid market expansion alone cannot guarantee financial sustainability. Instead, the ability of an airline to control costs, manage capacity, maintain adequate liquidity, respond to competitive pressures, and adapt to changes in the external environment is critical for its long-term survival. Infrastructure and regulatory conditions also constitute important environmental dimensions affecting airline performance.

Airport capacity, airport charges, air-navigation infrastructure, taxation, regulatory requirements, and the availability of appropriate aviation infrastructure can influence both the cost structure and operational efficiency of airlines. The Government of India has progressively expanded aviation infrastructure in response to rising passenger demand, and the Ministry of Civil Aviation's annual reports provide evidence of the continuing growth in scheduled airline operations, passenger traffic, available seat kilometres, and passenger kilometres during the study period (Ministry of Civil Aviation, 2019). The financial difficulties experienced by Indian airlines during the study period therefore reflect the interaction of firm-specific characteristics and external environmental conditions. Financial performance may be affected by profitability, liquidity, solvency, capital structure, asset utilisation, and managerial efficiency at the firm level, while fuel prices, inflation, GDP growth, exchange rates, competitive intensity, passenger demand, taxation, infrastructure, and regulatory conditions operate as external determinants. Mahtani and Garg (2018) [19] emphasised that both internal and external environmental factors change dynamically and can contribute to financial distress in Indian airline companies.

Against this background, the present study attempts to examine the environmental factors influencing the financial performance of selected Indian airline companies during 2004–05 to 2018 [19]–19. The study focuses on three selected airline companies, namely Air India, SpiceJet, and Jet Airways, representing different ownership and organizational characteristics within the Indian aviation industry. The selection of these companies through convenience sampling enables a comparative assessment of their financial strengths and weaknesses over the study period. The inclusion of both public-sector and private-sector airlines also provides an opportunity to examine whether differences in ownership structure and business models are reflected in their financial outcomes.

Past Studies

Ratio based analysis deploying regression techniques have been applied in several empirical research to assess the financial performance of both Indian and foreign aviation sector. Saranga and Nagpal (2016) [23] applied two stage approaches: Data Envelopment Analysis (DEA) followed by GLS regression and Tobit models to gauge the operational efficiency and market performance of Indian aviation industry from 2005-2012 [18]. Divekar & Sukhari 2021focussed to study the persistent insolvency of the Indian aviation using financial ratios and discriminant analysis. Hashim (2003) attempted to relate unit cost with productivity of airline companies using Regression Analysis and Augmented Dickey-Fuller Test. Hazarika & Boukareva (2016) [13] analyzed the major Airline Companies in UAE to see if there is any significant impact of the macroeconomic indicators on the financial performance of the airline companies. It was found that companies can create wealth either by increasing profit per employee or by increasing the number of employees earning such profits, or both. However, there remains a paucity of airline studies involving regression analysis. The current study addresses this gap by applying regression across multiple financial indicators like liquidity, leverage, and profitability for select Indian airline companies: Air India, Jet Airways, and SpiceJet—providing novel acumen into factor-specific impacts on Earning per Share (EPS).

Objectives of the Study

The main objectives of the study are as follows:

1. To explore the significant determinants governing financial performance of the companies in Indian aviation sector through regression model;
2. To study the Relationship among EPS [Dependent Variable (DV)] and Proprietary Ratio (PR), Debt Equity Ratio (DER), Total Investment to Total Asset Ratio (TITAR), Fixed Asset to Total Asset Ratio (FATAR), Return on Asset Ratio (RAR), Return on Net worth Ratio (RNWR), Net Profit Margin Ratio (RNPMR), Net Income to Shareholders Equity Ratio (ROER), Current asset to Total Asset Ratio (CATAR) and Current Ratio (CR) [Independent Variables (IVs)] during the study period using MLRA.

Research Methodology

1. Data Set

Table 1: Summary of Data Set

Sample Drawn	Basis of Sampling	Time Period of survey
Financial data of three airline companies, Air India, Jet Airways & Spice Jet has been selected. Financial Data has been acquired from their respective Financial Statements like, Profit & loss Account, Balance Sheet & Cash Flow Statement. Based on the absolute figures of the financial statement, financial ratios have been constituted.	Convenience Sampling is used to select three airline companies. Only in the case of these three companies' continuous financial data is available for the selected period of study.	Secondary data for the chapter has been collected from 2004-05 to 2018-19 from the financial statements of respective airlines. Financial Statements of the select airline companies were collected from Capitaline Database and DGCA website.

