INTERNATIONAL JOURNAL FOR INNOVATIVE RESEARCH IN MULTIDISCIPLINARY FIELD ISSN: 2455-0620 Volume - 7, Issue - 5, May – 2021
Monthly, Peer-Reviewed, Refereed, Indexed Journal with IC Value: 86.87 Impact Factor: 6.719
Received Date: 05/05/2021 Acceptance Date: 20/05/2021 Publication Date: 25/05/2021

Investigation of Capital structure and its Effect on Profitability of Information Technology Companies in India

[1] Dr. Disha Shah, [2] Siddhi Deshmukh
[1] Assistant Professor – Finance, VESIM, Chembur, Mumbai, India
[2]Student - Master of Management Studies, VESIM, Chembur, Mumbai, India
Email - [1]disha.shah@ves.ac.in, [2]svd1310@gmail.com

Abstract: *The capital structure decisions of a company play a vital role in shaping the company in its long run. The purpose of this study is to understand this importance of capital structure and to throw light on the relationship between capital structure and the profitability of six listed IT companies over the period of 5 years from 2016 to 2020. Correlation analysis test was performed to analyse the data and determine the association between variables considered viz. Debt to Equity ratio, Return on equity, net profit and net profit margin, Return on Assets and Return on Capital Employed. The results to a large extent, show that, there is a positive correlation between the debt-to-equity and the profitability variables of the firms. This means that debt or the capital structure mix has a substantial positive impact on the profitability of these firms.*

Key Words: *Capital Structure, Cost of capital, Debt to Equity, Profitability, Correlation.*

1. INTRODUCTION:

Finance is the backbone of everything in the world, be it the daily household activities of an individual, or the trade and transactions in a country's economy. Any company is a small economy in itself and similar to a larger economy, any decision made affects the company in all aspects; including the profitability. Hence, deciding over its sources of financing and overall composition of capital forms an important decision for smooth long-term operations. Given that, for an organization, managing its finances well is the most important task, which starts from the very beginning of the organization, be it the day-to-day operations or long-term investments. The decisions pertaining to the debt structure, known as the capital structure decisions of the company, are those made with utmost care and detailed study of the company's current position, market condition and economic condition. Since capital structure decisions have a far-reaching impact, a single wrong decision can pose a great threat to company in terms of its reputation as well as its financial position. This paper aims at studying this aspect of capital structure as to how much it affects the company in terms of its profits, as profit is one of the crucial and first factor which is looked upon while looking as the financial health of the company.

2. LITERATURE REVIEW:

When researching for capital structure, it is imperative to understand the terms associated with it. The following terms have been used for the purpose of the study:

a. Debt-to-Equity ratio: One of the most important ratios for financial analysis, this ratio (denoted as D/E ratio) tells a lot about the liabilities position of a business in the long term. The results of this ratio determine the ability of the company to pay off its long-term obligations. Debt to equity ratio can be simply defined as: "The ratio of a company's total debt in long term to its total share-holders funds"
b. Debt-to-Total Assets ratio (D/TA ratio): is the ratio of measuring the amount of assets funded by using borrowed funds. In essence, it is the percentage of assets backed up by creditors rather than the investors. It is another important leverage ratio, which determines how much a company relies on external borrowings to fund its assets.
c. Interest Coverage Ratio: The ICR i.e., the Interest Coverage ratio is one of those ratios which must be checked while studying the capital structure to know about in how much time a company pays its outstanding interest. Simply defines "***interest coverage ratio*** is a measure of a company's ability to honour its debt payments" [12]

Given the importance of the topic, variety of research has been performed to analyse the effects of capital structure on various industries and sectors in India as well as around the world.

Shalini Talwar in the paper titled "Dynamics of Firm Value, Financial Performance, Leverage, and Governance: A Panel Data Analysis of Listed Indian Firms" examines the effect of various accounting-based performance measures, stringency of corporate governance and the capital structure on the firm's value. The study performed using methods like Tobin's Q and Panel Least Squared Dummy variables shows that these variables have a substantial statistical impact on the worth of firm and are found to be good predictors of a firm's value. This test confirmed that the dynamics between

