

## **Comparative analysis of Traditional and Modern Industries based on EVA**

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### **Introduction**

Performance Evaluation of the financial organization is a very critical aspect for organization and investors. In the current corporate standard, performance measurement means identifying the organization's wealth, not profitability. Several accounting measures evaluate the company's performance, classified as a traditional performance measure and modern performance measures. Traditional measures are based upon the company's profitability, but these measures cannot access the companies' value creation. On the other hand, value-based measures, i.e., EVA and MVA, are suitable for calculating the organization's value. Even the proponents of EVA claim that EVA can relate with stock returns individually. A business consultant firm Stern Stewart and company prepared and encouraged EVA by arguing that EVA can be used instead of earnings or cash from operations to measure internal and external performance (Stewart 1991).

Further, they argued that EVA is better than other performance measures. Stewart (1994) quoted that it stands well out from the crowd as the single best value creation measures. EVA's conceptual foundations originate from well-established microeconomic literature regarding the link between earnings and wealth creation (Jain 1989).

The developer of EVA claims that EVA is a single metric that can predict the stock returns more accurately and identify the wealth created and eroded by the companies. SO EVA can use as the base for comparing the two companies for accessing the better performing company. Investors are keen to make such comparison which is relevant in their decision making. In the present study, two-sample: traditional companies and modern companies are evaluated based on EVA .to know the best-performing companies.

### **Calculations of EVA**

Stern steward and company made a maiden attempt to create a financial tool .i.e. EVA. The consultancy firms find out the various anomalies in the financial results calculated using GAAP. The firms developed around 164 adjustments to be made to the financial statements to reflect the economic profits and economic capital to firms the simplicity, consistency, objectivity, and materiality to the financial data. Later on, the firm itself and other researchers suggest various

new recommendations in Indian companies that there are 8-10 adjustments, which are known as equity equivalent, are significant for the computation of EVA. Further, Mumbai-based Stern-Stewart & Company (Stern Stewart India Pvt. Ltd.) emphasized eight accounting adjustments to be substantial from Indian companies' perspective while conducting Business-Today's survey for EVA analysis in June 1999. Stewart defines the most precise definition of EVA defined EVA (1990) as Net operating profit after taxes (NOPAT) subtracted with a capital charge. So EVA is charging the overall cost of capital to the NOPAT. Therefore,

$$\text{EVA} = \text{NOPAT} - \text{Capital charge}$$

$$\text{Capital charge} = \text{cost of capital} * \text{economic capital}$$

$$\text{EVA} = (\text{ROIC} - \text{WACC}) * \text{Invested capital.}$$

Where,

$$\text{NOPAT} = (\text{PAT} + \text{non-recurring expenses} + \text{revenue expenditure on R \& D} + \text{interest expense} + \text{goodwill written off} + \text{provision for taxes}) - \text{non-recurring income} - \text{R \& D amortization}$$

$$\text{Economic Capital} = \text{Net Fixed Assets} + \text{Investments} + \text{Current Assets} - (\text{NIBCLs} + \text{Miscellaneous Expenditure not written-off} + \text{Intangible Assets}) + (\text{Cumulative Non-Recurring Losses} + \text{Capitalized expenditure on R \& D} + \text{Gross Goodwill}) - \text{Revaluation Reserve} - \text{Cumulative Non-Recurring Gains}$$

### Review of Literature

**Stewart (1991)** made a maiden attempt to study the relationship between EVA and shareholder wealth with market data of 618 US companies and presented the results in his book "The quest for value." The study stated that EVA and MVA correspond with each other quite well among selected US companies. The study provided the first empirical evidence of EVA's potential as a proxy for MVA and reported R square 0.97 between changes in EVA and changes in MVA for 25 groupings of firms over the period 1987-88. Only the relationship between negative EVA and negative MVA did not hold very well. The study found that MVA and EVA corresponded to each other best when changes in EVA and MVA were studied and not the absolute levels. Moreover, changes in EVA and MVA were not affected by accounting distortions and inflation than absolute values. Further, Stern, Stewart, and Chew (1995) concluded that EVA changes over five years explained 50% of the change in MVA over the same period.

