CHAPTER – 6

OBSERVATIONS AND CONCLUSIONS

6.1 BASED ON ACCOUNTING ANALYSIS

6.1.1 AGROCHEMICAL INDUSTRY

(1) All selected profitability ratios are reported in the order as per expectation. All the ratios are found to be highest in Group A companies, second highest in Group B companies and lowest in case of Group C companies except Profit Before Interest & Tax ratio where performance of Group C companies is better than that of Group B companies. Group C companies have reported a negative profit margin.

(2) When liquidity status is examined, it is found that Group A and B companies have normal liquidity which is also in accordance with expectation while Group C companies have very abnormal size and this abnormal liquidity has significantly influenced profitability of these companies. So to improve profitability of Group C companies initially focus is to be made on liquidity status.

(3) Solvency of Group A and B companies is reported to be in good condition. Group C companies have very a high debt-equity ratio which leads to higher financial cost and consequently reduces profitability. Thus, Group C companies are required to reduce the quantum of debt to enhance profitability.

(4) Efficiency results are reported to be the other way round. Efficiency in Group C companies is found to be the best amongst all. But the subsequent results of Group C companies are found to be weak. For better performance Group C companies are required to manage their liquidity and solvency, so that their profitability can be enhanced.

6.1.2 AUTO PARTS & EQUIPMENT INDUSTRY

(1) As expected all the profitability ratios in Group A companies are highest and the second best performer turns out to be Group B companies. Group C companies have reported lowest profitability ratios. All the profitability ratios reported are positive barring none. Considering the Net Profit ratio, Group C companies have
reported the lowest ratio. Overall profitability of Group C companies has been found to be abysmally low.

(2) Group A companies have not only enjoyed a good profitability status but also have reported good liquidity condition. These companies have maintained their liquidity at optimum level without sacrificing profitability. Group B companies have normal liquidity status which is also in accordance with expectation. Group C companies also have acceptable liquidity position but as stated earlier, low profitability. In order to enhance profitability, Group C companies are required to rejig and manage their liquidity still better to influence their profitability positively.

(3) Group A and B companies enjoy excellent solvency as reflected in their Interest Cover ratios and Financial Charges coverage ratios. Group C companies have higher debt-equity ratio which entails higher financial cost and this fixed charges have adversely impacted their profitability. Group B companies have serviced the debt very efficiently and effectively. The reverse is true in case of Group C companies. Thus, Group C companies are required to reduce the incidence of debt to ameliorate their profitability.

(4) Group C companies have much better efficiency ratios. It is reported that efficiency in Group C companies is found to be the highest. But the Group C companies are found to have high debt and servicing the same has affected their profitability which could have been better had the amount of debt been kept low. For better performance, Group C should manage their solvency, so that their profitability can be enhanced.

6.1.3 CEMENT INDUSTRY

(1) All selected profitability ratios are reported in accordance with expectation. In Group A companies all the ratios are found to be highest and second highest in Group B companies and lowest in case of Group C companies. Group C companies have reported a very low net profit margin even though their debt equity ratio is second highest. It is found that Group C companies have not been able to use debt to augment profitability.

(2) As far as liquidity is concerned, it is found that Group B companies have best liquidity status followed by Group A companies. Group C companies have
reported a low liquidity ratio which again is in accordance with expectation. Group B companies have greater amount of debt than Group C companies and yet the liquidity status of Group B companies is better. Group B companies enjoy good liquidity position without sacrificing their profitability.

(3) Solvency of Group C companies is reported to be very good despite relatively higher debt-equity ratio than Group A companies. Thus it is found that Group C companies are able to service debt efficiently and they have put the debt raised to better use to improve profitability and liquidity. Group B companies have reported very high debt-equity ratios are still their interest cover ratio is the highest which is found to be very robust and healthy. Group A companies are found to be least levered and hence their coverage ratios are found to be very healthy. It can be concluded that these companies have the earning capacity to absorb more debt if need be.

(4) Efficiency results are superlative in Group C companies and the level of efficiency in Group C companies is found to be the highest amongst all. In Group A companies the efficiency ratios are lowest. It is observed that Group A companies can significantly improve their profitability and efficiency by raising the debt at optimum level. Group B companies have a high quantum of debt and still their efficiency ratios are near the best. It is found that Group B companies have absorbed the debt most efficiently and effectively. Group A companies need to focus on their debt management to enhance further their profitability and liquidity.

