

# Measuring Financial Soundness of Indian Telecom Companies – A Comparative Analysis

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## Abstract

*The Indian telecom industry underwent a high pace of market liberalization and growth since 1990s and now has become the world's most competitive and one of the fastest growing telecom markets. The Industry has grown over twenty times in just ten years, from under 37 million subscribers in the year 2001 to over 846 million subscribers in the year 2011. India has the world's second-largest mobile phone user base with over 929.37 million users as of May 2012. It has the world's third-largest Internet user-base with over 137 million as of June 2012. In relation to the growth and prosperity of telecom sector the study being conducted to analyze the financial soundness of the companies. A general belief is that a firm's operating performance depends on certain key financial factors viz., turnover, profit, asset utilization etc and the variables which are found in profit and loss account and balance sheet of a firm have a direct or indirect relation with each other. By establishing a close relationship between the variables, a firm can analyze its financial performance in terms of liquidity, profitability, viability and sustainability. In order to measure the performance, ratios, the indicators, are normally used to identify the financial health of the firm. So the study concentrates on empirical approach towards measuring financial soundness of the companies operating under one of the most dynamic sector in Indian economy to identify key financial attributes of telecom companies and their respective impact.*

**Keywords - Efficiency, F-test, Leverage, Liquidity, Profitability, Solvency and Z-score.**

## 1. Introduction:

The *India's telecommunication network* is the second largest in the world based on the total number of telephone users (both fixed and mobile phone). It has one of the lowest call tariffs in the world enabled by the mega telephone networks and hyper-competition among them. It has the world's third-largest Internet user-base with over 137 million as of June 2012. Major sectors of the Indian telecommunication industry are telephony, internet and television broadcasting.

Telephone Industry in the country which is in an ongoing process of transforming into next generation network, employs an extensive system of modern network elements such as digital telephone exchanges, mobile switching centers, gateways and signaling gateways at the core, interconnected by a wide variety of transmission systems using optical fibre or Microwave radio relay networks. The access network, which connects the subscriber to the core, is highly diversified with different copper-pair, optic-fibre and wireless technologies. DTH, a relatively new broadcasting technology has attained significant popularity in the Television segment. The introduction of private FM has given a fillip to the radio broadcasting in India . Telecommunication in India has greatly been supported by the INSAT system of the country, one of the largest domestic satellite systems in the world. India possesses a diversified communications system, which links all parts of the country by telephone, Internet, radio, television and satellite.

The total revenue of the Indian telecom sector grew by 7% to ₹283,207 crore (US\$51.54 billion) for 2010–11 financial year, while revenues from telecom equipment segment stood at ₹ 117,039 crore (US\$21.3 billion).

Telecommunication has supported the socioeconomic development of India and has played a significant role to narrow down the rural-urban digital divide to some extent. It also has helped to increase the transparency of governance with the introduction of e-governance in India. The government has pragmatically used modern telecommunication facilities to deliver mass education programmes for the rural folk of India.

In India both public sector and private sector shares substantial stake in telecom sector, generally the new private player requires a high degree of asset allocation and heavy working capital and existing ones allocates heavy funds for sustaining and improving their market share. As the industry calls for huge fund allocation which makes necessary for the companies to manage all financial affairs in well structured and organized manner to activate the dormant financial allocations, financing the deficit or disposal of surplus. The major factors have been identified as reason for affecting financial performance of telecom companies are –

- Heavy capital investment.
- High collection period.
- Frequent policies from the side of government which fails forecasting and estimations.
- Substantial investment in after sales services.

The above are the some key variables along with them high research and development expenditures, continuous innovation expenditures, modification expenditures, etc thrashes the solvency and profitability the companies. Therefore application of adequate financial management is must manage and control the flow of funds efficiently which helps the organizations to improve their solvency, profitability and performance.