**Biddle et al. (1997)** tested the claims that Economic Value Added (EVA) is more highly associated with stock returns and firm values than accrual earnings and also evaluated which components of EVA, if any, contribute to these associations and to testify the given objectives sample of 773 firms included in the "1996 Stern Stewart Performance 1000 list" during the period ranging from 1983 to 1994. The study's primary objective was Relative information content test revealed that earnings ( $R^2 = 12.8\%$ ) were significantly more highly associated with market-adjusted annual returns than residual income ( $R^2 = 7.3\%$ ) or EVA ( $R^2 = 6.5\%$ ) and that all three of these measures dominated cash flow from operations ( $R^2 = 2.8\%$ ). Further, the incremental test found that the EVA components estimated by Stern Stewart add only marginally to the

information in cash flows and accruals and that their contributions are likely to be economically insignificant. Considered together, these results do not support claims that EVA dominates earnings in relative information content, and suggest that earnings generally outperform EVA.

**Chen and Dodd (1998)** empirically examined the value relevance of three profitability measures: Operating Profit (OP), Residual Income (RI), and Economic Value Added (EVA) based on the Easton and Harris (1991) formal valuation model of stock return. The study was based on 6683 firm-year observations from 1983 to 1992 obtained from the 1992 Stern Stewart Performance 1000 Database and the COMPUSTATPC plus Database. In the study, both profitability and EVA were standardized by the share price at the beginning of each year. The relative information content test and incremental information content test were applied to carry out the study. Relative information content was evaluated by comparing adjusted R<sup>2</sup>s from separate regressions. It was found that OP had higher information content (R<sup>2</sup> = 6.2%) than RI (R<sup>2</sup> = 5%) and EVA (R<sup>2</sup> = 2.3%) in explaining stock returns. Regarding EVA's incremental information content, the authors stated that EVA's inclusion in the regression model that contained RI and OP increased stock returns' explanatory power, although the increase in R<sup>2</sup> was not statistically significant. There was more substantial evidence for RI and OP's incremental information content beyond these metrics' information content. However, contrary to EVA advocates' claim, their evidence did not support the assertion that EVA was the best measure for valuation purposes.

**Tortella and Bruco (2000)** analyzed 65 events/firms' market reactions for a period ranging from 1983 to 1998 regarding economic value added (EVA) adoption. Additionally, the study attempted to analyze the effects over the main company variables, looking at the evolution before and after EVA adopting the three sets of company variables; profitability, investment, and cash flow variables. The study observed that the EVA introduction did not generate significant abnormal returns, either positive or negative, in the short run. It showed that firms adopted EVA after a long subpar performance period, and performance indicators improved only in the long run after EVA adoption. The investment variables found that EVA adoption provided incentives for the managers to increase firm investment activity. However, EVA adoption affected the cash flow measures positively and significantly in the long run. Thus study favors the adoption of EVA, but the positive impact can be visible in the long run.

**Mangala and Joura (2002)** supported Stern's belief that EVA is the most critical driver influencing share market value. In the study, the EVA of 15 companies among five industries (Fast-moving consumer goods, Information Technology, Pharma, Automobile, and Textile) was computed for four years ranging from 1996-97 to 1999-2000. The results obtained by using regression analysis confirm Stern's hypothesis and conclude that the company's Current Operational Value (COV) is more significant in contributing to a change in the market value of shares in the Indian context.

**Bhatnagar et al. (2004)** investigated the efficacy and appropriateness of EVA as a method of measuring the profitability of a concern compared to some traditional methods of measuring profitability like ROCE, NPV, and EPS, etc. The study was based on an analysis of data pertaining to 56 companies for ten years ranging from 1988-89 to 1997-98. The year-wise

composite regression exercise indicated EVA to be the single variable, which was significantly related to MVA. The result proved beyond doubt that EVA is the most significant measure of corporate financial performance.

**Griffith (2004)** used two samples from SSC publicly traded clients and assessed companies' performance that had implemented the EVA-based compensation system. The study revealed that before adopting EVA as a measure of performance, the firms underperformed their peers and the market. Even after the implementation of the EVA compensation system, the companies continued to underperform significantly. Moreover, neither EVA nor MVA was a good indicator of the firm 's performance, and there was no correlation between firms adopting EVA and subsequent shareholder returns.

