AN EMPIRICAL ANALYSIS ON INTER FIRM PROFITABILITY OF IT SECTOR IN INDIA

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ABSTRACT
Information Technology (IT) industry plays a key role in intensification the Indian economy. India has emerged as world’s largest sourcing hub for IT services, it accounts for around 67 per cent of the world’s US$ 124-130 billion market. There has been a tremendous growth in IT sector, since FY98 contribution of this sector to GDP of India mounted from 1.2% to around 9.5 per cent as of now. So as to compare and to set benchmark a profitability analysis of these companies is always needed. The present study is an attempt to provide an insight into profitability measures of leading IT companies in India for the period 2011-12 to 2015-16. Top five Indian IT companies (TCS, Infosys, Wipro, HCL Tech and Tech Mahindra) on the basis of their current market capitalization have been taken for the study. In order to come to a conclusion profitability ratios are ranked on the basis of their performance during such period.

Keywords: IT, India, Profitability, TCS, Infosys, Wipro, HCL Tech, Tech Mahindra

INTRODUCTION
Information technology (IT) sector is playing vital role in development of economy in India. This is IT sector which has transformed the image of India on global map. This sector is producing 2.5 million direct employments in the country. India is now one of the biggest IT hubs in the world having major IT players of the world in it. Gone are the days when India was considered to be a slow moving bureaucratic economy, now it is regarded as a land of innovation. Bangalore has emerged as Silicon Valley of India only because of IT exports. Not only the exports but also the domestic market is significant because of robust revenue growth. Top five IT services Provider companies on the basis of their market capitalization are Tata Consultancy Services (TCS), Infosys, Wipro, HCL Technologies and Tech Mahindra.

OBJECTIVE OF THE STUDY
The main objective of the present study is to evaluate the performance of leading IT companies in India in respect of their profitability. To come to a conclusion profitability ratios are analysed and compared between them. Moreover, the study covers following chief issues;

- To analyse profitability position of the selected IT companies in India with the help of widely used financial ratios;
- To scrutinize the profitability performance of these IT companies under the study;
- To make a comparative analysis of the performance of these companies based on each profitability ratio; and
To give overall ranking to these companies on the basis of this study.

**RESEARCH METHODOLOGY**

**Sample Selection**

The study is based on top five IT companies in India, selection of companies for the study is based on their listing on both the Indian stock exchanges; BSE & NSE, further top five companies has been decided on the basis of their market capitalization as on 12th September, 2016.

**Source of Data**

Present study is based on secondary data. The data were composed from annual reports of the companies as published on their official website, stock exchanges i.e. BSE & NSE and on financial sites like Money control and Yahoo finance. Some relevant financial journals, business magazines and websites have also been used as sources of data.

**Methodology**

The secondary data obtained have been processed and analyzed by using world’s known profitability measures in term of ratios like; Operating Profit Margin, Net profit Margin, Return on Equity, Return on Capital Employed and Return on Assets. Overall ranking was given on the basis of their performance over the period of study in the light of said financial indicators of profitability.

**Hypothesis**

The data thus analyzed are put to ‘Anova; Single Factor’ by using Excel’s data analysis tool for testing the following hypotheses;

$H_0$: There is no significant difference between the mean of profitability ratios of major IT Companies in India i.e. data are dispersed evenly across profitability ratios of the companies;

$\mu_1 = \mu_2 = \mu_3 = \mu_4 = \mu_5$.

$H_1$: at least one of the means is different.

**Period of Study**

The study covers a period of five years from 2011-12 to 2015-16.

**Scope of the Study**

Present study covers only five IT companies traded on both the Indian stock exchanges; Tata Consultancy Services (TCS), Infosys, Wipro, HCL Technologies and Tech Mahindra.

**DATA ANALYSIS**

For the purpose of study a list of top five IT companies have been shortlisted based on their market capitalization on National Stock Exchange as on 12th September, 2016. Table-1 exhibits top five IT companies in NSE and their market cap in Rs. Cr.