dependent and explanatory variables is different in different sectors and did not show a uniform pattern. Finally, the paper concludes the impact differs across various sectors considered for the study. So, extending the results to other sectors, the managers should take into consideration the sectoral effect of these said variables on the firm's value.[1] "Prof. (Dr). T. Velnampy & J. Aloy Niresh research through , The Relationship between Capital Structure & Profitability, studies ten listed Sri Lankan banks for an eight-year period using descriptive research and the correlation analysis to find out the association between the variables of the study". The results of the study display the association between the capital structure and the profitability of banks is negative and that there is no significant effect on the profitability but return on equity and the debt-to-equity ratio of banks.[2] Authors Anindita Chakrabarti and Ahindra Chakrabarti explain how the firm's age, the asset turnover of the firm, liquidity and the size of the firm are the significant factors of capital structure and that they affect the capital structure decisions to a great extent; in their study titled "The capital structure puzzle" – evidence from Indian energy sector. The authors' findings, obtained by considering a sample of 141 firms functioning in the Indian energy sector, show that historically, the profitability and debt ratio show a negative relationship.[3]

In a similar research performed by "Dr. Khalid Ashraf Chisti, Dr. Khursheed Ali, Prof. Mouh-I-Din Sangmi" on the subject "Impact Of Capital Structure On Profitability Of Listed Companies (Evidence From India)", the authors have concluded from the findings that capital structure i.e., the debt to equity and profitability of the firm has a negative relationship. So, according to the analysis, if the Debt is amplified aggressively, it will adversely impact the profitability if the firm.[4] Prof. Gurmeet Singh, while performing a detailed study on the similar topic, in his research paper titled "Interrelationship between Capital Structure and Profitability with Special Reference to Manufacturing Industry in India" concludes that the capital structure significantly affects the profitability of the firm, but on a negative side. The results have established a one-to one relationship between elements of profitability and capital structure are considered here; ROCE and ROA. So, if the firm takes excess debt, it will take a toll on the profit of the firm.[5] Authors S. Revathy and Dr. V. Santhi in the paper titled "Impact Of Capital Structure On Profitability Of Manufacturing Companies In India" seek to examine and investigate the impact of capital structure on the profitability of manufacturing firms in India. The study proceeds by grouping the selected firms into various groups and using multi-stage sampling methods. The study has thus concluded that there is a significant one-to-one relationship and that increase in debt level would hamper the ability of companies to generate good profits.[6]

3. METHODOLOGY:

This research has been undertaken for the objective of understanding the concept of capital structure and studying financial aspect of Capital structure i.e., the Debt-to-Equity ratio and other related ratios along with impact of the same on the profitability of the companies selected.

The methodology followed for the research is descriptive research. All data obtained and analyzed is secondary in nature and is gathered by referring to various research papers, official websites of the selected companies and their annual reports and financial databases like Money control, Yahoo Finance, etc.

A sample size of six companies from IT Industry are considered for the study. All the companies operate under the software and consultancy sector of the industry and are the topmost companies in their sector. The selected firms are- *TCS, Infosys, HCL Tech, Tech Mahindra, Larsen and Toubro Infotech and Wipro Ltd.*
The Companies have been selected by considering their market capitalization share.

The correlation analysis is used to determine the relation between the Capital Structure specifically the Debt-to-Equity ratio and the profitability ratios of the companies. The test for correlation coefficient is performed in MS-Excel.

4. RESULTS AND FINDINGS:

To go ahead with the topic, it was first important to touch upon some of the basic and most important concept which comes under capital structure, the fact that whole capital structure is woven into with these concepts. They are: the 'Cost of Capital' and 'Leverage'.

In a nut shell Cost of capital is that cost which the company has to incur for raising capital. Thus, if it goes for debt finance, a company pays interest, and if equity finance, it pays dividend. Both these interest and dividend are treated as cost of capital together. The cost of capital determines whether and by which means company should raise its finance and to what level. A high cost of capital results in washing off too much part of the profits of the company to outsiders i.e., creditors. So, it is a crucial decision for the company to choose a proper source of financing. Cost of Capita; has an impact on the structure of finance which directs us to the concept of leverage. In simple words, leverage means raising finance for the company in the form of debt. Thus, the level of the debt is called the leverage of the company. Leverage is the ability of a company to use funds provided by outsiders to magnify the returns of the company to the owners. Thus, the aim of leveraging a company is to increase the returns on equity for the share-holders. The logic behind leverage is to amplify gains for shareholders and company by several multiples.