**Ramana (2004)** examined the relationship between MVA and EVA of Indian companies and tried to explain the relationship between MVA and other standard accounting numbers based on 243 companies' data for four years ranging from 1998-99 to 2001-02. By using the technique of correlation and coefficient of determination, the study did not find any substantial evidence to support Stern Stewart's claim that EVA is superior to the traditional performance measures in its association with MVA. It was demonstrated that the market responds to the accounting numbers (like PBIT & PAT) more than the numbers which are generated using some adjustments (NOPAT and EVA). So, companies should be careful in overusing the EVA as a proxy for MVA.

**Misra and Kanwal (2004)** observed that the market valuation of securities listed on the Indian Stock Exchanges is more aligned to the intrinsic value today than in the past. The study's basic objective was to test the supremacy of EVA as a measure of financial performance over the traditional measures. The study hypothesized that EVA is the single most significant explanatory variable in explaining the variation in the Market Value Added among the nine chosen independent variables. The above hypothesis was tested on the time series data of BSE-100 companies for five years i.e. from 1998-99 to 2002-03. A cross-sectional analysis of the sample firms has been done by using Regression Analysis. The results depicted that EVA (%) as the most significant determinant of MVA, followed by ROTA. Hence, it concludes that relative measures of financial performance find a better reflection of shares' market value.

**Kumar and Pal (2008)** examined whether the concept of Economic Value Added (EVA) is well understood by corporate managers and compared it with the other traditional financial performance indicators. For the purpose of analysis, this study relied on the information gathered through a primary survey in 18 out of 30 companies included in the BSE Sensex. The study has been ranked EVA as the best indicator of performance, followed by Return on Capital Employed (ROCE), Rate of Return, Profit Margin, and Residual Income. It was also found that while some companies had already adopted the EVA technique to measure the shareholder value, a majority of the companies were aware of it, but yet to adopt this model.

**Kaur and Narang (2009)** attempted to investigate the wealth-creating capabilities of India's most valuable companies based on two value-based metrics of financial performance i.e. Economic Value Added (EVA) and Market Value Added (MVA). By computing these two measures for a sample of 104 companies, exactly as per the methodology developed by Stern Stewart & Company, the study identified that more than 50% of the sampled companies

representing India" s wealth club undoubtedly destroyed the wealth of its shareholder. It also found that out of 12 years of study period i.e. from 1996-2007, the sample registered negative EVA for eight years consecutively (1996- 2003). Thus, the study provided a fact base for the strategic investors, academic researchers, portfolio managers and corporate decision makers to dig below the surface numbers and interpret the economic realities of these big business houses. The study also ranked the sampled companies on the basis of shareholder value generated (or destroyed) by them and explained the possible circumstances when MVA of a company does not follow its EVA. Further, by applying the statistical technique of Regression Analysis, the study examined the relationship between EVA and MVA of the sampled companies and provided sufficient evidence to support Stern and Stewart "s claim that EVA generated by a company is an important determinant influencing the market value of its shares.

**Bhasin and Shaikh (2013)** explore that whether EVA could better represents the market-value of these companies in comparison to conventional performance measures. In this regard, EVA and the conventional measures of corporate performance, such as, RONW, ROCE and EPS were analyzed. This study was primarily based on the „secondary“ sources of data and covered a period of five years from 2006–2007 to 2010–2011 in respect of five Indian leading company. Both time series and regression approaches were used for analyzing the data. Moreover, the trend values of EVACE for different years had been calculated using trend analysis. In order to test the significance of the trend and actual EVACE, Chi-square test had also been done. Besides that, ANOVA was also used for comparing means of the sample companies. The study indicated that “there is no strong evidence to support Stern Stewart“s claim that EVA is superior to the traditional performance measures in its association with MVA”.

**Awan, Ghafoor(2014)** analyzed the effect of economic value added (EVA) on stock return of companies listed at KSE-100 index. Research model uses the panel data technique. A sample of 59 listed selected companies out of 100 companies listed at KSE. Data collected on annual basis, interpreted and analyzed from the year 2006 to 2010. The model is estimated for sample companies in different industrial group levels. Results indicated that the value of the stock is affected by variable economic value added (EVA) and it is significant at a level less than 10%. Economic Value Added (EVA) is a key performance index that initiates or motivates companies to find out ways to increase efficiency of capital utilization and consequently produce a superior operating performance, and therefore should in theory reflect a stock's intrinsic value.