## **2. Statement Of The Problem:**

Generally in a lot of sectors it is visible that private sectors utilizes funds in better manner as compare to public sector, the study is an effort to draw appropriate conclusion. In India telecom industry represents an integral part of Indian economy. Since the industry faces ups and downs over the period of time, the companies in the industry have reported reduction in profit and in some rare cases even loss. As and when the industry is caught in a vicious down cycle, the firms have rendered operations unviable and they face threats to their viability and sustainability which directly impacts their financial health and if the problem didn't get checked with in the given timeframe by applying adequate financial management tool so it definitely affects the organization from its depth.

## **3. Literature Review:**

A non-systematic literature review was undertaken to identify the financial ratios included in articles in peer-reviewed journals, industry publications, and articles in magazines and newspaper.

To identify ratios in peer-reviewed articles, searches of academic databases using keywords such as "financial management", "Solvency", "profitability and liquidity" and "ratio analysis" were undertaken. Articles published prior to 1995 were excluded from the searches in order to ensure that only the most recent studies were included. This exclusion was important because of the many changes in telecom since 1995 and the likely lower relevance of articles prior to these changes. Ratios were selected from the articles if results showed that they were statistically significant in explaining a dimension of Telecom Company's financial performance, such as profitability or

financial distress. To identify ratios in industry publication, the websites of various organizations were reviewed. Some of the major literature reviewed is –

*Lazaridis and Tryfonidis (2006)* conducted a cross sectional study by using a sample of 131 firms listed on the Athens Stock Exchange for the period of 2001-2004 and found statistically significant relationship between profitability, measured through gross operating profit and cash conversion cycle and its components. Based on the results analysis of annual data by using correlation and regression tests, they suggest that managers can create profits for their companies by correctly handling the cash conversion cycle and by keeping each component of the conversion cycle at an optimum level.

*Garcia-Teruel et al (2007)* collected a panel of 8872 small to medium-sized enterprises from Spain covering the period 1996-2002. They tested the effects of working capital management on SME profitability using the panel data methodology. The results, which are robust to the presence of endogeneity, demonstrated that managers could create value by reducing their inventories and the number of days for which their accounts are outstanding. Moreover, shortening the cash conversion cycle also improves the firm's profitability.

*Mathuva (2009)* examined the influence of working capital management components on corporate profitability by using a sample of 30 firms listed on Nairobi Stock Exchange for the periods 1993-2008. He used Pearson and Spearman's correlations, the pooled ordinary least squares and the fixed effects regression models to conduct data analysis. The key findings of his study were that there exists a highly significant negative relationship between the time it takes for firms to collect cash from their customers and profitability, there exists a highly significant positive relationship between the period taken to convert inventories to sales and profitability and there exists a highly significant positive relationship between the time it takes for firms to pay its creditors and profitability.

*Praveen kataria* in his study attempted to predict corporate sickness of the companies. Financial information about all the sick companies was collected for five years before sickness. Healthy companies were matched with the sick companies on the basis of industry composition size. 54 financial ratios and 8 macro economic variables were taken to study their effect along with financial ratios. Two group linear discriminate analyses were applied in two parts. In the first part, only financial ratio was taken in discriminate analysis, while the macroeconomic variable was included along with the financial ratios in the second part. The result showed that macroeconomic variable had very little impact on discriminate function.

*Rekha Pai* dealt with the prediction of industrial sickness using multiple discriminate analyses. The data set constitutes 21 financial ratios of 34 Indian sick companies in 200001 and 38 contemporary non sick companies, both selected irrespective of size and industry category 3 years prior to sickness. The multiple discriminate analyses (MDS) showed greater accuracy in predicting industrial sickness up to three years in advance. The model was validated further using a test model, while exhibited very high predictive accuracy of the proposed model.