INTERNATIONAL JOURNAL FOR INNOVATIVE RESEARCH IN MULTIDISCIPLINARY FIELD ISSN: 2455-0620 Volume - 7, Issue - 5, May – 2021
Monthly, Peer-Reviewed, Refereed, Indexed Journal with IC Value: 86.87 Impact Factor: 6.719
Received Date: 05/05/2021 Acceptance Date: 20/05/2021 Publication Date: 25/05/2021

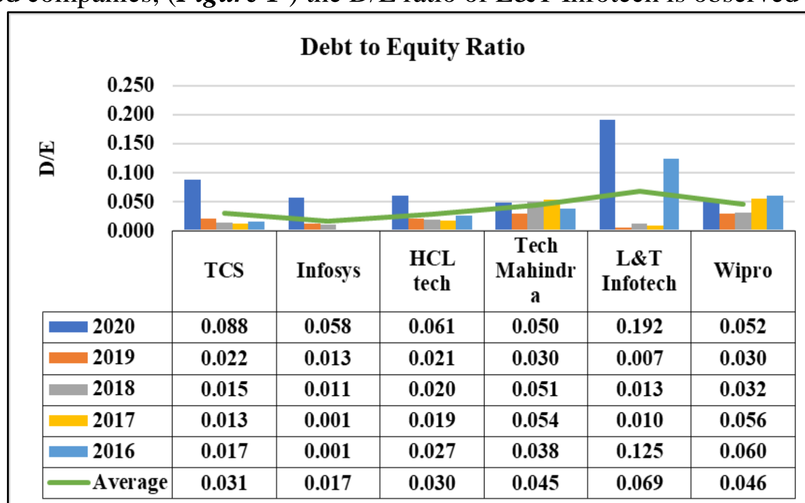
Leveraging is a double-edged sword which amplifies the upside returns but at the same time the downside risk is also amplified by the same multiplier. Excess leverage may result into losses and put the company into a much riskier position. High leverage comes with greater volatility. This part, the leverage, is also commonly known as the debt level, or debt to equity ratio or capital gearing, depending upon the country or region of its use.

The analysis below uses Debt-to-equity ratio and one of the measures of leverage, along with other ratios like Debt to total assets and Interest coverage ratio.

- **Debt to Equity Ratio:**

The Debt-to-Equity ratio for IT sector in India is not substantially high, rather if compared with the ideal ratio of 2:1, it is far less. Looking at the overall ratios of all the selected companies, the D/E ratio of IT industry specifically software sector will not be more than 0.05. As there is more debt requirement for capital intensive industries, it makes sense that IT software companies have a low debt to equity ratio. Probably, a higher D/E will be seen in IT sector companies dealing with computer hardware, peripherals, and manufacturing.

From the selected companies, (***Figure 1***) the D/E ratio of L&T Infotech is observed to be the highest, possibly



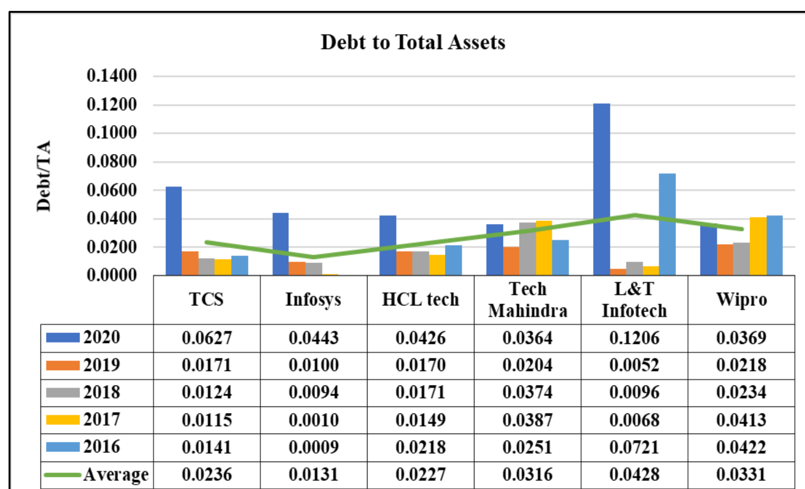
	TCS	Infosys	HCL tech	Tech Mahindra	L&T Infotech	Wipro
2020	0.088	0.058	0.061	0.050	0.192	0.052
2019	0.022	0.013	0.021	0.030	0.007	0.030
2018	0.015	0.011	0.020	0.051	0.013	0.032
2017	0.013	0.001	0.019	0.054	0.010	0.056
2016	0.017	0.001	0.027	0.038	0.125	0.060
Average	0.031	0.017	0.030	0.045	0.069	0.046

Figure 1: Debt to Equity ratio

owing to the acquisition of Mindtree, a peer company. Followed by it comes TCS who has a higher ratio compared to its other peers. The rest of the four companies have debt level at an average to low, and are maximum dependent on the equity financing as an option to raise capital.