**Panigrahi et al. (2014)** compared the economic measure (EVA) and traditional measures (EPS, ROE, ROA, RONW and ROCE) to investigate their influence on Created Shareholders“ Value (CSV). They selected 28 construction public companies listed in main board of Bursa Malaysia for a period of ten years from 2003 to 2012 to carry out their research. Panel data analysis with fixed effects was utilized as research design in the study. The result of the multiple regression analysis between the independent variables: EVA, EPS, ROE, ROA, RONW, and ROCE measuring the CSV showed an adjusted R<sup>2</sup> of 0.885. This means that the six independent variables utilized in this study influenced 88.5 percent towards the shareholders value creation for the selected construction companies of Malaysia. They observed that the relationship between CSV and EVA (67.3%) was statistically significant. Furthermore, no other traditional measure

except EPS ( $r = 43.8\%$ ) and ROCE ( $r = 34.6\%$ ) were significantly having relationship with CSV. This means that the traditional measures were not able to outperform EVA in explaining the CSV for the selected construction companies. Finally, they concluded that “there is a positive and significant relationship between EVA and shareholder’s wealth maximization. The more the managers produce EVA, the more shareholders’ wealth maximization will be created. Thus it is recommended for the managers to focus more attention to the criteria of EVA in evaluating

### **Objectives of the study**

To compute and give ranks to the sample companies based on EVA.

To make the comparison of Traditional and Modern Companies based on EVA.

### **Sample Description**

India is one of the world's largest economies that is fast growing and structurally shifting from traditional to non-traditional (i.e., 'new economy') industries (Pandey et al. 2011). For achieving the objectives of this study, a sample of companies categorized as traditional firms and modern (non-traditional) firms have been selected from the BSE 500 companies. The whole Sample has been divided into 'Traditional' and 'Modern' Industries on the basis used by Pandey et al. (2011). Traditional industries operating before economic liberalization of the Indian economy in 1991 and Modern Industries, have been defined as established after the liberalization and globalization of the Indian economy in 1991. Secondary data has been used for the desired objectives, and sources for data collection will be annual reports published by the companies, websites of the selected companies. For conducting this study, a sample of 100 companies decided 50 traditional companies and 50 modern companies; many filters were applied, and in some cases, due to the non-availability of required financial data, companies have to remove from the Sample, and the Sample remained to 48 traditional companies and 42 modern companies. The study is based on secondary data, and the study period covers 15 years ranging from 2004-2005 to 2018-2019. The research's financial data has been sourced from the CMIE's corporate database Prowess, the website of money control also used for accessing of financial data. The risk-free rates have been obtained from the annual reports of the Reserve Bank of India.

### **Traditional Companies**

Traditional industries operating before the Indian economy's economic liberalization in 1991 and Modern Industries have been defined as established after the liberalization and globalization of the Indian economy in 1991.

In the present study, those industries considered as traditional industries which have more established before 1991. The sample includes 48 companies from five industries as traditional industries. The names of industries are:

- the cement industry
- the oil and gas industry
- the chemical and fertilizer industry
- the iron and steel industry

- the pharmaceutical industry

### Modern companies

Modern Industries are those who established and flourished their business more after the liberalization and globalization of the Indian economy in 1991. The sample includes 42 companies from 5 industries as modern industries the names are:

- The Computer and IT industry
- The Telecommunication Industry,
- The Media and Entertainment industry
- The Health care industry
- The Transportation industry

### Industry wise number of companies in the sample

| TRADITIONAL                            | NO OF COMPANIES | MODERN                                 | NO OF COMPANIES |
|--|-----------------|--|-----------------|
| • the cement industry                  | 10              | • The Computer and IT industry         | 10              |
| • the oil and gas industry             | 8               | • The Telecommunication Industry,      | 8               |
| • the chemical and fertilizer industry | 10              | • The Media and Entertainment industry | 6               |
| • the iron and steel industry          | 10              | • The Health care industry             | 9               |
| • the pharmaceutical industry          | 10              | • The Transportation industry          | 9               |

### Hypothesis Of The Study

The hypothesis of a study is some questions that the researcher wants to resolve. In the other words, these are the suppositions to be proved or disproved. It is the predictive statement capable of being tested. The present study is a comparative analysis of two samples made based on EVA. To make the comparison of two samples, two methods have followed.