*Berryman, (1983)* indicated that ‘poor’ or ‘careless’ financial management is a major cause of small business failure. In addition, a major survey by the Insolvency Practitioner Society, (CIMA 1994) indicated that 20% of UK corporate failures (the vast majority of which are small firms) were due to bad debts or poor credit management. According to Peel and Wilson (1994), “if the financial/working capital management practices in the small firm sector could be improved significantly, then fewer firms would fail and economic welfare would be increased substantially”.

#### **4. Objectives Of The Study:**

The main object of the present study is to examine the overall financial efficiency of the selected telecom companies. More specifically it seeks to dwells upon mainly the following issues:

- To assess the liquidity management efficiency;
- To know the deviation in private and public sector telecom companies, if any.
- To observe the financial performance position and areas of weakness, if any;
- To investigate the relationships between liquidity and solvency.

#### **5. Hypotheses Of The Study:**

The study has pursued to test the following hypothesis with reference to steel industry in India:

Hypothesis –

H0: Current asset to current liability ratio is uniform in the sample units

H0: Fixed Asset to total turnover ratio is uniform in the sample units

H0: Debt to equity ratio is uniform in the sample units

H0: Return on equity is uniform in the sample units.

## 6. Methodology Of The Study:

### 6.1. Data Set:

The data used in the present study was acquired from CMIE database. The analysis is based on financial statements of the four telecom companies (both private and public) of our economy.

### 6.2. Variables :

The present study carries out the issue of recognizing key variables that influence financial performance. All the variables stated below have been used to test the hypotheses of study.

### 6.3. Tool Used For Analysis:

#### 6.3.1. F-TEST:

In analysis of variance, an F-test is used to test group variance against a null hypothesis, and is often used to determine whether any group of trials differs significantly from an expected value.

- *Test of Hypotheses - I*

YEAR	BSNL	RELIANCE	AIRTEL	MTNL
2008	1.13	0.404746	0.1356531	0.090330054
2009	2.24	0.806192	0.1575183	0.153128066
2010	2.37	0.363039	0.1685043	0.05724431
2011	2.38	0.393135	0.199938	0.180019476
2012	1.89	0.206129	0.2446844	0.219203697
MEAN	2.002	0.434648	0.18126	0.139985

Table 1: Current Ratio

➤ Above table depicts that over the course of five financial periods of study the mean of Current Ratio in BSNL is higher (2.002 times) than others. This shows that BSNL have sufficient current assets to meet short term operating needs, but even though we can't claim it as an good position as current ratio of 2.02 times is much more than the standardized degree and leads to increase in the volume of dormant or non performing funds.

Now we apply f-test, so;

$$\text{Grand mean } X = \frac{2.002+0.434648+0.18126+0.139985}{4} = 0.68947325$$

	(Mean-grandmean) <sup>2</sup>	(Mean-grandmean) <sup>2</sup>	(Mean-grandmean) <sup>2</sup>	(Mean-grandmean) <sup>2</sup>
1.	1.722726	0.06493590	0.258281	0.301937
2.	1.722726	0.06493590	0.258281	0.301937
3.	1.722726	0.06493590	0.258281	0.301937
4.	1.722726	0.06493590	0.258281	0.301937
5.	1.722726	0.06493590	0.258281	0.301937
total	8.61363230	0.324679540	1.291404	1.509687

Table 2: Variance between samples

Sum of squares between samples = 11.73940287

1	0.760384	0.000894142	0.002079955	0.002465626
2	0.056644	0.138044795	0.00056365	0.000172737
3	0.135424	0.005127878	0.000162698	0.006846042
4	0.142884	0.001723346	0.000348882	0.00160275
5	0.012544	0.052221025	0.004022703	0.006275583
total	1.10788	0.198011185	0.007177888	0.017362737

Table 3: Variance within samples

Sum of variance within samples = 1.33043181

Source of variation	Sum of squares	Degree of freedom	Mean square
Between	11.73940287	3	3.913134289
Within	1.33043181	16	0.083151988

Table 4: Analysis of variance

$F = \frac{\text{Mean square between the sample}}{\text{Mean square within the sample}}$

Mean square within the sample

$F = 47.0600208$

Interpretation: calculated value is more than the table value (3.23) at 5 % significance level. So Hypothesis is rejected.