- **Debt to Total Assets Ratio:**

When it comes to the Debt to Total Assets ratio (***Figure 2***), Infosys has the lowest Debt to TA ratio, while L&T Infotech has the highest. This suggests the dependence of L&T on debt to a great extent. Being said that, Infosys is more financially stable company, as it needs to pay less cost of debt in the form of interest to its lenders. Thus, a more chunk of profit remains with the company.



	TCS	Infosys	HCL tech	Tech Mahindra	L&T Infotech	Wipro
2020	0.0627	0.0443	0.0426	0.0364	0.1206	0.0369
2019	0.0171	0.0100	0.0170	0.0204	0.0052	0.0218
2018	0.0124	0.0094	0.0171	0.0374	0.0096	0.0234
2017	0.0115	0.0010	0.0149	0.0387	0.0068	0.0413
2016	0.0141	0.0009	0.0218	0.0251	0.0721	0.0422
Average	0.0236	0.0131	0.0227	0.0316	0.0428	0.0331

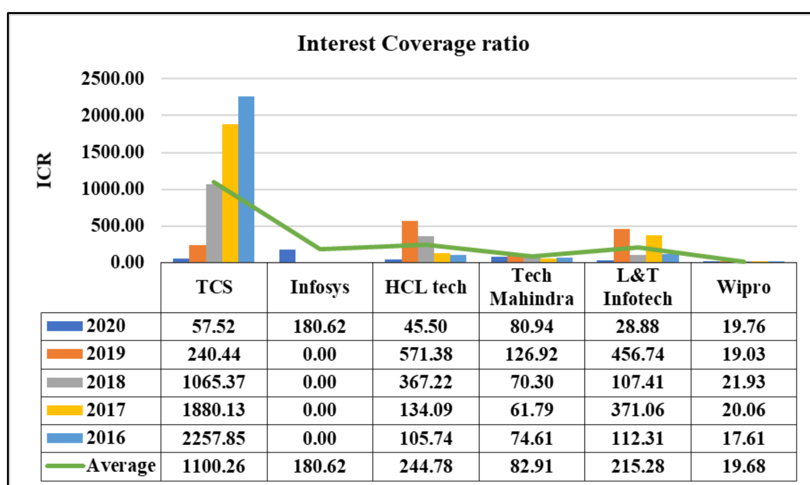
Figure 2: Debt to Total Assets Ratio

INTERNATIONAL JOURNAL FOR INNOVATIVE RESEARCH IN MULTIDISCIPLINARY FIELD ISSN: 2455-0620 Volume - 7, Issue - 5, May – 2021
Monthly, Peer-Reviewed, Refereed, Indexed Journal with IC Value: 86.87 Impact Factor: 6.719
Received Date: 05/05/2021 Acceptance Date: 20/05/2021 Publication Date: 25/05/2021

Also, less the leverage, less is the threat of the company going bankrupt which is not in the case of L&T Infotech. But this goes with the theoretical aspect, when we look it from a bird's eye view, it is observed that these Debt to TA ratios is not much high, and thus, it can be rightly said that the companies are financially stable, and are able to manage their capital well to fund their assets largely through the public equity finances.

- **<u>Interest Coverage Ratio:</u>**

The Interest Coverage ratio, important tool to gauge the ability of company to pay its finance cost in timely manner. For the selected sample (***Figure 3***), Tech Mahindra is most consistent in paying its finance costs over the whole period, whereas, TCS is more inconsistent with a wide variation in its ICR. Wipro is below the average ICR, and thus, should try to improve its ratio. For the remaining companies, this ratio can be said to be at a satisfactory level, although an improvement can be done, by managing the capital well, and the income too. Although, Tech Mahindra has a consistent ICR, but it should definitely try to increase its ICR in the coming period.