6.1.4 HEAVY ELECTRICAL EQUIPMENTS INDUSTRY

(1) All selected profitability ratios are reported in keeping with expectation. Group A companies have reported the highest profitability ratios. Group B companies are found to be second profitable and again as observed in several other cases earlier, lowest profitable ratios are reported in case of Group C companies. The Net Profit ratio in Group C companies is the lowest and the companies in Group C should focus on their profitability.

(2) When liquidity status is examined, it is reported Group C companies have the highest liquidity ratios whereas Group A and B companies have normal liquidity. Group C companies have slightly excess liquidity which has
significantly influenced profitability of these companies. So to improve profitability of Group C companies must resort to better liquidity management.

(3) Group C companies have the lowest debt-equity ratio and have reported the highest interest cover ratio. So the solvency status in Group C companies is found to be good but when their profitability is also taken into consideration, the same has been found to be grossly inadequate. So in spite of good solvency the Group C companies are advised to not raise debt any further. Though Group A companies are highly levered, the solvency of Group A companies is reported to be very healthy. It is found that Group A companies have managed debt well and also have potential to raise more debt. Group B companies have higher debt-equity ratio than Group B companies have and that is found to have impacted their interest cover ratios. Because debt in capital structure leads to higher financial cost and consequently reduces profitability. Group C companies need to reduce the debt amount and this will boost profitability.

(4) Group B companies have the highest efficiency ratios except for Assets Turnover ratio. It is found that Group C companies are using assets to the maximum as their Assets Turnover ratio is the highest. However, the results with respect to profitability and solvency of Group C companies are found to be dismal and disappointing. Therefore, Group C companies need to manage solvency better to enhance profitability. Improved solvency and good efficiency together will enhance the profitability of Group C companies.

6.1.5 IRON AND STEEL INDUSTRY

(1) In Group A companies all the ratios are found to be highest and the second highest in Group B companies and the lowest in case of Group C companies. Group C companies have reported a very low net profit margin even though their debt equity ratio is second highest. It is found that Group C companies have not been able to use debt to augment profitability. On the contrary debt is hampering the profitability of Group C companies.

(2) As far as liquidity is concerned, it is found that Group B companies have best liquidity status. Group B companies have the highest amount of debt and yet the liquidity status of Group B companies is the best amongst all. It is found that Group B companies enjoy good liquidity position without sacrificing their
profitability. Group A companies have the lowest liquidity ratios but the liquidity condition is found to be good and within acceptable standards. Group C companies have reported good liquidity condition which is found to have adverse impact on the profitability of Group C companies.

(3) Group B companies have reported very high debt-equity ratio and as a result their interest cover ratio is reported to be the lowest. Solvency of Group C companies is reported to be very good despite relatively higher debt-equity ratio than Group A companies. Thus it is found that Group C companies are able to service debt efficiently and they have put the debt raised to better use to improve profitability and liquidity. Group A companies are found to be least levered and hence their coverage ratios are found to be astoundingly high. It can be concluded that these companies have the earning capacity to absorb more debt and if profitable avenues are available Group A companies should use debt to finance such projects and enhance profitability.

(4) Efficiency results are superlative in Group C companies and the level of efficiency in Group C companies is found to be the highest amongst all. In Group B companies the efficiency ratios are reported to be the lowest. Group C companies have a high quantum of debt and still their efficiency ratios are the best. But the subsequent results of Group C companies are found to be weak. For better performance Group C companies need to manage their liquidity even better so that their profitability can be enhanced.

6.1.6 PHARMACEUTICAL INDUSTRY

(1) All selected profitability ratios are reported in accordance with expectation. All the ratios are found to be highest in Group A companies, second highest in Group B companies and lowest in case of Group C companies. The net profit margin of Group C companies is abnormally negative at -837.56 %. Going by this average the Group C companies need to focus on their profitability. Even other profitability ratios- other than net profit margin- in Group C companies are very low which again brings home the fact that Group C companies have to manage their profitability with utmost diligence.

(2) When liquidity status is examined, it is reported that Group C companies have the highest liquidity ratios whereas Group A companies have second highest
liquidity ratios. Group C companies have excessive liquidity which means that huge amount of funds remain idle and interest loss is indicated. This too much liquidity has significantly influenced profitability of these companies. So to improve profitability of Group C companies they must focus on better liquidity management to improve profitability.