1. Comparison is made based on the ranks given to the companies based on EVA.
2. The study's hypothesis examined using the z test to compare two samples of the large size, and it performed in Ms- Excel. Z test is to examine the two independent samples large in size.

Null Hypothesis: There is no significant difference in the performance of the traditional and modern companies based on EVA.

Alternate Hypothesis: traditional companies are significantly performing better than Modern companies based on EVA.

### EVA as a percentage of capital employed (EVACE)

It is a relative measure of EVA and capital employed indicates that how much value has been added by the company at given level of capital employed. EVA in absolute terms or EVA as a relative measure is determined by the formula: EVA

$$\text{EVA as a \% of capital employed} = \text{EVA} / \text{Invested capital} * 100$$

In the present study, average of EVA% for fifteen years has been used for the comparative analysis of the sample companies based on EVA. According to the Hansen et al. (1997) and Horngren et al. (1997) EVA does not control for size differences across plants or divisions (A larger plant or division will tend to have a higher EVA relative to its smaller counterparts Comparing the divisional performance just on the basis of absolute EVA figures might result in the misleading interpretations (Narang et al. 2012). Thus, to compare the performance of organizational units, EVA as a percentage of capital employed can better be used and analyzed. This ratio can assist the policy makers to infer whether the market's response to the relative measures of financial performance is better than that to the absolute measures of financial performance (Misra and Kanwal, 2004).

### Data analysis and results interpretation

**Table 1**

| EVA OF TRADITIONAL COMPANIES FROM 2005- 2019 |           |          |          |          |          |          |          |          |          |          |          |         |          |          |         |           | AMOUNT IN RS. MILLION |       |
|--|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|----------|----------|---------|-----------|-----------------------|-------|
|  | 2005      | 2006     | 2007     | 2008     | 2009     | 2010     | 2011     | 2012     | 2013     | 2014     | 2015     | 2016    | 2017     | 2018     | 2019    | total EVA | AVE RAGE              | RANKS |
| A C C Ltd.                                   | 3399.223  | 2629.856 | 11049.21 | 9785.757 | 8934.835 | 12278.62 | 2210.76  | 6286.193 | -8474    | 12493.9  | 14964.41 | 14049.4 | 13226.47 | 12294.91 | 9618.57 | 99760.36  | 6650.691              | 18    |
| Ambuja Cements Ltd.                          | 3312.331  | 15276.55 | 15275    | 11484.48 | 11109.25 | 10692.25 | 6263.52  | 4703.22  | 11077.4  | 16078    | 4439.87  | 3562.32 | 3814.57  | 3406.55  | 2970.08 | 47221.14  | 3148.076              | 33    |
| Birla Corporation Ltd.                       | 406.2203  | 691.5334 | 3747.764 | 4279.369 | 2691.328 | 6015.772 | 2986.554 | 1861.907 | 1693.518 | 43.67657 | 5449.22  | 2768.16 | 3043.53  | 3462.91  | 24.24   | 32239.88  | 2149.325              | 44    |
| Century Textiles &Inds . Ltd.                | 594.7923  | 1031.365 | 2643.495 | 3106.506 | 1591.129 | 3939.565 | 2573.04  | 3457.52  | 1179.4   | 2312.068 | 2447.92  | 5290.45 | 6230.61  | 5187.11  | 5242.73 | 37553.86  | 2503.591              | 40    |
| Heidelberg Ceme                              | -281.1666 | 708.016  | 154.5938 | 237.6684 | 191.322  | 77.00301 | 281.704  | 38.46276 | 20204.1  | 1217.15  | 1204.16  | 1299.89 | 1422.22  | 1534.36  | 1536.93 | 15378.2   | 1025.21               | 84    |



