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FINANCIAL PERFORMANCE AND CAPITAL EFFICIENCY IN SELECT ITES, BANGALORE

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Abstract
Major challenge for a business firm is measuring its financial performance in terms of profitability and Wealth creation. Financial statements provide various proportions to measure the firm's performance which can be brought under two categories profitability measurements and value measurements. Financial performance is a subjective measure of determining the usage of the firm's resources in generating revenues. It is used to measure overall financial health of an organization for a given period of time. Current study is undertaken to analyze the financial performance of 18 selected ITeS in Bangalore, for a period of 5 years [March 2012 to March 2016]. An effort is made to understand the relation between financial ratios [Operating Profit Ratio, Return on Equity, Return on Capital Employed, Capital Turnover ratio and Earnings per Share] and the capital efficiency quotients [Physical Capital, Human Capital and Structural Capital] as per VAIC [Value Added Intellectual Coefficient] model. ITeS is selected for the study as it is one of the sectors which are playing a significant role in crafting new India. ITeS in Bangalore are preferred as is considered to be the silicon valley of India and it is the leading IT exporter. From the study it was found that Human Capital a major portion in valuation creation per unit of investment and As per ANOVA technique it was found that Capital factors influences the financial performance.

Key Words: Financial Performance, Human Capital Efficiency, Structural Capital Efficiency, Capital Employed Efficiency, VAIC^{TM}.

Introduction

Indian economy underwent economic reforms in 1991, leading to a new era of globalization and international economic integration. ITeS is one of the results of the reform, which is making the entire world to look at India. IT industry has its place in export trade and also domestic trade. Today India is the second largest exporter of IT. The role it is playing in Economic Growth has been tremendous especially in the last few decades, it has contributed 9.5% to GDP [NASSCOM report 2014-15], has brought in Foreign Direct Investment (FDI) inflows worth US$ 21.02 billion between April 2000 and March 2016 [according to data released by the Department of Industrial Policy and Promotion] and more than 45 per cent in total services export in 2015-16. All these factors resulted in employment creation, increase in National Income, and improved standard of living. Mainly of all it has transformed India's image from a slow moving bureaucratic economy to a land of innovation. The IT sector in India has generated 2.5 million direct employments.

India is now one of the biggest IT capitals of the modern world and all the major players in the world IT sector are present in the country [Kamdar, 2006]. IT industries are aiming at contributing towards bringing in more earnings to the country and also importantly Intellectual Property creation.

Financial Performance Analysis

Financial Performance is the barometer which measures the success of the business and is considered as benchmark for the parties interested in business like investors, employees, creditors, government etc. Financial performance analysis helps them to understand the ability of the management and the efficiency in taking up the opportunities. It also shows the efficient utilization of resources, profits earned, liquidity position, future profit expectation etc.

Financial performance refers to the act of performing financial activity. In broader sense, financial performance refers to the degree to which financial objectives being or has been accomplished. It is the process of measuring the results of a firm's policies and operations in monetary terms. It is used to measure firm's overall financial health over a given period of time and can also be used to compare similar firms across the same industry or to compare industries or sectors in aggregation.

The financial performance analysis identifies the financial strengths and weaknesses of the firm by properly establishing relationships between the items of the balance sheet and profit and loss account. It involves the following steps; first step is to select the information relevant to the decision under consideration from the total information contained in the financial statements. The second is to arrange the information in a way to highlight significant relationships. The final is interpretation and drawing of inferences and conclusions.

The analysis of financial statements is a process of evaluating the relationship between component parts of financial statements to obtain a better understanding of the firm's position and performance.[Metcalf, R. W. and P. L. Titard, Principles of Accounting, W. B. Saunders, (Philadelphia)1976, P-157].

Financial Performance of a business firm can be measured from two main perspective namely Profitability Measurements and Wealth or value creation. To get better understanding of the above, statistical tools and mathematical tools can also used like Average, Variance, Correlation, Test Statistics, PERT, CPM, Linear Programming etc.

VAIC™- Value Added Intellectual Coefficient also known as the Value Creation Efficiency Analysis, is a measure proposed by Ante Pulic It is useful to all contributors – employers, employees, management, investors, creditors and business partners in accessing the value creation process and can be applied at all levels of business activity.