2. Method of Analysis

Table 2: Description of CAMEL Ratios used for the Study

Category	Ratios	Significance
Capital Adequacy (C)	1.Proprietary Ratio	This ratio is a general indicator of financial stability and is useful to assess the ratio of shareholder's funds employed out of the total assets of the company.
	2. Debt Equity Ratio	This ratio indicates the airline company's financial leverage. The ideal debt to equity ratio will vary depending on the industry because some industries use more debt financing than other. Higher debt-equity ratio, however, indicates high risk.
Asset Quality (A)	1. Total Investment to Total Asset Ratio	This ratio is used as a tool to measure the percentage of total assets locked up in investments, which does not form part of the core income of the airline industry. A higher ratio means the airline company has conservatively kept a high cushion of investment to guard future loss if any.
	2. Fixed Asset to Total Asset Ratio	It indicates how much fixed assets are held by a company in comparison to total asset. It shows the extent to which company funds are frozen in the form of fixed assets and cannot be used as working capital.
Management Efficiency (M)	1. Return on Asset Ratio	The ratio is a metric that indicates a company's profitability in relation to its total assets. Return on Assets can be used to determine whether a company uses its assets efficiently to generate a profit. A higher Return on Assets means a company is more efficient and productive at managing its balance sheet to generate profits while a lower Return on Assets indicates there is room for improvement.
	2. Return on Net Worth Ratio	The ratio is expressed as the relationship between net profit after tax to net worth, where Net worth refers to the residual value of a business obtained by deducting total liabilities from total assets, indicating the owners' funds or shareholders' equity. High Return on Net Worth Ratio is desirable. Net Worth = Equity and Preference Share Capital + Reserves & Surplus− Accumulated Losses.
Earnings (E)	1. Net Profit Margin Ratio	The ratio signifies the percentage by which a company's total sales revenue exceeds or is less than the sum of its expenses. If a company has a positive net profit margin during a certain period of time, it means the company made more money during that period than it spent whereas a negative net profit margin means the company spent more than it made.
	2. Return on Equity (ROE) Ratio using Average Shareholders' Equity	ROE using average Shareholders' equity is widely preferred in financial analysis because it captures the firm's true earning performance over a period, rather than relying on a single-point (year-end) equity figure. Shareholders' equity refers to the residual ownership interest of shareholders in a company's assets after deducting all liabilities, representing the net worth of the business. A high ROE suggests better returns to equity investors, making the firm more attractive for investment
Liquidity (L)	1. Current Asset to Total Asset Ratio	The proportion of liquid asset to total assets indicates the overall liquidity position of the company.
	2. Current Ratio	It is an efficiency ratio that measures the company's ability to pay off its short-term liabilities with its current assets.

Financial ratio	
1. Earnings per Share Ratio (EPS)	EPS is an indicator of a company's profitability. EPS indicates how much money a company makes for each share of its stock, and is a widely used metric to estimate corporate value.

[**Source:** Rostami (2015) [22] & Srinivasan & Saminathan, 2016 [25]]

3. Application of Statistical Tools

The statistical tests on different parameters with objectives are mentioned here:

Table 3: Application of Statistical Tools

Objectives	Statistical Tools
To explore the significant determinants governing financial performance of the companies in Indian aviation sector through regression model	Regression analysis is done through Multiple Linear Regression

[The statistical software SPSS version 25 has been used for the analysis.]

Results and Discussions

1. Exploring the significant determinants governing financial performance of the companies in Indian aviation sector using Multiple Linear Regression Analysis (MLRA)

a. Methodology for the MLRA

In this section, the methodology to conduct the Multiple Linear Regression Analysis is made in the following way:

1. Estimation of Regression Coefficients

The MLRA is a flexible process to analyze the association between the dependent variable (DV) and independent variables (IVs). Multiple Linear Regression Analysis involves between a single dependent variable and two or more independent variables. The general form of MLRA is as follows (Malhotra, 2006) [20]:

$\Rightarrow$ $Y = \beta 0 + \beta 1\ X1 + \beta 2\ X2 + \beta 3\ X3 + \ldots\ldots\ldots\ldots\ldots\ldots \beta k\ X_k + e$

Where,

- $\beta 0$ = Regression constant;
- e = Error of prediction;
- $\beta 1$ to β_k are the coefficients relating the k independent variables;
- Y= Value of dependent variable;
- X_k = Independent Variable.