	TCS	Infosys	HCL tech	Tech Mahindra	L&T Infotech	Wipro
2020	57.52	180.62	45.50	80.94	28.88	19.76
2019	240.44	0.00	571.38	126.92	456.74	19.03
2018	1065.37	0.00	367.22	70.30	107.41	21.93
2017	1880.13	0.00	134.09	61.79	371.06	20.06
2016	2257.85	0.00	105.74	74.61	112.31	17.61
Average	1100.26	180.62	244.78	82.91	215.28	19.68

Figure 3: Interest Coverage ratio

Correlation Analysis:

The study of these ratios gives us an idea about the capital structure and position of the companies with respect to their debt and capacities of raising additional debt. But to know whether or not these debts impact their profits, a correlation analysis is further performed the results of which are as under:

- In relation to D/E and Net profit (refer ***Table 1***), largely, it can be said that D/E ratio has a positive relationship with the Net Profit of the company. Because, except one company which is Tech Mahindra (-0.26), all others show a direct positive correlation, i.e., if the debt increases, the Net profit too will increase and vice-versa.
- With respect to D/E and ROE (refer ***Table 2***), 4 of the selected sample companies viz. TCS having a strong positive correlation of 0.89, while Infosys, L&T Infotech and Wipro also show a positive correlation, whereas the other two have a negative correlation. But since one of the companies i.e., HCL tech is having a weak negative correlation of -0.45, we may consider that sometime in future we could see an opposite picture for this company. Thus, to generalize, D/E and ROE show a positive relationship.

Correlation Analysis D/E and Net profit	
Company	**Correlation Coefficient**
TCS	0.831
Infosys	0.555
HCL tech	0.486
Tech Mahindra	-0.259
L&T Infotech	0.297
Wipro	0.773

Table 2: Correlation between D/E and Net profit

Correlation Analysis D/E and ROE	
Company	**Correlation Coefficient**
TCS	0.897
Infosys	0.641
HCL tech	-0.454
Tech Mahindra	-0.669
L&T Infotech	0.291
Wipro	0.691

Table 1: Correlation between D/E and ROE

Correlation Analysis D/E and ROCE	
Company	**Correlation Coefficient**
TCS	0.826
Infosys	0.516
HCL tech	-0.212
Tech Mahindra	-0.586
L&T Infotech	0.285
Wipro	-0.248

Table 4: Correlation between D/E and ROCE

Correlation Analysis D/E and ROA	
Company	**Correlation Coefficient**
TCS	0.730
Infosys	0.308
HCL tech	-0.805
Tech Mahindra	-0.400
L&T Infotech	-0.154
Wipro	0.725

Table 3: Correlation between D/E and ROA

- In case of D/E and ROCE (refer ***Table 3***), no firm statement could be made, since half the companies show and inverse relationship while the other half, a positive relationship. Thus, the probability of the debt having either a positive or negative effect on the profit could be said as 50%.
- The result of correlation test between D/E and ROA (refer ***Table 4***) do not display a concrete result for a specific situation. Here too, 3 companies have a positive correlation while other 3 have a negative. So, it is hard to say firmly, that companies will show only inverse relationship or only direct relationship between these variables. The chances for both are 50-50 since in both situations, strong 'r' values are present.

5. LIMITATIONS:

- The results of the analysis cannot be the absolute results for all the companies in the IT industry or also for the software sector of the industry, since the sample size considered for the study is small for ease of study. The results obtained may or may not be generalized as a larger sample size may present different results.
- For feasibility of calculations, the period of study had to be limited to 5 years, but it can be further extended with greater number of years taken into account. For the ease of analysis, the scope of the study was limited only up to the IT industry. But this can be extended to various types of companies across various sectors, and the topic gives room for the comparative analysis of capital structure impact in various industries.

6. CONCLUSION:

The analysis brought us to a conclusion that the Debt of company does have an impact on the profitability of a business. This could be seen from the correlation analysis since none of the samples show a zero correlation. Generalizing the results to a larger scale limiting to the IT software sector, we may conclude that for most of the cases we can assume a direct positive relationship between the capital structure of the company and its profit, but the impact is not substantial if we average out the results. Being a service-oriented industry, it is less capital intensive but requires more of intellectual capital. And thus, the asset funding of companies through debt is low. The expanding market for the IT sector in the technological era opens up an ocean of opportunities for these companies, and thus if they think of further expansions, they can easily avail to the debt funding.