Ante Pulic (2000, 2003 and 2005) was one of the first scholars in the field of IC research to focus explicitly on the connection between Intellectual Capital and economic performance. He considers balance sheet figures for his entire analysis i.e. financial indicators. Another factor that sets Pulic apart from the rest of the field is that he straight forwardly applies established IC concepts in the domain of company economics. The model assigns explicit economic values, value added (VA) and capital employed (CE), to human capital (HC) and structural capital (SC) and on this basis generates an unambiguous Value Added Intellectual Coefficient (VAIC) index. VAIC has been used in various regional and national analyses to study the performance of individual companies. It has also been frequently quoted in academic research. However, there are no further it has not been subjected to critical conceptual or formal analysis, nor has it been further elaborated.

VAIC model was selected as the intention of the research is not the calculation of intellectual capital but it is to find the impact of capital efficiency factors on profitability. It was found in a study conducted by Pirjo Stahle, Sten Stahle and Samuli Aho on 125 Finnish listed companies in 2009, found that VAIC parameters have nothing to do with intellectual capital. They merely indicate the efficiency of the company's human and capital investments. As such VAIC tool is used to calculate the efficiency of deployment of capital in terms of human [amount invested on human resources], structural [operational activity] and physical [capital employed].

Calculation of capital efficiencies as per the model proposed by Pulic

Value added is calculated as the difference between output and input. The basic definition is as follows: VA = OUT – IN where: VA = value added for the company; OUT = total sales; IN= cost of bought – in materials, components and services
When the Value added is based on accounting values, it is denoted as:
VA = OP + EC + D + A, where: OP = operating profit; EC = employee costs; D = depreciation; A = Amortization
Value added is a totally objective indicator of business success and shows the ability of a company to create value which needs to include the investments in resources including salaries and interests for financial assets, dividends to the investors, taxes to the state and investments in future development.
After VA has been calculated the computation of the efficiency of resources will be calculated on three main basic parameters – Human Capital Efficiency, Structural Capital Efficiency and Capital Employed Efficiency.

Efficiency of human capital is calculated as follows

HCE = VA / HC, where: HCE = human capital efficiency coefficient for company; VA = value added; HC = total salaries and wages for company.

Structural capital, as the second component, is calculated as follows:

SC = VA – HC, where: SC = structural capital for company; VA = value added; HC = total salary and wage duties for company.
As the equation already indicates, this form of capital is not an independent size as human capital. It is dependent on the created value added and in reverse proportion to HC. This means that the bigger the share of human capital, HC in the created value added (VA) the smaller is the share of structural capital (SC). In some cases SC does not even has to occur – e.g. if VA is less than the investments in HC. Because they have to be brought in the same position towards VA the efficiency of HC and SC is calculated in a different manner.

Structural capital efficiency (SCE) is calculated in the following manner:

SCE = SC / VA, where SCE = structural capital efficiency for company; SC = structural capital;
VA = value added.

In order to receive a full insight into the efficiency of value creating resources it is necessary to take physical and financial capital into account. Although losing its predominant position in new economy its relevance cannot be neglected. Intellectual capital cannot create value on its own. Therefore we need information on capital employed efficiency which can be calculated in the following manner:
CEE = VA / CE where: CEE = capital employed efficiency coefficient; VA = value added, CE = book value of the net asset for a company

In order to enable comparison of overall value creation efficiency all three indicators need to be added up.
VAIC™ = HCE + SCE + CEE where: VAIC™ = value added intellectual coefficient; HEC = human capital efficiency; SCE = structural capital efficiency; CEE = capital employed efficiency coefficient.

This aggregated indicator allows us to understand the overall efficiency of a company and indicates its intellectual ability. In simple words, VAIC™ measures how much new value has been created per invested monetary unit in resources. A high coefficient indicates a higher value creation using the company's resources. We therefore have a new way to understand organizational efficiency.

Statement of Problem
Investors, employees, creditors, government and all parties associated with business will expect the management to be creative in an effort to improve their performance. They are expected to have the ability and should take advantage of all opportunities to improve firm's performance.