This is estimated by following way

$\Rightarrow Y = a + b_1 X_1 + b_2 X_2 + b_3 X_3 + \ldots\ldots\ldots\ldots\ldots\ldots \beta_k X_k$

Where, Y is dependent variable which is predicted. X1, X2, X3.....and X_k are the k known variables on which prediction are made and a, b1, b2, b3.....and b_k are unknown regression coefficients, these values are determined by the method of least square (Kulkarni, 2008) [17].

2. Significant Testing of Regression Coefficient

Significance of coefficient is statistically tested by t-test in the presence of all other explanatory variables. It is conducted under following methodology:

Hypothesis	▪ H_0: There is no linear relationship between individual IVs and DV ▪ H_1: There is a linear relationship exists between individual IVs and DV
Period of Test	2004-05 to 2018-19
Test Statistic	t Test
Significant Level	5%
Decision Rule	If P−Value is less than 0.05, H_0 is rejected.

The test statistics t is measured with degrees of freedom for n (observations).

3. Strength of Association

The strength of association is measured by the square of the multiple correlation coefficients. The value of Adjusted R^2 lies between 0 and 1. More the value is close to 1, more the strength of association between DV and corresponding IVs.

4. Model Fitness

With the help of the multiple correlation coefficient (R), the significant test is conducted by F statistic with k and degrees of freedom for n (observations) (Malhotra, 2006) [20]. It is conducted using the following methodology (Gujarati & Porter, 2009) [9]:

Hypothesis	▪ H_0: All slope coefficients are simultaneously zero ▪ H_1: Not all slope coefficients are simultaneously zero
Period of Test	2004-05 to 2018-19
Test Statistic	F Test
Significant Level	5%
Decision Rule	If P−Value is less than 0.05, H_0 is rejected.

The test statistics is F distribution.

2. Studying the Relationship among EPS [Dependent Variable (DV)] and Proprietary Ratio (PR), Debt Equity Ratio (DER), Total Investment to Total Asset Ratio (TITAR), Fixed Asset to Total Asset Ratio (FATAR), Return on Asset Ratio (RAR), Return on Net worth Ratio (RNWR), Net Profit Margin Ratio (RNPMR), Net Income to Shareholders Equity Ratio (ROER), Current asset to Total Asset Ratio (CATAR) and Current Ratio (CR) [Independent Variables (IVs)] during the study period using MLRA

In this segment, an attempt has been made to draw a linear relationship between the CAMEL Ratios (independent variables) and EPS (dependent) variables. Once each of the independent variables has been determined to predict the dependent variable, the information on the multiple variables is used to create an accurate prediction on the level of effect they have on the dependent variable. The model creates a relationship in the form of a straight line (linear) that best approximates all the individual data points (Hayes, 2008) [11].

a. Assumption for the MLRA

1. Assumption-1: Two or more independent variables in regression

Ten CAMEL ratios like Proprietary Ratio, Debt Equity Ratio, Total Investment to Total Asset Ratio, Fixed Asset to Total Asset Ratio, Return on Asset Ratio, Return on Net worth Ratio, Net Profit margin Ratio, ROE ratio, Current asset to Total Asset ratio and Current Ratio are considered as independent variables hence the first assumption of MLRA is satisfied.

2. Assumption-2: Independence of residuals

In this section, the independence of observations is analyzed by the Durbin-Watson test. The result is shown as under:

Table 4: Result of Model Summary

Model	Durbin Watson
1	1.698

[**Source:** Compilation of Secondary Data using SPSS 20.0]

Findings

The value of the Durbin−Watson statistic ranges from 0 to 4 (Kenton, 2010) [15]. If the Durbin−Watson statistic is approximately to a value close to 0 indicates strong positive serial correlation, while a value close to 4 indicates strong negative serial correlation (Gujarati & Porter, 2009) [9]. The Durbin-Watson statistic value is 2 or nearly 2 that indicates no correlation (SAP Documentation, 2020) [4]. Here, the Durbin−Watson statistic is 1.650 in Table−4, the observations are independent.

3. Assumption-3: Linearity between dependent and independent variables

In the current section, the relationship is checked between DV and IVs. The methodology is adopted as under:

Hypothesis	♦ H_0: There is no linear relationship between the DV and IVs. ♦ H_1: There is a linear relationship between DV and IVs
Period of Test	2004-05 to 2018-19
Test Statistic	F Test
Significant Level	5%
Decision Rule	If P−Value is less than 0.05, H_0 is rejected.