|  |              |              |              |              |              |              |              |              |              |              |             |             |             |             |             |              |              |    |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|----|
| nt<br>India<br>Ltd.                      |              |              |              |              |              |              |              |              |              |              |             |             |             |             |             |              |              |    |
| India<br>Ceme<br>nts<br>Ltd.             | 132.172<br>4 | 399.99<br>61 | 3821.9<br>61 | 8625.4<br>19 | 6124.<br>829 | 3509.<br>232 | 45.80<br>79  | 2709.<br>24  | 1727.<br>53  | 743.0<br>08  | 6930.<br>97 | 6957.<br>35 | 6424.<br>04 | 3552.<br>36 | 3838.<br>2  | 5396<br>4.48 | 3597.<br>632 | 28 |
| J K<br>Laksh<br>mi<br>Ceme<br>nt<br>Ltd. | -149.879     | 483.53<br>58 | 1525.8<br>42 | 2619.6<br>7  | 1762.<br>763 | 2762.<br>713 | 51.70<br>787 | 613.1<br>107 | 1909.<br>59  | 774.8<br>683 | 1606.<br>48 | 2139.<br>67 | 2259.<br>53 | 2378.<br>98 | 2104.<br>88 | 2284<br>3.46 | 1522.<br>898 | 50 |
| Prism<br>Ceme<br>nt<br>Ltd.              | 44.0542      | 534.36<br>58 | 1914.5<br>13 | 1666.0<br>88 | 517.7<br>465 | 2174.<br>346 | 27.83<br>704 | 365.8<br>35  | 774.1<br>64  | 952.5<br>84  | 1331.<br>23 | 1467.<br>87 | 1567.<br>34 | 2018.<br>08 | 2120.<br>84 | 1329<br>1.73 | 886.1<br>152 | 57 |
| Ramc<br>o<br>Ceme<br>nts<br>Ltd.         | 343.433<br>2 | 997.39<br>31 | 4528.6<br>72 | 5938.4<br>04 | 4529.<br>672 | 4760.<br>391 | 2446.<br>939 | 5105.<br>826 | 5004.<br>692 | 556.5<br>75  | 506.9<br>4  | 403.2<br>9  | 499.5<br>4  | 449.4<br>4  | 399.2<br>4  | 3535<br>7.3  | 2357.<br>153 | 42 |