Objective of the study
1. To analyze the financial performance of selected ITeS.
2. To understand the relationship between Human Capital Efficiency and Financial Performance.
3. To understand the relationship between Structural Capital Efficiency and Financial Performance.
4. To understand the relationship between Capital Employed Efficiency and Financial Performance.
5. To understand the main influence on Value addition.

Limitations of the study
1. ITeS Industries in Bangalore are covered
2. Period taken for study is only five years.

Methodology of the study
For the purpose of study secondary data was collected from various research articles, news reports etc. The financial data was taken from websites of NSC, Money Control and Company Websites. Analysis is done by using profitability ratios – Operating Profit Ratio, Return on Equity, Return on Capital Employed, Capital Turnover ratio and Earnings per Share and Capital efficiency quotients as per VAIC method. Statistical tool used are Correlation Analysis and ANOVA. Top 18 ITeS in Bangalore is selected for the current study. Data used for analysis is from March 2012 to March 2016.

Variables Definition
Two sets of variables have been identified for the purpose of this study. They include the capital efficiency measures Human Capital Efficiency, Structural Capital Efficiency and Capital Employed Efficiency which are treated as independent variables and which measure Intellectual corporate performance as derived from Pulic's method. Dependent Variables for the purpose of this study are five financial ratios denoting financial performance they include Operating Profit Ratio, Return on Equity, Return on Capital Employed, Capital Turnover ratio and Earnings per Share.

Hypothesis
Ho - Capital efficiency factors influence the financial performance.

Review of Literature
Research on profitability and growth of HCL Technologies Limited, Wipro Limited and Mahindra Tech, through ratios of sales and investment, conducted by Asma Khan and Jyoti Singhal(2015) revealed that there is no significant difference in profits made by the company over the years but there is significant difference between the companies. Performance of Tech Mahindra was good, Wipro showed average performance and HCL Technologies was not satisfactory. Where as in the present research the ranking of the same companies shows HCL in first place followed with Wipro and at last Tech Mahindra.

Pirjo Ståhle, Sten Ståhle and Samuli Aho(2009) conducted a study on 125 Finnish companies with 5 years data, the intention of the study was to find out the validity of VAIC method as an indicator of intellectual capital and also to test Pulic's hypothesis that the present market value of a company can be estimated on the basis of the company's VAIC value. Analyses showed, firstly, that VAIC parameters have nothing to do with intellectual capital. They merely indicate the efficiency of the company's labour and capital investments. Furthermore, the calculation method uses overlapping variables and has other serious validity problems. Second, the results do not lend support to Pulic's hypothesis that VAIC correlates with a company's stock market value. The main reasons behind the lack of consistency in the results lie in the confusion of capitalized and cash flow entities in the calculation of structural capital and in the misuse of intellectual capital concepts.

Bambang Sudiyatno, Elen Puspitasari, Andi Kartika (2012) in their study on 110 manufacturing companies listed in Indonesia Stock exchange, analyze the relation between Company performance and value of company. To establish the relationship the variables under consideration was classified into dependent and independent variables, which is denoted in a model as follows – Corporate Policy [the independent variable which was measured in terms of Debt Ratio and Stock Performance] → Firm Performance [being the dependent variable was measured in terms of ROA and firm value as per Tobin Q]. The study recommended maximizes the use of debt in capital spending activities and bonus shares should be given as incentives to motivate managers.

Capital Structure has an influence on the Financial Performance, which means usage of debt in the capital structure will influence the financial performance. Earlier Book value of share was considered as appropriate measure for capital structure but now it is found by the researchers that market value of shares is the true determinant of net-worth. This was studied and proved by Kwame Mireku, Samuel Mensah & Emmanuel Ogoe(2014) with 153 companies listed in Ghana stock exchange.
Dr. Newman and Dr. Nelson conducted research to find the determinants of profitability. The study did not reveal any new factor, but the known factors were opened as determinants like sales, current ratio, debt to equity, net profit ratio, human capital investment, industry diversification, competition etc. the study also clarified the implications of profitability, like boosting the performance, creating the job, low price, new products, employee security, people education programs, savings and investment, retirement benefits etc.