The result of the ANOVA is shown below:

Table 5: Result of F Test

Model		Statistic	P-Value	Decision Rule	Decision on H_0
1	Linear Relationship between EPS and Independent Variables of Select Airline Companies	2.277	0.040	P-Value<0.05	Rejected

[**Source:** Compilation of Secondary Data using SPSS 20.0]

Findings

P−Value is less than 0.05 at a 5% significant level, H_0 is rejected and there is a linear significant relationship between the DV and IVs. So, the model is useful.

4. Assumption−4: Homoscedasticity of residuals

Homoscedasticity is an error term or noise in relationship of DV and IVs. Homoscedasticity means the homogeneous variance. Homoscedasticity is tested by the Breusch−Pagan (BP) test (University of Wisconsin Madison, 2024). Under this method, unstandardized residuals (Res_1) and unstandardized predicted values (Pre_1) are saved from linear regression and following result, under the Breusch−Pagan (BP) test, is calculated with the help of SPSS 20.0. The Methodology of Breusch− Pagan (BP) (Gujarati & Porter, 2009) [9] test is as follow:

Hypothesis	• H_0: The error variances are homoscedastic. • H_1: The error variances are not homoscedastic
Period of Test	2004-05 to 2018-19
Test Statistic	Breusch− Pagan (BP) Test
Significant Level	5%
Decision Rule	If P−Value is less than 0.05, H_0 is rejected.

The output of the BP test is analyzed as below

Table 6: Result of Breusch− Pagan (BP) Test

Model		Statistic	P-Value	Decision Rule	Decision on H_0
1	Unstandardized Residuals (Res_1)	0.881	0.551	P−Value >0.05	Accepted

[**Source:** Compilation of Secondary Data using SPSS 20.0]

Findings

P-Value is greater than 0.05 at 5 % significant level; there is no evidence to reject the Null Hypothesis. The residuals are homogeneous. So, the regression analysis is no tendency in error terms.

5. Assumption−5: No collinearity or no Multicollinearity

Multicollinearity inflates the standard errors. The Variance Inflation Factor (VIF) shows the impact of Multicollinearity among the variables in a regression model. VIF is 1 ÷ Tolerance, if Tolerance is greater than 0.1 (Tolerance >0.1) and VIF is less than 10 (VIF < 10), then it is found that there is no occurrence of Multicollinearity. The values of VIF that exceed 10 are often regarded as indicating Multicollinearity (Hayes, 2010) [12]. The result of collinearity statistics is given below:

Table 7: Result of Collinearity Statistic

Parameters	Tolerance	VIF (Variation Inflation Factor)
Debt Equity Ratio	0.554	1.807
Total Investment to Total Asset Ratio	0.534	1.874
Fixed Asset to Total Asset Ratio	0.416	2.402
Return on Asset Ratio	0.413	2.424
Return on Net worth Ratio	0.551	1.813
Net Profit Margin Ratio	0.866	1.154
Net Income to Shareholders Equity Ratio	0.101	9.909
Current Assets to Total Asset Ratio	0.111	9.044
Current Ratio	0.372	2.686

[**Source:** Compilation of Secondary Data using SPSS 20.0]

Findings

The value of Tolerance is greater than 0.1 and the value of VIF are less than 10 for all parameters. So, the models are acceptable and there is no occurrence of Multicollinearity.

3. Multiple Linear Regression Analysis

After analyzing the above assumptions and considering the methodology, the MLRA is conducted here.

1. stimated Model Coefficients

The model coefficients are calculated on the role of Debt Equity Ratio, Total Investment by Total Asset Ratio, Fixed Asset to Total Asset Ratio, Return on Asset Ratio, Return on Net worth Ratio, ROE Ratio, Current Asset to Total Asset Ratio, and Current Ratio using SPSS 20.0. The test results are as follows:

Table 8: Result of Estimated Unstandardized Coefficients

Parameters	Unstandardized (B)
Constant	-96.633
Debt Equity Ratio (DER)	-1.102
Total Investment by Total Asset Ratio (TITAR)	63.002
Fixed Asset to Total Asset Ratio (FATAR)	7.987
Return on Asset Ratio (RAR)	9.701
Return on Net worth Ratio (RNWR)	5.148
Net Profit Margin Ratio (NPMR)	0.945
Net Income to Shareholders Equity Ratio (ROER)	-42.578
Current Assets to Total Asset Ratio (CATAR)	-4.258
Current Ratio (CR)	21.569

[**Source:** Compilation of Secondary Data using SPSS 20.0]

Findings

The estimated regression equation on the basis of Table-8 is given as under:

$\Rightarrow$ EPS =-96.633 -1.102 (DER) +63.002 (TITAR) +7.987 (FATAR) + 9.701(RAR) + 5.148 (RNWR) + 0.945 (NPMR) – 42.578 (ROER) – 4.258 (CATAR) +21.569 (CR).