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|   |              |              |              |              |              |              |              |              |              |              |             |             |             |             |             |              |              |    |
|---|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|--------------|--------------|----|
| Shree<br>Cement<br>Ltd.                                     | 220.867<br>4 | 364.39<br>78 | 1273.0<br>08 | 3380.9<br>71 | 7167.<br>187 | 8154.<br>84  | 130.1<br>529 | 5840.<br>837 | 9985.<br>925 | 6170.<br>252 | 1328.<br>41 | 1962.<br>43 | 1660.<br>23 | 1252.<br>02 | 538.1<br>1  | 4942<br>9.64 | 3295.<br>309 | 31 |
| Bayer<br>Cropscienc<br>e Ltd.                               | 167.252<br>4 | 187.89<br>82 | 398.58<br>84 | 818.62<br>6  | 1296.<br>854 | 1517.<br>316 | 1563.<br>479 | 889.5<br>155 | 1105.<br>353 | 2889.<br>782 | 1115.<br>6  | 1327.<br>1  | 1528.<br>1  | 1238.<br>9  | 1425.<br>4  | 1583<br>2.51 | 1055.<br>501 | 54 |
| Chambal<br>Fertilisers&<br>Chemicals<br>Ltd.                | 1585.40<br>9 | 1908.8<br>63 | 1316.0<br>27 | 1980.0<br>73 | 3273.<br>273 | 2509.<br>48  | 3037.<br>075 | 2675.<br>228 | 4477.<br>401 | 5227.<br>469 | 9960.<br>25 | 3213.<br>23 | 3835.<br>96 | 5345.<br>88 | 4839.<br>16 | 5518<br>4.78 | 3678.<br>985 | 27 |
| Coromande<br>l<br>Internationa<br>l Ltd.                    | 1006.15<br>3 | 999.77<br>02 | 1324.2<br>08 | 4465.4<br>97 | 9050.<br>928 | 7071.<br>823 | 9595.<br>233 | 9580.<br>998 | 8006.<br>6   | 7922.<br>019 | 4756.<br>94 | 4503.<br>47 | 3880.<br>8  | 4114.<br>58 | 3276.<br>9  | 7955<br>5.92 | 5303.<br>728 | 23 |
| Deepak<br>Fertilisers&<br>Petrochemi<br>cals Corpn.<br>Ltd. | 754.304<br>4 | 1065.9<br>91 | 954.52<br>36 | 1247.2<br>01 | 1976.<br>458 | 1923.<br>031 | 2320.<br>416 | 3208.<br>694 | 1809.<br>643 | 3342.<br>076 | 3091.<br>89 | 2016.<br>3  | 1900.<br>3  | 2308.<br>9  | 2168.<br>98 | 3008<br>8.71 | 2005.<br>914 | 46 |
| DhanukaA<br>gritech Ltd.                                    | 34.4356<br>7 | 51.814<br>63 | 115.40<br>38 | 270.64<br>86 | 296.5<br>598 | 402.5<br>17  | 563.6<br>22  | 431.8<br>197 | 623.2<br>772 | 951.7<br>388 | 876.4       | 976.9       | 1098.<br>9  | 923.7<br>8  | 1087.<br>4  | 8705.<br>217 | 580.3<br>478 | 65 |
| Gujarat<br>State<br>Fertilizers<br>&<br>Chemicals<br>Ltd.   | 2693.94      | 3672.9<br>72 | 3174.6<br>92 | 5342.5<br>38 | 7013.<br>384 | 2643.<br>014 | 10371<br>.73 | 6745.<br>462 | 7755.<br>551 | 5106.<br>699 | 8408.<br>91 | 7869.<br>87 | 6726.<br>09 | 6553.<br>15 | 5714.<br>1  | 8979<br>2.1  | 5986.<br>14  | 20 |
| P I<br>Industries<br>Ltd.                                   | 91.7255<br>1 | 53.016<br>94 | 93.398<br>14 | 201.06<br>42 | 217.1<br>555 | 468.8<br>112 | 24.92<br>08  | 717.3<br>934 | 1262.<br>763 | 2451.<br>772 | 1438.<br>4  | 1238.<br>22 | 1016.<br>91 | 794.2<br>7  | 466.4<br>6  | 1053<br>6.28 | 702.4<br>187 | 62 |
| Rallis India<br>Ltd.  | 83.4902<br>2 | 242.42<br>09 | 126.57<br>7  | 509.34<br>94 | 1018.<br>191 | 1392.<br>706 | 1719.<br>532 | 1079.<br>618 | 1461.<br>366 | 1812.<br>467 | 729.6       | 587.9<br>8  | 227.5<br>7  | 439.4<br>7  | 403.6<br>2  | 1158<br>0.8  | 772.0<br>536 | 60 |
| Rashtriya<br>izers Ltd.                                     | 155.769<br>5 | 165.12<br>2  | 331.62<br>9  | 3300.7<br>66 | 3566.<br>679 | 274.2<br>408 | 718.3<br>269 | 47.90<br>807 | 3094.<br>924 | 3056.<br>238 | 5592.<br>15 | 3778.<br>77 | 4089.<br>55 | 5001.<br>58 | 3907.<br>47 | 3608<br>7.62 | 2405.<br>841 | 41 |