**Table-1; Top Five IT companies in India**

<table>
<thead>
<tr>
<th>S. N</th>
<th>Name of the company</th>
<th>Market cap. (Rs. cr.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>TCS</td>
<td>4,64,833.80</td>
</tr>
<tr>
<td>2.</td>
<td>Infosys</td>
<td>2,42,097.97</td>
</tr>
<tr>
<td>3.</td>
<td>Wipro</td>
<td>1,16,775.29</td>
</tr>
<tr>
<td>4.</td>
<td>HCL Tech</td>
<td>1,10,426.48</td>
</tr>
<tr>
<td>5.</td>
<td>Tech Mahindra</td>
<td>45,071.66</td>
</tr>
</tbody>
</table>

Source; Author’s compilation based on NSE data
A datasheet (Table-2) has been prepared based on five years financial statements of top five IT companies in term of measure profitability ratios: Operating Profit Margin (%), Net Profit Margin (%), Return on Net worth / Equity (%), Return on Capital Employed (%) and Return on Assets (%).

**Table-2; Profitability Ratios** of major IT Companies in India

<table>
<thead>
<tr>
<th>Name of Company</th>
<th>Operating Profit Margin (%)</th>
<th>Net Profit Margin (%)</th>
<th>Return on Equity (%)</th>
<th>Return on Capital Employed (%)</th>
<th>Return on Assets (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCS</td>
<td>35.77</td>
<td>27.20</td>
<td>41.38</td>
<td>40.35</td>
<td>30.76</td>
</tr>
<tr>
<td>Infosys</td>
<td>35.88</td>
<td>25.97</td>
<td>26.17</td>
<td>26.10</td>
<td>21.10</td>
</tr>
<tr>
<td>Wipro</td>
<td>26.08</td>
<td>17.77</td>
<td>22.33</td>
<td>21.23</td>
<td>14.24</td>
</tr>
<tr>
<td>HCL Tech</td>
<td>38.26</td>
<td>28.47</td>
<td>31.38</td>
<td>28.73</td>
<td>21.45</td>
</tr>
<tr>
<td>Tech Mah</td>
<td>34.00</td>
<td>24.85</td>
<td>30.29</td>
<td>29.71</td>
<td>29.71</td>
</tr>
</tbody>
</table>

#Average of five years; 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16
Source; Author’s compilation

**Operating Profit Margin**

Operating Profit Ratio constitutes the relationship between operating Profit and net sales of the company. Operating Profit is also termed as PBIT or EBIDT; profit/earnings before Interest, Depreciation and Tax. Higher operating ratio states that the company has got enough margins to meet its non-operating expenses and to create reserve and payment of dividend. OPM% is computed as follow:

\[
\text{Operating Profit Ratio (OPM \%) = \frac{Operating \ Profit}{Sales} \times 100}
\]

Figure 1; Five year average operating profit ratio (OPM %) of top five IT companies in India

#Average of five years; 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16
Source; Author’s compilation

Figure 1 exhibits that HCL Tech maintains the highest operating profit margin at average 38.26% in last five financial years; 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16 while Wipro is having least operating profit margin at average 26.08%.

**Net Profit Margin**

Net Profit Ratio indicates the relationship between Net profit and Net sales of the firm. It also indicates managerial efficiency of the firm in manufacturing, administration and selling the product/services. The firm having high Net Profit margin would be in a profitable position to survive in the case of rising cost of production, declining selling prices, or even in case of declining demand for the product. Net Profit Ratio is calculated as a percentage of net sales, it is calculated as under:
Net Profit Ratio = Net profit / Net Sales × 100

Figure 2: Five year average net profit ratio of top five IT companies in India
#Average of five years; 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16
Source; Author’s compilation

Figure 2 exhibits that HCL Tech maintains highest Net profit margin among all the five IT companies in our study, at average 28.47% followed by TCS (27.20%), Infosys (25.97%), and Tech Mahindra (24.85%) in last five financial years; 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16 while Wipro is having the least Net Profit margin at average 17.77% in that period.