Means there is significant difference in between performance in telecommunication companies on the basis of Current Ratio.

- *Test Of Hypotheses - II*

YEAR	BSNL	RELIANCE	AIRTEL	MTNL
2008	0.17	0.067224511	0.376862552	0.28910317
2009	0.22	0.058976932	0.416346407	0.277527262
2010	0.25	0.066389983	0.556008852	0.431855856
2011	0.29	0.10366283	0.728461419	0.406820534
2012	0.32	0.223972935	0.718757439	0.442057685
MEAN	0.25	0.104045438	0.559287334	0.369472901

Table 5: *Fixed Asset Turnover*

Now we apply *f-test*, so; Grand mean  $X = 0.320701418$

	(Mean-grandmean) <sup>2</sup>	(Mean-grandmean) <sup>2</sup>	(Mean-grandmean) <sup>2</sup>	(Mean-grandmean) <sup>2</sup>
1.	0.004998691	0.046939814	0.056923239	0.002378658
2.	0.004998691	0.046939814	0.056923239	0.002378658
3.	0.004998691	0.046939814	0.056923239	0.002378658
4.	0.004998691	0.046939814	0.056923239	0.002378658
5.	0.004998691	0.046939814	0.056923239	0.002378658
total	0.024993453	0.234699068	0.284616195	0.011893288

Table 6: *Variance between samples*

Sum of squares between samples = 0.556202004

1	0.0064	0.001355781	0.033278801	0.006459294
2	0.0009	0.00203117	0.020432108	0.008454001
3	0	0.001417933	1.07484005	0.003891633
4	0.0016	1.46389E-07	0.028619871	0.001394846
5	0.0049	0.014382604	0.025430714	0.005268551
total	0.0138	0.019187635	0.107772243	0.025468324

Table 7: *Variance within samples*

Sum of variance within samples = 0.16622820



Source of variation	Sum of squares	Degree of freedom	Mean square
Between	0.556202004	3	0.185400668
Within	0.166228202	16	0.010389263

Table 8: Analysis of variance

$$F = \frac{\text{Mean square between the sample}}{\text{Mean square within the sample}}$$

Mean square within the sample

$$F = 17.8454116$$

Interpretation: calculated value is more than the table value (3.23) at 5 % significance level.

Than Hypothesis is rejected so, there is significant difference in between performance in telecommunication companies on the basis of Fixed Asset Turnover.

• **Test Of Hypotheses – III**

YEAR	BSNL	RELIANCE	AIRTEL	MTNL
2008	0.11	27.00678295	7.441226037	15.31347619
2009	0.13	30.47716592	6.265799452	11.8344127
2010	0.13	23.71903373	2.653781132	0
2011	0.16	29.94506836	4.063579948	0
2012	0.2	19.65720293	3.461881754	0
MEAN	0.146	26.16105078	4.777253665	5.429577778

Table 9: Debt to Equity ratio

Now we apply f-test, so; Grand mean X= 9.128470555

	(Mean-grandmean) <sup>2</sup>	(Mean-grandmean) <sup>2</sup>	(Mean-grandmean) <sup>2</sup>	(Mean-grandmean) <sup>2</sup>
1.	80.68477727	290.1087891	18.93308843	13.68180778
2.	80.68477727	290.1087891	18.93308843	13.68180778
3.	80.68477727	290.1087891	18.93308843	13.68180778
4.	80.68477727	290.1087891	18.93308843	13.68180778
5.	80.68477727	290.1087891	18.93308843	13.68180778
total	403.4238864	1450.543945	94.66544214	68.40903889