Measurement of the performance of organization is crucial for proper economic decisions. Traditionally only financial indicators were used as financial indicators but in the Information and Knowledge Era they are no longer sufficient and do not reflect in a transparent, complete and cohesive way the multi-dimensional outcomes of business units activities. Justyna Fijałkowska (2014) uses VAIC to measure the performance of the organization. The article focused on highlighting the characteristics of this method and the algorithm of its calculation. The study was concluded with the proclamation that the value of companies is nowadays based on more than physical assets. The success of the companies is determined by the creation and management of intangibles. Therefore, in the Knowledge Era it is necessary to extend the toolbox of performance measures with non-financial measurement approaches. VAIC™ seems to be an important proposal.

Ming-Chin Chen, Shu-Ju Cheng, Yuhchang Hwang conducted study on the relationship between intellectual capital and firms' market value and financial performance The purpose of this article was to investigate empirically the relation between the value creation efficiency and firm's market valuation and financial performance. Data of 75 listed companies in Taiwan was used for the study. The result supported the hypothesis that firm's intellectual capital has a positive impact on the market value and financial performance; it also acts as indicator for future financial performance.

Dr. Hanuman Prasad, Kapil Shrimal (2015) conducted study to relation between Market capitalization and firm's profitability. Market Capitalization represents the combined value of a company's stock. To examine market capitalization was taken as a dependent variable and the profitability ratios (GPM, NPM, ROCE, ROE and RONW) and market value ratios (EPS, PER and DPR) variables were selected as independent variables. Sample of 23 listed infrastructural companies of CNX Infrastructure Index have been taken for the study. The study reveals that there is positive relationship between market capitalization and profitability ratios of selected infrastructural companies. Result shows that there is significant relationship between ROCE, ROE and EPS with Market Capitalization.

Intellectual Capital is the key for creating and sustaining competitive edge over other businesses. Today the companies need to invest in Intellectual Capital to stand for the gain. To prove this research was conducted by Dr. Aparna Bhatia and Khushboo Aggarwal (2015) on Indian software companies with the objective to analyze the relationship between intellectual capital and corporate financial performance.

The Value Added Intellectual Coefficient TM (VAIC) method developed by Public, 1999 was applied for measuring the value based performance of the companies. The intellectual capital (human capital and structural capital) and physical capital of the selected companies have been analyzed and their impact on corporate performance has been measured. Results indicate that profitability and intellectual capital are positively associated. However, Physical capital has been found to be the most significant factor affecting the performance of the firms.

Role of intellectual capital is important in achieving competitive advantage by companies from emerging economies where performance is usually strongly determined by the physical capital employed. To show the importance of intellectual capital study was conducted by Claudiu-Marian Gruian1(2011). IC was calculated by using the VAIC method, and financial performance, calculated by using Return on Equity. All three components of VAIC, namely HCE, SCE and CCE was taken separately to find the relation on ROE. Based on data collected from the financial statements of companies listed at Bucharest Stock Exchange, the study exhibited the correlation between intellectual capital and its components.

Data Analysis

For the convenience of understanding the analysis of the data has been classified into three parts as follows –

Part A – Financial performance analysis of select ITeS in terms of Operating Profit Ratio, Return on Equity, Return on Capital Employed, Capital Turnover ratio and Earnings per Share. And also value addition per unit of investment based on VAIC method.

Part B – To analyze the relation between financial performance and capital efficiency factors in terms HCE, SCE, CEE and VAIC.

Part C – To find of goodness of fit using ANOVA technique.

Part A

Financial performance analysis of 18 selected ITeS was done by using the profitability ratios - Operating Profit Ratio, Return on Equity, Return on Capital Employed, Capital Turnover Ratio and Earnings per Share. Value addition was calculated using Human Capital Efficiency, Structural Capital Efficiency, Capital Employed Efficiency and Value Added Intellectual Coefficient.

The above mentioned profitability ratios depict the financial performance of an organization on a broader level. These ratios help us to analyze how effectively company has used its capital in achieving the financial performance of a company. An analysis of the same is attached herewith as Annexure - .

To understand the operational efficiency of the business operating ratio is selected for analysis Referring the “Table 1 – Showing the Operating Profit Ratio”, HCL Technologies has ranked 1st at 37.46% followed with Hexaware Technologies and TCS. Geometric Ltd is ranked least with 12.06%. The reason for an increased operating ratio can be the effectiveness of the operations of the company and the role of management in taking its business decisions.