(3) Group C companies have the lowest reported interest cover ratio i.e. negative interest cover ratio. The quantum of debt-equity in Group C companies is very low and yet the coverage ratios are negative. This is an indication of very poor solvency in Pharmaceutical companies. Though Group B companies are highly levered, the solvency of Group B companies is reported to be the best. It is found that Group B companies have managed debt well and also have potential to raise more debt. Group C companies need to reduce the debt amount and excess liquidity should be cut down as it will have positive impact on their profitability and solvency too.

(4) Efficiency results are reported to be the other way round. Efficiency in Group C companies is found to be the best amongst all except for Asset Turnover ratio. But the performance of Group C companies on other parameters as delineated above shows that results of Group C companies are weak. For better performance it is of utmost importance that Group C companies manage their liquidity and solvency, so that their profitability can be improved and the existing loss can be eliminated and profit can be earned.

6.1.7 POWER/ELECTRIC UTILITIES INDUSTRY

(1) All the companies in all the Groups have reported very healthy profitability ratios. Group C companies have the highest operating profit ratio and Group B companies have the highest debt-equity ratio and also have the highest net profit ratio. Group A companies have better profitability ratios than Group C companies. Group C companies are found to be profitable. It is reported that Group C companies have employed lower amount of debt and it can be suggested that they can increase the level of debt given their profitability. On an average Group B companies have the highest debt and they have the best profitability ratios. It is found that Group B companies can increase the amount
of debt as they have the required debt-contracting capacity and the raised debt can be used to further to enhance profitability.

(2) It is found that Group B companies have the highest liquidity ratios. Group B companies have the highest amount of debt and yet the liquidity status of Group B companies is the best amongst all. It is found that Group B companies have excess liquidity with highest profitability ratios. The profitability of Group B companies can further be improved by getting rid of excess liquidity. Group A companies have the lowest liquidity ratios but the liquidity condition is found to be good and within acceptable standards. Group C companies have reported good liquidity condition which is found to have adverse impact on the profitability of Group C companies. Group C companies need to manage liquidity better and bring it down to much lower level to improve profitability. The loss of idle fund generating nothing can be converted into profit by investing the idle funds into more profitable activities. Group C companies are required to ameliorate the liquidity status.

(3) Solvency of Group C companies is reported to be very good and its interest cover ratio is the highest and these companies can further improve profitability by managing their liquidity at optimum level and they have the capacity to raise greater amount of debt and the same can be used to boost profitability. Group B companies have reported very high debt-equity ratios and still their interest cover ratio is second highest at 27.66 times which is found to be very robust and healthy. Group A companies are found to be least levered and still their coverage ratio is the least. Group A companies can take more debt after careful considerations and have to use the same to achieve greater profitability and which would improve their solvency status also.

(4) Group C companies are found to have very poor efficiency ratios and this shows that they have to focus on efficiency and this improved efficiency can boost profitability and solvency too. Group B companies have the best efficiency ratios except for investment turnover ratio. Group B companies have used debt well to acquire assets which in turn have augmented their profitability too. Group A companies are also found to be lacking in efficiency as reflected in asset turnover ratio. Unless very high value assets are purchased, the Group A companies have to improve efficiency to enhance profitability and solvency.
Examination of dependency of financial parameters like Profitability, Liquidity Solvency and Efficiency on financial leverage, and drawing conclusions regarding dependency may not be facilitated through accounting analysis. There can be some possibility of accurate results. But accounting analysis is equally important for gross analysis. In order to come out with emphatic and precise remarks statistical analysis is imperative as accounting analysis will have certain limitations. Therefore, statistical analysis has to be undertaken. This analysis is based on Correlation and Regression analysis. Correlation indicates the relation between two relevant variables. But correlation cannot produce result of dependency. To check dependency multiple regression analysis is done. The justification of this work in the context of title is available through statistical analysis. The core component of this study was to examine dependency of four financial performance measurement parameters like earning capacity, ability to meet short term obligation, financial soundness and effectiveness of application of funds on financial leverage. The findings of the study are already discussed in the previous chapter. But its concluding remarks are as follows:

### 6.2 BASED ON STATISTICAL ANALYSIS

#### 6.2.1 AGROCHEMICAL INDUSTRY

(1) All the companies in the industry under study have been able to make gainful use of the borrowed funds and have accelerated their profitability. The employment of debt funds can be profitable only when the company’s earnings rate is higher than the rate of interest on the debt funds employed and implies that the investors who are eager to invest in profitable and well managed companies should invest in the companies and the investors who have already invested in the companies should stay invested in the companies in this industry.