Return on Equity

For investors of the company Return on Equity (ROE) or Return on Net worth Ratio is the most important of all the financial ratios. ROE measures the return on the amount the investors have put into the equity shares of the company. Generally, the higher the ROE percentage, the better it is said for the investors. It exhibits that the firm is using the investors’ money in right direction. However, there is with some exceptions too. Return on Equity (ROE) or return on net worth is computed asunder;

\[
ROE = \frac{Net\ Profit}{Shareholders\ Fund} \times 100
\]

Figure 3; Five year average Return on Equity (ROE %) of top five IT companies in India
#Average of five years; 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16
Source; Author’s compilation
Figure 3 shows that TCS maintains highest ROE % among all the five companies, at average 41.38% followed by HCL Tech (31.38%), Tech Mahindra (30.29%), and Infosys (26.17%) in last five financial years; 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16 while Wipro is again having the least ROE % at average 22.23%. It means TCS has always appeased its investors in terms of return, while Wipro disappointed its stakeholders in comparison of its competitors.

**Return on Capital Employed**

Return on capital employed (ROCE) is the indicator of the operational efficiency of the firm. ROCE measures how much investors are receiving on the capital they have put in that company. In other words, it is a performance measure that indicates how much return is generated from Invested Capital. The Return on capital Employed is computed asunder:

\[
\text{ROCE} = \frac{\text{Profit after Tax} + \text{Interest}}{\text{Net Capital Employed}} \times 100
\]

![Return on Capital Employed (%)](image)

Figure 4 depicts that TCS at average 40.35% maintains highest ROCE among all the five companies, followed by Tech Mahindra (29.10%), HCL Tech (28.73%), and Infosys (26.10%) in last five financial years; 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16, while Wipro is having the least ROCE at average 21.23%. It shows TCS has rewarded its investors in terms of return on investment, while Wipro disappointed its stakeholders in comparison of its competitors.

**Return on Assets (ROA)**

Return on assets (ROA) establishes relationship between company’s earning capacity and its assets, it says how profitable a firm is towards its total assets at the same time it discusses how efficient the management is, on account of using assets of the company to generate earnings. It is calculated by dividing a company's earnings by its total assets and displayed as a percentage.
Return on assets (ROA) = Net Income/ Total Assets × 100

Figure 5: Five year average Return on Asset (ROA) of top five IT companies in India.
#Average of five years; 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16
Source; Author’s compilation

Figure 5, exhibits that Tata Consultancy Services (TCS) at average 30.76% maintains highest ROA among all the five companies in last five financial years; 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16, while the least ROA was observed in Wipro at average 21.23%. However Tech Mahindra (21.89%), HCL Tech (21.45%), and Infosys (21.10%) were just behind TCS in term of ROA.

Consolidated Profitability Performance

Table-3: Consolidated Profitability Rank of Top five IT companies in India

<table>
<thead>
<tr>
<th>Name of the Company</th>
<th>Rank as per Profitability Ratio</th>
<th>Operating Profit Margin (%)</th>
<th>Net Profit Margin (%)</th>
<th>Return on Equity (%)</th>
<th>Return on Capital Employed (%)</th>
<th>Return on Assets (%)</th>
<th>Total</th>
<th>Overall Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCS</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>8</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Infosys</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>17</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Wipro</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>5</td>
<td>25</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>HCL Tech</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>10</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Tech Mahindra</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>15</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Source; Author’s compilation

The Table-3 exhibits the consolidated profitability performance of five major IT companies. Overall Rank is given to all the five companies on the basis of their profitability performance. Highest rank is given to the company having least total value on account of their individual ranking in each ratio.