Referring to "Table 2 – Return on Equity” L & T Infotech ranks 1st at 47.39% followed with TCS and HCL. First Source Solutions at the least ranking at 8.89%. One of the reasons of achieving a higher Return on Equity can also be related to the composition of the capital structure and the effective utilization of debt in the capital structure into the business.

Referring to “Table 3 – Return on Capital Employed”, the company ranking is same as in the case of ROE. The composition of capital employed is also a factor for increased ROCE.. A company which has a higher ROCE also has a higher ROE because both are ratios which show effective utilization of capital and generating value to shareholders.

Referring to “Table 4 – Capital Turnover Ratio”, The ratio indicates how much a company could grow its current capital investment level. L&T Infotech stands in first rank with 2.56 times followed with MindTree Ltd and TCS. First Source Solutions at the least ranking at 0.62 times

Referring to “Table 5 – Showing Earnings per share”, L& T Infotech ranks 1st with Rs.175.30/share followed with Infosys and TCS. Firstsource Solutions ranks least with Rs.2.10/share. One of the reasons of higher EPS is effective utilization of capital structure and effective deployment of company’s assets which will bring in higher EPS in the industry. It is clear by analyzing the tables that financial performance has resulted in wealth maximization of the shareholders.

Referring to “Table 6 – Showing Human Capital Efficiency”, HCL stands in rank 1 with 2.05 followed by TCS and Hexaware Technologies. Geometric Ltd shows the least efficiency in terms of human capital with 1.22. HCE shows the efficient utilization of human resource and their contribution towards addition of value to invested monetary unit.

Referring to "Table 7 – Showing Structural Capital Efficiency", HCL stands in rank 1 with 0.51 followed by TCS and Hexaware Technologies. Geometric Ltd shows the least efficiency in terms of structural capital with 0.17. SCE shows efficiency of operational activity and their contribution towards addition of value to invested monetary unit.

Referring to "Table 8 – Showing Capital Employed Efficiency", L&T Infotech stands in rank 1 with 2.04 followed by Mindtree and Zensar Technologies. Firstsource Solutions shows the least efficiency in terms of capital employed with 0.43. CEE shows efficiency of Capital structure and their contribution towards addition of value to invested monetary unit.

Referring to "Table 9 – Showing Value Added Intellectual Coefficient", L&T Infotech secures rank 1 with 3.65 followed with TCS and HCL. Geometric Ltd is ranked last with 2.18. This shows how effectively capital is deployed in terms of human [amount invested on human resources], structural [operational activity] and physical [capital employed]. VAIC shows new value has been created per invested monetary unit in resources. A high coefficient indicates a higher value creation using the company's resources. This value helps us to understand organizational efficiency. From the VAIC analysis it is clear that all the companies have at least doubled their investment.

Part B

Further to have better understanding of the relation between capital factors and financial performance correlation analysis is carried out and the firms under consideration are classified into three categories, namely

1. Big Companies – the companies with capital employed in 5 digits crores. TCS, Infosys, Wipro, HCL and TechMahindra fall under this category.
2. Medium Companies - the companies with capital employed in 4 digits crores. This category has the maximum number of firms, Mphasis, Mindtree, L&T, Firstsource, Cyient, Persistent, KPIT, NIIT and Hexaware.
3. Small Companies - the companies with capital employed in 3 digits crores. The firms here are Hinduja, Zensar, Infiniti and Geometric.

Referring to "Table 10 – Correlation of Big Companies", it is found that –

OPR shows positive and strong correlation with HCE and SCE. Only in case of CCE the correlation is negative and week. This shows the dependence of operating profit is more on human and operation and not on capital structure. VAIC is influenced by HEC and SCE, depicting same correlation as in HEC and SEC.

CTR shows negative and week correlation with HCE and SCE. Only in case of CCE the correlation is positive and significant. It quite obvious from this study that turnover depends on capital structure. VAIC shows week but positive correlation.

ROE shows positive and strong correlation with HCE and SCE. Only in case of CCE the correlation is positive and significant. This shows the human and operation has more influence on ROE than the capital structure. VAIC is influenced by HEC and SCE, depicting strong perfect correlation.