(2) It is reported that it the Equity and Debt have favourable impact on the liquidity of the industry. In this industry over all it is found to have a positive impact on liquidity which indicates that all the companies in this industry are able to meet short term obligations adequately and this will help such companies to sustain their creditworthiness which can help raise finance for the expansion and diversification plans of the companies in this industry. In short it is found that
the impact of financial leverage on liquidity is found to be positive in this industry.

(3) It is observed that in this industry the use of financial leverage has adverse impact on the solvency of the companies in this industry. It is also expounded that on the one hand financial leverage reduces a firm’s solvency but on the other it can also improve its solvency through improved profitability if the much advocated optimum level of financial leverage is employed to enhance overall financial performance of the organization. Primarily because out of different long term sources of finance borrowed capital has the lowest cost when compared with other sources of finance. Thus the additional dose of borrowed capital would reduce overall cost of capital and widen the gap between the rate of return and overall cost of capital.

(4) It is reported that financial leverage has no effect on efficiency measured through Total Assets Turnover Ratio and that there is no correlation between financial leverage and efficiency.

6.2.2 AUTO PARTS AND EQUIPMENT INDUSTRY

(1) It can be observed that on an average the companies in the Auto Parts and Equipment industry have used the borrowed funds for financial requirements but the same has a negative impact on their profitability. It is therefore suggested that the investors looking for good companies to invest in or potential investors should invest in these companies after careful evaluation of the companies’ future profitability and their propensity to use debt. As this result is an average of selected companies of this industry, an investor should consider and evaluate each company separately.

(2) It is reported that the overall impact of financial leverage on liquidity of the companies in this industry is negative. The investors can be suggested that if other parameters of performance in this industry are found to be satisfactory, they should not divest immediately. They should wait and watch for reasonable amount of time before taking the final call.

(3) It is found that financial leverage has adverse impact on solvency of the companies in this industry. It is also observed elsewhere that financial leverage when employed up to desirable level enhances overall financial performance of
the organization and if it is not used wisely the results could be counter-productive.

(4) It is reported that there is positive impact of financial leverage on the efficiency of the companies in this industry. This contradicts the observation that in majority of the industries there is no correlation between financial leverage and efficiency. The overall results for all the industries reflect the same scenario. Auto parts and Equipments industry is the only industry where in the result shows that there is correlation between financial leverage and efficiency. This is a conundrum and hence a matter of further investigation.

6.2.3 CEMENT INDUSTRY

(1) It is found that there is a positive impact of financial leverage on the profitability of the companies in this industry. The potential investors would be gravitated toward such companies for the commendable debt management of the industry and the investors who have already invested in the companies should expect greater and greater appreciation of their investment.

(2) It is reported that there is no correlation between financial leverage and liquidity in the companies of this industry. Why the selected companies in the Cement industry show this result is a matter of further investigation. In all other industries the scenario is the other way round. But the result of this study indicates that there is absence of correlation between liquidity and financial leverage as far as the selected companies in the Cement Industry are concerned.

(3) In the Cement industry it is found that on an average all the companies have negative impact of financial leverage on their solvency which reveals the absence of the judicious mix of owners’ capital and borrowed capital or optimum level leverage.

(4) It is reported that financial leverage has no effect on efficiency measured through Total Assets Turnover Ratio and that there is no correlation between financial leverage and efficiency. The model is not appropriate for the industry and there is apparently no correlation between Leverage and Efficiency. As discussed earlier in the concerned chapter, there may not be direct relationship between efficiency (measured through Total Assets Turnover Ratio) and
financial leverage. The result of this study also indicates that there is absence of correlation between efficiency and financial leverage.

6.2.4 HEAVY ELECTRICAL EQUIPMENTS INDUSTRY

(1) It is reported that on an average all the selected companies in the industry have been able to use the borrowed funds judiciously and the same has been used to augment profitability. As for the shareholders – existing and potential – they should invest in such companies or if they have already invested, they should continue to stay invested in the companies of this industry.