Hypothesis Testing

In order to test our hypothesis ‘Anova; Single Factor’ has been conducted (Table-4) and it is found that there is no significant variation in average profitability ratios of the companies in the year 2011-12 to 2015-16.
Table-4; Output from Anova: Single Factor

<table>
<thead>
<tr>
<th>SUMMARY</th>
<th>Groups</th>
<th>Count</th>
<th>Sum</th>
<th>Average</th>
<th>Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Column 1</td>
<td>5</td>
<td>169.99</td>
<td>33.998</td>
<td>21.88532</td>
</tr>
<tr>
<td></td>
<td>Column 2</td>
<td>5</td>
<td>124.26</td>
<td>24.852</td>
<td>17.50192</td>
</tr>
<tr>
<td></td>
<td>Column 3</td>
<td>5</td>
<td>151.45</td>
<td>30.29</td>
<td>51.52855</td>
</tr>
<tr>
<td></td>
<td>Column 4</td>
<td>5</td>
<td>146.12</td>
<td>29.224</td>
<td>49.48288</td>
</tr>
<tr>
<td></td>
<td>Column 5</td>
<td>5</td>
<td>117.26</td>
<td>23.452</td>
<td>46.74257</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ANOVA</th>
<th>Source of Variation</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>P-value</th>
<th>F crit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Between Groups</td>
<td>363.2646</td>
<td>4</td>
<td>90.81615</td>
<td>2.426407</td>
<td>0.08167</td>
<td>2.866081</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>748.565</td>
<td>20</td>
<td>37.42825</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1111.83</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Author compilation using Excel’s data analysis tool.

We see that p-value = 0.08167 > .05 and calculated value F < table value F crit i.e. 2.426407 < 2.866081 at 5% level, so we accept null hypothesis and conclude there is no significant difference between average profitability ratios of the five companies i.e. data are dispersed evenly across profitability ratios of the companies.

FINDINGS

1. Among the top five IT companies in India selected for the study, HCL Tech maintains higher operating profit margin (OPM %) at average 38.26% during last five years performance, while Infosys was at the second place with OPM of 35.88%.

2. In the area of Net profit margin, HCL Tech maintains highest among all the five companies, at average 28.47% among the five IT companies during our study period of five years. TCS was in the second place in average Net profit margin at 27.20%.

3. Among the top five leading IT companies TCS maintains highest ROE % at average 41.38% followed by HCL Tech (31.38%). Thus, TCS is efficiently rewarding its shareholders.

4. In the area of Return on Capital Employed, TCS at average 40.35% maintains highest ROCE among all the five companies. Though remaining companies are far behind TCS, Tech Mahindra stood second at 29.10%, in five year average ROCE. Thus, TCS is efficiently utilizing its capital.

5. The highest Return on Assets was observed in TCS at average 30.76% among all the five companies in last five financial years whereas Tech Mahindra was at second place having ROA of 21.89%.

6. Wipro was in least profitability position at every parameter of our study i.e. OPM%, NPM%, ROE, ROCE and ROA during last five years 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16.

7. The study revealed that Tata Consultancy Services (TCS) was in the highest profitability position in our study conducted for the period of five years 2011-12, 2012-13, 2013-14, 2014-15 and 2015-16. TCS’s overall rank stood 1st among Top five IT companies in our study.
8. Our study also revealed that Wipro was in the least profitability position, its overall rank stood 5th among Top five IT companies in our study. Wipro has disappointed its stakeholders in comparison of its competitors.

CONCLUSION

The present study shows IT companies selected for this study are somewhat doing well on account of profitability ratios. TCS and HCL Technology are far ahead of remaining IT companies in India, they have managed to get 1st and 2nd profitability position respectively based on overall rank. Tech Mahindra and Infosys were at 3rd and 4th position on overall ranking in our study. However, the profitability performance of Wipro with overall 5th rank is least satisfactory among top five IT players in the India.

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