ROCE shows positive and strong correlation with HCE, SCE, and VAIC. Only in case of CCE the correlation is positive and significant. This shows the human and operation has more influence on ROCE than the capital structure.

EPS is exhibiting positive and significant correlation with CEE but with all other factors it is exhibiting positive but week correlation.

Overall Value has 59% contribution from HCE, 27% from CEE and 14% from SCE; from this one can understand that human efficiency has a major role in big companies.

Referring to "Table 11 – Correlation of Medium Companies", it is found that - OPR shows positive and strong correlation with HCE and SCE. Only in case of CCE the correlation is negative and week. This shows the dependence of operating profit is more on human and operation and not on capital structure. VAIC has shows week positive correlation, may be due to balancing of positive [HEC and SCE] and negative [CEE] effect.

CTR shows negative and moderate correlation with HCE and SCE. Only in case of CCE the correlation is perfect positive. It quite obvious from this study that capital turnover depends on capital structure. VAIC is influenced by CEE, showing strong positive correlation.

ROE shows positive but week correlation with HCE and SCE. Only in case of CCE the correlation is positive and strong. This shows the capital structure has more influence on ROE than the human and operation efficiency. VAIC is influenced by CEE, showing strong positive correlation.

ROCE shows positive but week correlation with HCE and SCE. Only in case of CCE the correlation is positive and significant. This shows the capital structure has more influence on ROCE than the human and operation efficiency. VAIC is influenced by CEE, showing perfect positive correlation.

EPS is exhibiting positive and strong correlation with CEE but with all other factors it is exhibiting negative but week correlation. VAIC is influenced by CEE, showing strong positive correlation.
Overall Value has 55% contribution from HCE, 34% from CEE and 11% from SCE; from this one can understand that human efficiency has a major role in medium sized companies.

Referring to "Table 12 – Correlation of Small Companies", it is found that
OPR shows positive and strong correlation with HCE and SCE. Only in case of CCE the correlation is week. This shows the dependence of operating profit is more on human and operation and not on capital structure. VAIC is influenced by HEC and SCE, depicting positive and significant correlation.

CTR shows negative and week correlation with HCE and SCE. Only in case of CCE the correlation is positive and strong. It quite obvious from this study that capital turnover depends on capital structure. VAIC is influenced by CEE, showing moderate positive correlation.

ROE shows positive and moderate correlation with all the three factors, HCE SCE and CEE, showing that the ROE has equal influence by all factors. VAIC is representing the correlation as in other factors.

ROCE shows positive and moderate correlation with all the three factors, HCE SCE and CEE, showing that the ROCE has equal influence by all factors. VAIC is representing the correlation as in other factors.
EPS is exhibiting positive and significant correlation with CEE but with all other factors it is exhibiting week correlation. VAIC is influenced by CEE, showing significant positive correlation.

Overall Value has 55% contribution from HCE, 35% from CEE and 10% from SCE; from this one can understand that human efficiency has a major role in small companies.

Part C
To prove the hypothesis, statistical test ANOVA was used. As per this, the calculated f-value was 0.7 and 0.88 corresponding to f-table values 3.49 and 3.26 respectively for rows and columns at 5% level of significance, as the calculated value is less than table value null hypothesis is accepted, i.e. Capital efficiency factors influence the financial performance.

Conclusion
It is concluded from the above analysis that Capital efficiency factors influence the financial performance of ITeS. Among the three factors of capital efficiency considered for the current study, human quotient plays a major role in financial performance of ITeS Companies weather it is Big, Medium or small Company. The other supporting point for the result can be that ITeS is involved in providing service and creation on Intellectual Properties which mainly depend on human efficiency than the structural or physical capital.

Among the 18 companies TCS has secured one among the three ranks in most of the calculation showing that it is one of the best performing companies in the market, followed with HCL and L&T InfoTech. Companies with non satisfactory performance are First source, Geometric and Mphasis.