(2) It is reported that in this industry the use of financial leverage has negative influence on liquidity. However, it is possible that some companies selected in this industry may have positive impact of leverage while some others may have adverse impact of leverage on liquidity. But the overall effect is reported to be the negative impact. The investors should wait for reasonable amount of time and if the financial condition is continuously deteriorating they can take the decision of disinvesting their funds and reinvest the same in any other profitable company or avenue for investment.

(3) It is observed and also seconded by various theories that in this industry the use of financial leverage has adverse impact on solvency. If leverage is used properly then it can turn in positive results to sustain or improve profitability and liquidity. It is true that financial leverage reduces financial solvency but at the same time the improved profitability through financial leverage helps to improve solvency also. Investors should take the investment decisions on the performance of a company on other parameters also even if the performance is undesirable on this parameter.

(4) It is reported that financial leverage has no effect on efficiency measured through Total Assets Turnover Ratio and that there is no correlation between financial leverage and efficiency.

6.2.5 IRON AND STEEL INDUSTRY

(1) It is observed that on an average the companies in this industry that have contracted debt funds for financial requirements have a negative impact of leverage on their profitability. The use of debt can be even counter-productive
when the rate of interest on the borrowed funds is higher than the company’s rate of earnings. The existing investors who may sell off their shares and the potential investors should carefully evaluate the companies’ borrowing tendencies and future earnings potential and then take the call to invest or to look elsewhere for investment. However, the result is an average of selected companies of this industry and therefore the investors should treat each company individually.

(2) It is found that financial leverage has negative influence on liquidity of this industry. The above results are based on the averages of all the companies’ financial information in the Iron and Steel industry. This is not a reason enough for the investors to turn away. They should weigh the other parameters also for investment decision-making purpose.

(3) It is reported that in this industry financial leverage has positive impact on solvency. This is only industry where the results are not matching with the theory. Thus further investigations can be carried out. As discussed previously most of the industries show that financial leverage has an adverse impact on solvency. In other words, there is negative correlation between financial leverage and solvency. But this is not the case in this industry.

(4) It is reported that the model is not appropriate for this industry and there is apparently no correlation between Leverage and Efficiency. A company’s operational performance may or may not be impacted by financial leverage.

6.2.6 PHARMACEUTICAL INDUSTRY

(1) It is observed that on an average the companies in this industry that have contracted debt funds for financial requirements have positive impact of leverage on their profitability. On an average the companies in this industry have been able to use debt in a profitable manner by following the financial wisdom that the company’s earnings rate must be higher than the interest rate on the debt funds. This is a good invitation for the potential investors and a great inducement for the existing investors.

(2) It is observed that financial leverage has negative influence on liquidity of this industry. Because the results are an average of entire data, an investor cannot be hasty while making investment or divestment decision. The investor must
analyse and understand that in case of those companies which performed well on majority of the parameters and that they should be patient and not withdraw their funds immediately.

(3) It is reported that in this industry there in no correlation between financial leverage and solvency and the same is a matter of further investigation. It is reported that majority of the selected industries have impact of financial leverage on solvency as per the theory. Only Pharmaceutical industry is found to have no relation with financial leverage.

(4) It is reported that in this industry there in no correlation between financial leverage and efficiency. For the purpose of statistical analysis one of the significant efficiency ratios used is Total Assets Turnover Ratio. This ratio examines overall efficiency including Non-current assets and Current assets and it indicates the efficiency with which total assets have been used to generate revenue. And efficiency a measurement based on revenue generation capacity or ability may not be influenced by financial leverage. This is corroborated by the results of analysis of this industry.

6.2.7 POWER/ELECTRIC UTILITIES INDUSTRY

(1) It is found that in this industry on an average all the companies have positive impact of financial leverage on their profitability. It is observed that that on an average the all the companies’ earnings rate must have been higher than the interest rate on the debt funds, for only then the leverage enhances profitability. The prospective investors should in such companies and the existing shareholders would stick to such companies.

(2) It is observed that financial leverage has positive influence on liquidity of this industry. Good short term liquidity also means that with the creditworthiness that these companies are endowed with they can raise more funds at will and the same can fuel the companies’ expansion and diversification plans which may give capital appreciation to the investor in the future if these expansion or development plans are executed diligently and accurately.