Table 10: Variance between samples

Sum of squares between samples = 0.29707783

1	0.001296	0.715262899	7.096748803	97.69144783
2	0.000256	18.62884991	2.215768562	41.02191036
3	0.000256	5.963447262	4.509135597	29.48031484
4	0.000196	14.31878907	0.509330174	29.48031484
5	0.002916	42.30003678	1.730203263	29.48031484
total	0.00492	81.92638592	16.0611864	227.1543027

Table 11: Variance within samples

Sum of variance within samples= 325.146795

Source of variation	Sum of squares	Degree of freedom	Mean square
Between	2017.042313	3	672.3474376
Within	325.146795	16	20.32167469

Table 12: Analysis of variance

$$F = \frac{\text{Mean square between the sample}}{\text{Mean square within the sample}}$$

$$F = 33.0852377$$

Interpretation: calculated value is more than the table value (3.23) at 5 % significance level.

Than Hypothesis is rejected, as there is significant difference in between performance in telecommunication companies on the basis of Debt to Equity ratio.

- **Test Of Hypotheses – IV**

YEAR	BSNL	RELIANCE	AIRTEL	MTNL
2008	-0.36453	0.151162791	3.017695387	-6.523460317
2009	0.11497	-0.734479317	4.064093111	-4.447492063
2010	0.601878	0.464074961	4.964345339	-4.86315873
2011	1.561174	4.653704906	4.079484154	0.267190476
2012	1.787938	2.506225715	3.290034828	0.645746032
MEAN	0.740286	1.408137811	3.883130564	-2.984234921

Table 13: Return on Equity

Now we apply f-test, so; Grand mean  $X = 0.761829864$

	(Mean-grandmean) <sup>2</sup>	(Mean-grandmean) <sup>2</sup>	(Mean-grandmean) <sup>2</sup>	(Mean-grandmean) <sup>2</sup>
1.	0.000464138	0.417713963	9.742518061	14.03300137
2.	0.000464138	0.417713963	9.742518061	14.03300137
3.	0.000464138	0.417713963	9.742518061	14.03300137
4.	0.000464138	0.417713963	9.742518061	14.03300137
5.	0.000464138	0.417713963	9.742518061	14.03300137
total	0.00232069	2.088569815	48.71259031	70.16500684

Table 14: Variance between samples

Sum of squares between samples = 120.9684876

1	1.220618394	1.579986202	0.748978046	12.52611641
2	0.3910201	4.590808157	0.032747444	2.141121466
3	0.019156774	0.891254666	1.169025391	3.530354682
4	0.673857109	10.53370577	0.038554732	10.57176711
5	1.097574713	1.205797045	0.351762552	13.17676171
total	3.40222709	18.80155184	2.341068165	41.94612138

Table 16: Variance within samples

Sum of variance within samples = 66.4909

Source of variation	Sum of squares	Degree of freedom	Mean square
Between	120.9684876	3	40.32282922
Within	66.49096848	16	4.15568553

Table 17: Analysis of variance

$$F = \frac{\text{Mean square between the sample}}{\text{Mean square within the sample}}$$

Mean square within the sample

$$F = 9.70305114$$

Interpretation: calculated value is more than the table value (3.23) at 5 % significance level.

Than Hypothesis is rejected, as there is significant difference in between performance in telecommunication companies on the basis of RETURN ON EQUITY.

## 7. Conclusion:

Financial management is of crucial importance in management decision making. The optimal of financial soundness is could be achieve by company that manage the tradeoff between liquidity and

solvency management. The purpose of this study is to investigate the effective liquidity management to support companies while meeting its short term operational or working requirements where as analysis of solvency, fixed assets and return on equity concentrates on long term performance. A descriptive statistics discloses that liquidity and solvency position in both long and short term is very dissatisfactory and companies soon have to opt for its correction. F-tests confirm a lower degree of association between and within financial variables. Thus, company manger should concern on financial management, especially unexplained variables in purpose of creation shareholder wealth.

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