7. SUGGESTIONS:

- From the study it is seen that the in general, profitability rises with more leverage. Since, the companies are well-established in the market and over the years they have gained good credibility, availing debt options would be easier for these companies than their other competitors and newly emerging firms in this sector.
- Also, because we see a positive effect of the existing debt capital mix on the profits of these companies, we may infer that probably the debt finance is more easily available for those companies at lower cost than the equity.
- In such scenario, it could be suggested that the companies should surely go for a higher leverage option than sticking to equity finance.

REFERENCES:

1. Talwar, S. (Vol. 19, No.2, 2020). Dynamics of Firm Value, Financial Performance, Leverage, and Governance: A Panel Data Analysis of Listed Indian Firms. International Journal of Business and Economics, 131-149.

2. Niresh, P. (. (Volume 12 Issue 13 Version 1.0 Year 2012). The Relationship between Capital Structure & Profitability. Global Journal of Management and Business Research, 67-74.
3. Anindita Chakrabarti, A. C. (Vol. 13 No. 1, 2019). The capital structure puzzle – evidence from Indian energy sector. International Journal of Energy Sector Management, pp. 2-23.
4. Dr. Khalid Ashraf CHISTI, D. K.-i.-D. (Volume 13, Issue 1(17), 2013). IMPACT OF CAPITAL STRUCTURE ON PROFITABILITY OF LISTED COMPANIES (EVIDENCE FROM INDIA) . The USV Annals of Economics and Public Administration, 183-191.
5. Singh, P. G. (Volume 2, No. 8, August 2013). Interrelationship between Capital Structure and Profitability with Special Reference to Manufacturing Industry in India. International Journal of Management and Social Sciences Research (IJMSSR), 55-61.
6. S.Revathy, ,. D. (Vol. VII/Issue I/Jan.-March.,2016). IMPACT OF CAPITAL STRUCTURE ON PROFITABILITY OF MANUFACTURING COMPANIES IN INDIA. International Journal of Advanced Engineering Technology, 24-28
7. Aljamaan, B. E. (Vol.6, No.2, February 2018). Capital Structure: Definitions, Determinants, Theories And Link With Performance Literature Review. European Journal of Accounting, Auditing and Finance Research, 49-72.
8. Amarjit Gill, N. B. (Vol. 28 No. 4 Part 1 Dec 2011). The Effect of Capital Structure on Profitability: Evidence from the United States. International Journal of Management, 3-16.
9. Dinesh Jaisinghani, K. K. (2017). Non-linear dynamics of size, capital structure and profitability: Empirical evidence from Indian manufacturing sector. Asia Pacific Management Review, 159-165.
10. Advanced Accountancy Paper III - Advanced Financial Management. (2019). Mumbai: IDOL- University of Mumbai.
11. https://en.wikipedia.org/wiki/Times_interest_earned. (n.d.).
12. https://corporatefinanceinstitute.com/resources/knowledge/finance/what-is-capm-formula/. (n.d.).
13. https://www.accountingnotes.net/financial-management. (n.d.).
14. https://www.businessmanagementideas.com/. (n.d.).
15. https://www.hcltech.com/. (n.d.).
16. https://www.infosys.com/. (n.d.).
17. https://www.investopedia.com/terms/i/interestcoverageratio.asp#what-is-the-interest-coverage-ratio. (n.d.).
18. https://www.investopedia.com/terms/l/leverage.asp. (n.d.).
19. https://www.lntinfotech.com/. (n.d.).
20. https://www.moneycontrol.com/. (n.d.).
21. https://www.tcs.com/. (n.d.).
22. https://www.techmahindra.com/. (n.d.).
23. https://www.thebalancesmb.com/. (n.d.).
24. https://www.wipro.com/. (n.d.).
25. https://www.yourarticlelibrary.com/financial-management/capital-structure/capital-structure-concept-definition-and-importance/44063. (n.d.).
26. https://www.yourarticlelibrary.com/financial-management/capital-structure/capital-structure-meaning-concept-importance-and-factors-accounting/65150. (n.d.).
27. Ms. Shireen Rosario, D. K. (Vol.6, Issue.1, Jan-Mar 2019). CAPITAL STRUCTURE AND ITS IMPACT ON PROFITABILITY – A STUDY OF INDIAN HOTEL INDUSTRY. International Journal of Business and Administration Research Review, 67-72.
28. Ramachandran Azhagaiah, C. G. (Volume 9 · Number 4 · Winter 2011). The Impact of Capital Structure on Profitability with Special Reference to IT Industry in India. Managing Global Transitions, 371-392.