(3) It is found that financial leverage adversely affects financial solvency in this industry. This corroborates with the results of analysis most of the other industries. The investor must analyse and understand that in case of those
companies whose performance is overwhelmingly good on the other parameters, the investors should adopt wait and watch policy before taking any radical decision.

(4) It is found in case of this industry and majority of other industries that there is no correlation between financial leverage and efficiency. As expounded elsewhere the operational performance may or may not be impacted by financial leverage. Profitability, Liquidity and Solvency as parameters are influenced by financial performance implying that the degree of relation between financial leverage and financial performance has to be high barring a few exceptional cases. This is not relevant in case of efficiency as a parameter of performance.

6.3 OBJECTIVES OF THE STUDY:

(1) The first objective of the study was to study the theoretical aspects of Financial Leverage and Profitability, Liquidity, Solvency and Efficiency. On investigation different theoretical aspects in the form of accounting ratios are studied and subsequently the same are applied for accounting and statistical analysis.

(2) The second objective of the study was to examine relationship between Financial Leverage and Profitability of selected industries and to investigate the actual impact of Financial Leverage on the Profitability of selected industries. In this context hypothesis is “There is no relationship between Financial Leverage and Profitability of selected industries and no impact of Financial Leverage on the Profitability of selected industries.” During analysis it is found that there is relationship between financial leverage and profitability. There is a match between calculated results and theory. According to theory there can be positive or negative relationship between financial leverage and profitability. When the data was analysed it was found that in some industries it is positive and in some industries it was negative. Therefore this hypothesis is rejected.

(3) The third objective of the study was to examine relationship between Financial Leverage and Liquidity of selected industries and to investigate the actual impact of Financial Leverage on the Liquidity of selected industries.” In this context hypothesis is “There is no relationship between Financial Leverage and Liquidity of selected industries and no impact of Financial Leverage on the Liquidity of selected industries. During analysis it is found that there can be
relationship between financial leverage and liquidity. There is a match between calculated results and theory. According to theory there can be positive or negative relationship between financial leverage and liquidity. When the data was analysed the result was not in one direction. It means there are mix results. It shows positive, negative and absence of relationship. This result compels to undertake further investigation. Therefore this hypothesis is partially accepted.

(4) The fourth objective of the study was to examine relationship between Financial Leverage and Solvency of selected industries and to investigate the actual impact of Financial Leverage on the Solvency of selected industries. In this context this hypothesis is “There is no relationship between Financial Leverage and Solvency of selected industries and no impact of Financial Leverage on the Solvency of selected industries. During analysis it is found that there is negative relationship between financial leverage and solvency. There is synchronization between analysed information and theory. All industries are showing results as per theory barring one industry Iron and steel and there is absence of relationship in case of Pharmaceutical industry. Therefor this hypothesis is partially accepted.

(5) The fifth objective of the study was “To examine relationship between Financial Leverage and Efficiency of selected industries and to investigate the actual impact of Financial Leverage on the Efficiency of selected industries. In this context hypothesis is “There is no relationship between Financial Leverage and Efficiency of selected industries and no impact of Financial Leverage on the Efficiency of selected industries.During analysis it is found that there is absence of relationship between financial leverage and efficiency. Theoretically both variables are from different categories i.e. one form operational category and second one is from financial category. So there should not be relation between financial leverage and efficiency. The result of one industry is found to be contradictory to the theory. Thus it requires further research. Therefor this hypothesis is partially accepted.
6.4 FURTHER RESEARCH.....

Fundamentally this study is based on overall performance of all companies of different groups namely Group A, Group B and Group C. This study is useful to all investors - existing and potential, of all the companies of all groups. This shows overall trend of different industries as a whole. It is useful for comparative analysis between the industries. This explains the status of respective industry under different parameters. Each parameter has financial relevance from the view point of investment decision.

It is possible that for each group there may be different classes of investors. They may expect analytical results of their own group. Due to time constraint and keeping in mind the size of research work this has been not undertaken. This has been kept open, for further research. This can be again fruitful analysis for selected industries, different groups, and concerned investors. The magnitude of collected and compiled data is very significant – data is based on total 7 industries and 79 companies in the seven industries and the time period covered understudy is 11 years from 2002 to 2012. Over a long period of eleven years how each company has progressed on each parameter can also be explored and examined.