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Annexure

Table 1 - Operating Profit Ratio

Rank	Name of Company	OPR
1	HCL Technologies Ltd	37.46
2	Hexaware Technologies Ltd	34.89
3	Tata Consultancy Services Ltd	30.42
4	Infosys Ltd	29.82
5	Persistent Systems	26.43
6	Infinite Computer Solutions Ltd	25.41
7	Cyient	24.57
8	Zensar Technologies Ltd	23.01
9	KPIT Technologies Ltd	22.78
10	Wipro Ltd	21.21
11	L&T Infotech	20.59
12	MphasiS Ltd	20.38
13	NIIT Technologies Ltd	18.94
14	MindTree Ltd	18.62
15	Hinduja Global Solutions	18.33
16	Tech Mahindra Ltd	18.10
17	Firstsource Solutions	18.01
18	Geometric Ltd.	12.06

Table 2 - Return on Equity

Rank	Name of Company	ROE
1	L&T Infotech	47.39
2	Tata Consultancy Services Ltd	41.33
3	HCL Technologies Ltd	32.32
4	Hexaware Technologies Ltd	30.86
5	Infosys Ltd	26.18
6	MindTree Ltd	25.55
7	Zensar Technologies Ltd	24.84
8	Wipro Ltd	23.12
9	Tech Mahindra Ltd	20.81
10	Infinite Computer Solutions Ltd	19.39
11	NIIT Technologies Ltd	18.69
12	Geometric Ltd.	18.38
13	Persistent Systems	18.28
14	Cyient	16.11
15	KPIT Technologies Ltd	14.88
16	Hinduja Global Solutions	12.43
17	MphasiS Ltd	12.18
18	Firstsource Solutions	8.89

Table 3 - Return on Capital Employed

Rank	Name of Company	ROCE
1	L&T Infotech	42.26
2	Tata Consultancy Services Ltd	40.35
3	HCL Technologies Ltd	30.84
4	Hexaware Technologies Ltd	29.64
5	Infosys Ltd	26.10
6	MindTree Ltd	25.15
7	Zensar Technologies Ltd	24.35
8	Wipro Ltd	22.29

Table 4 - Capital Turnover Ratio

Rank	Name of Company	CTR
1	L&T Infotech	2.56
2	MindTree Ltd	1.81
3	Tata Consultancy Services Ltd	1.48
4	Zensar Technologies Ltd	1.47
5	Tech Mahindra Ltd	1.35
6	NIIT Technologies Ltd	1.33
7	Geometric Ltd.	1.14
8	Wipro Ltd	1.13

9	Infinite Computer Solutions Ltd	18.90	9	Hinduja Global Solutions	1.12
10	NIIT Technologies Ltd	18.42	10	Infosys Ltd	1.01
11	Persistent Systems	18.10	11	Hexaware Technologies Ltd	0.99
12	Geometric Ltd.	17.98	12	Persistent Systems	0.95
13	Tech Mahindra Ltd	17.49	13	KPIT Technologies Ltd	0.89
14	Cyient	15.63	14	Infinite Computer Solutions Ltd	0.87
15	KPIT Technologies Ltd	13.46	15	Cyient	0.81
16	MphasiS Ltd	12.07	16	HCL Technologies Ltd	0.77
17	Hinduja Global Solutions	11.59	17	MphasiS Ltd	0.71
18	Firstsource Solutions	8.25	18	Firstsource Solutions	0.62

Table 5 - Earnings Per Share [in Rs.]

Rank	Name of Company	EPS
1	L&T Infotech	175.30
2	Infosys Ltd	131.86
3	Tata Consultancy Services Ltd	85.95
4	MindTree Ltd	68.72
5	HCL Technologies Ltd	52.55
6	Tech Mahindra Ltd	51.97
7	Hinduja Global Solutions	46.70
8	Persistent Systems	42.60
9	Zensar Technologies Ltd	37.40
10	Wipro Ltd	30.49
11	NIIT Technologies Ltd	27.41
12	MphasiS Ltd	22.70
13	Infinite Computer Solutions Ltd	21.27
14	Cyient	19.70
15	Hexaware Technologies Ltd	10.09
16	Geometric Ltd.	9.53
17	KPIT Technologies Ltd	8.02
18	Firstsource Solutions	2.10