TATAR, FATAR, RAR, RNWR, NPMR, and CR impacted positively the increase of EPS of the select airline companies. DER, ROER, and, CATR impacted negatively the increase of EPS of select Airline companies during the period of study.

2. Test of Significance of Variable

Under this section, variables are tested to verify the significant effect on the change in EPS. The test result is shown as follows:

Table 9: Test of Significance

Parameters	t	P- Value	Decision Rule	Decision on H_0 *(H_0: No significant relationship exists between individual IV and DV)*
Debt Equity Ratio (DER)	-1.068	0.029	P−Value<0.05	Rejected
Total Investment by Total Asset Ratio (TITAR)	0.311	0.758	P−Value>0.05	Accepted
Fixed Asset to Total Asset Ratio (FATAR)	0.240	0.812	P−Value>0.05	Accepted
Return on Asset Ratio (RAR)	0.406	0.688	P−Value>0.05	Accepted
Return on Net worth Ratio (RNWR)	1.185	0.244	P−Value>0.05	Accepted
Net Profit Margin Ratio (NPMR)	0.125	0.901	P−Value>0.05	Accepted
Net Income to Shareholders Equity Ratio (ROER)	-1.424	0.163	P−Value>0.05	Accepted
Current Assets to Total Asset Ratio (CATAR)	-1.592	0.120	P−Value>0.05	Accepted
Current Ratio (CR)	2.147	0.039	P−Value<0.05	Rejected

[**Source**: Compilation of Secondary Data using SPSS 20.0]

Findings

DER, and CR are significant to predict the change in EPS. However, TITAR, FATAR, RAR, RNWR, NPMR, ROER, and CATAR do not predict significantly to the change of EPS during the period of study.

3. Strength of Association

R, R Square and Adjusted R Square show the validity of the MLRA. These are explained as below:

Table 10: Result of Model Summary

Model	R	R Square	Adjusted R Square
1	0.608	0.369	0.207

[**Source:** Compilation of Secondary Data using SPSS 20.0]

Findings

R's value reports strength of the association; it is 60.8 %. The percentage in prediction of DV is evaluated by R Square; this is 36.9 %. Adjusted R Square measures goodness of fit; this is 20.7%.

4. Model Fitness

The overall model fitness is justified using F -test. The test result is shown as below:

Table 11: Results of F Test

	Model	Statistic	P-Value	Decision Rule	Decision on H_0
1	Linear Relationship between EPS and Independent Variables of Select Airline Companies	2.277	0.040	P-Value<0.05	Rejected

[**Source:** Compilation of Secondary Data using SPSS 20.0]

Findings

P−Value is less than 0.05 and the Null Hypothesis is rejected. This model is a good fit. It shows that the change in EPS significantly predicts the change in DE and CR during the period of study.

Conclusion

In the current study a Multiple Linear Regression Analysis (MLRA) was conducted to study the inter-relationship

between Earnings per Share (EPS) and a set of CAMEL based ratios for select airline companies operating in India. The estimated regression model revealed that ratios like Total Investment to Total Asset Ratio (TITAR), Fixed Asset to Total Asset Ratio (FATAR), Return on Asset Ratio (RAR), Return on Net worth Ratio (RNWR), Net Profit Margin Ratio (NPMR), and Current Ratio (CR) had a positive influence on EPS, whereas Debt Equity Ratio (DER), Return on Equity Ratio (ROER), and Current Asset to Total Asset Ratio (CATAR) had a negative influence. However, significance testing proved that, only DER has negative impact and CR has positive impact on EPS which significantly predicts the variation in EPS. Thus, it can be concluded that capital structure, represented by DER and short-term liquidity strength represented by CR are the most critical determinants of EPS for the airline companies during the study period. Moreover, the outcomes highlight the fact that to enhance the shareholders' value in the aviation industry it is utmost important for the management to work towards efficient debt management and maintaining a healthy liquidity position in the business.

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