Table 6 - Human Capital Efficiency

Rank	Name of Company	HCE
1	HCL Technologies Ltd	2.05
2	Tata Consultancy Services Ltd	1.86
3	Hexaware Technologies Ltd	1.73
4	Infosys Ltd	1.57
5	Persistent Systems	1.54
6	Cyient	1.51
7	Infinite Computer Solutions Ltd	1.46
8	Wipro Ltd	1.46
9	Tech Mahindra Ltd	1.45
10	MphasiS Ltd	1.44
11	KPIT Technologies Ltd	1.43
12	Zensar Technologies Ltd	1.43
13	Firstsource Solutions	1.36
14	L&T Infotech	1.35
15	NIIT Technologies Ltd	1.34
16	MindTree Ltd	1.31
17	Hinduja Global Solutions	1.29
18	Geometric Ltd.	1.22

Table 7 - Structural Capital Efficiency

Rank	Name of Company	SCE
1	HCL Technologies Ltd	0.51
2	Tata Consultancy Services Ltd	0.46
3	Hexaware Technologies Ltd	0.42
4	Infosys Ltd	0.36
5	Persistent Systems	0.35
6	Cyient	0.33
7	Infinite Computer Solutions Ltd	0.31
8	Wipro Ltd	0.31
9	Tech Mahindra Ltd	0.31
10	MphasiS Ltd	0.31
11	KPIT Technologies Ltd	0.30
12	Zensar Technologies Ltd	0.30
13	L&T Infotech	0.26

Table 8 - Capital Employed Efficiency

Rank	Name of Company	CEE
1	L&T Infotech	2.04
2	MindTree Ltd	1.43
3	Zensar Technologies Ltd	1.13
4	NIIT Technologies Ltd	0.99
5	Tata Consultancy Services Ltd	0.98
6	Hinduja Global Solutions	0.91
7	Infosys Ltd	0.83
8	Hexaware Technologies Ltd	0.82
9	Tech Mahindra Ltd	0.79
10	Geometric Ltd.	0.78
11	Persistent Systems	0.72
12	Infinite Computer Solutions Ltd	0.69
13	KPIT Technologies Ltd	0.67

14	Firstsource Solutions	0.26	14	Wipro Ltd	0.61
15	NIIT Technologies Ltd	0.26	15	Cyient	0.60
16	MindTree Ltd	0.24	16	HCL Technologies Ltd	0.57
17	Hinduja Global Solutions	0.23	17	MphasiS Ltd	0.47
18	Geometric Ltd.	0.17	18	Firstsource Solutions	0.43

Table 9 -Value Added Intellectual Coefficient

Rank	Name of Company	VAIC™
1	L&T Infotech	3.65
2	Tata Consultancy Services Ltd	3.30
3	HCL Technologies Ltd	3.13
4	MindTree Ltd	2.97
5	Hexaware Technologies Ltd	2.97
6	Zensar Technologies Ltd	2.86
7	Infosys Ltd	2.76
8	Persistent Systems	2.61
9	NIIT Technologies Ltd	2.59
10	Tech Mahindra Ltd	2.55
11	Infinite Computer Solutions Ltd	2.47
12	Cyient	2.44
13	Hinduja Global Solutions	2.43
14	KPIT Technologies Ltd	2.41
15	Wipro Ltd	2.38
16	MphasiS Ltd	2.22
17	Geometric Ltd.	2.18
18	First source Solutions	2.04

Table 10 - Correlation analysis of Big Companies

	OPR	CTR	ROE	ROCE	EPS
HCE	0.91	-0.35	0.79	0.77	0.05
SCE	0.91	-0.30	0.84	0.82	0.13
CEE	-0.09	0.76	0.45	0.43	0.63
VAIC™	0.80	0.01	0.94	0.91	0.34

Table 11 - Correlation analysis of Medium Companies

	OPR	CTR	ROE	ROCE	EPS
HCE	0.97	-0.41	0.04	0.07	-0.37
SCE	0.96	-0.44	0.01	0.04	-0.38
CEE	-0.18	1.00	0.90	0.90	0.93
VAIC™	0.20	0.91	0.99	0.99	0.85

Table 12 - Correlation analysis of Small Companies

	OPR	CTR	ROE	ROCE	EPS
HCE	0.98	-0.02	0.57	0.56	0.22
SCE	0.99	-0.01	0.53	0.51	0.30
CEE	0.13	0.95	0.43	0.41	0.63
VAIC™	0.72	0.62	0.64	0.62	0.58