|                               |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |              |    |
|-------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----|
| U P L Ltd.                    | 534.238<br>2 | 1636.2<br>8  | 1597.2<br>1  | 1927.7<br>99 | 2706.<br>353 | 2429.<br>606 | 4206.<br>278 | 1505.<br>922 | 1338.<br>997 | 7148.<br>585 | 6337         | 7003         | 7162         | 3427.<br>6   | 2891.<br>62  | 5185<br>2.49 | 3456.<br>833 | 29 |
| Bhushan Steel Ltd.            | 988.101<br>7 | 809.45<br>63 | 2428.4<br>92 | 4070.3<br>23 | 5255.<br>115 | 8959.<br>504 | 8868.<br>958 | 11651        | 1027<br>3.64 | 3098.<br>7   | 2706<br>9.74 | 1010<br>8.84 | 4217<br>6.37 | 4598<br>5.49 | 4204<br>3.43 | 2237<br>87.2 | 1491<br>9.14 | 13 |
| J S W Steel Ltd.              | 186318       | 9935.7<br>96 | 16161.<br>15 | 20694.<br>95 | 13218<br>.75 | 21995<br>.15 | 22452<br>.33 | 20624<br>.76 | 1851<br>7.06 | 3904<br>5.16 | 3555<br>5    | 4069<br>4    | 4048<br>0    | 4344<br>2.15 | 3334<br>1.08 | 5624<br>75.3 | 3749<br>8.35 | 7  |
| Jindal Steel & Power Ltd.     | 6296.33<br>3 | 7034.7<br>92 | 8888.7<br>29 | 15415.<br>22 | 20697<br>.21 | 19021<br>.95 | 27904<br>.1  | 31189<br>.2  | 2555<br>8.05 | 1918<br>5.76 | 3450<br>0.77 | 3821<br>4.64 | 3604<br>7.92 | 3950<br>1.48 | 3116<br>7.39 | 3606<br>23.6 | 2404<br>1.57 | 10 |
| Kalyani Steels Ltd.           | 521.263<br>1 | 717.60<br>46 | 904.83<br>58 | 365.46<br>93 | 752.3<br>54  | 243.5<br>989 | 549.3<br>878 | 152.5<br>715 | 284.1<br>37  | 882.3<br>657 | 320.3<br>4   | 443.5<br>3   | 403.6<br>5   | 415.2<br>7   | 428.8<br>6   | 5880.<br>53  | 392.0<br>353 | 73 |
| Mukand Ltd.                   | 1691.07<br>7 | -186.37      | 1303.6<br>59 | 893.30<br>33 | 2182.<br>25  | 219.6<br>22  | 114.9<br>767 | 648.3<br>916 | 14.35<br>94  | 1144.<br>689 | 1938.<br>93  | 1315.<br>44  | 2579.<br>03  | 2648.<br>41  | 2516.<br>5   | 1422<br>0.52 | 948.0<br>349 | 56 |
| Steel Authority Of India Ltd. | 81490.3<br>5 | 37104.<br>03 | 69224.<br>63 | 77681.<br>8  | 55041<br>.97 | 74429<br>.69 | 59319<br>.15 | 47089<br>.73 | 2495<br>1.53 | 1258<br>2.94 | 5549<br>4.39 | 5578<br>4.61 | 5256<br>1.75 | 5075<br>4.55 | 3779<br>7.47 | 7913<br>08.6 | 5275<br>3.91 | 6  |
| Tata Sponge Iron Ltd.         | 779.505<br>8 | 248.82<br>98 | 189.87<br>09 | 1198.6<br>22 | 1475.<br>661 | 408.2<br>994 | 395.5<br>825 | 12.35<br>76  | 13.44<br>904 | 46.24<br>728 | 641.7<br>3   | 567.5<br>3   | 510.0<br>3   | 465.7<br>6   | 425.3<br>5   | 7354.<br>11  | 490.2<br>74  | 67 |

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|---------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|----------------|--------------|--------------|--------------|--------------|----|
| Tata Steel Ltd.                       | 48774.9      | 46186.<br>77 | 56018.<br>54 | 68901.<br>67 | 78370<br>.05 | 71000<br>.4  | 88442<br>.24 | 10813<br>9.2 | 8962<br>8.9  | 8935<br>8.39 | 3513<br>5.15 | 4962<br>9.6 | 5199<br>2.9    | 1022<br>0.76 | 6188.<br>31  | 8979<br>87.8 | 5986<br>5.85 | 4  |
| Uttam Galva Steels Ltd.               | 1426.13<br>3 | 349.81<br>46 | 879.79<br>28 | 123.50<br>6  | 710.6<br>21  | 1359.<br>527 | 1001.<br>853 | 1010.<br>757 | 1256.<br>657 | 409.2<br>651 | 4925.<br>18  | 2579.<br>06 | 4582.<br>73    | 4830.<br>49  | 3075.<br>27  | 2685<br>2.4  | 1790.<br>16  | 48 |
| Welspun Corp Ltd.                     | 100.538<br>8 | 1042.4<br>87 | 2518.7<br>74 | 4321.1<br>89 | 1981.<br>731 | 6866.<br>605 | 6612.<br>368 | 1268.<br>665 | 581.3<br>723 | 2756.<br>558 | 3363.<br>08  | 3375.<br>34 | 3449.<br>68    | 2453.<br>27  | 1723.<br>57  | 4241<br>5.23 | 2827.<br>682 | 37 |
| Aurobindo Pharma Ltd.                 | 299.986<br>5 | 649.98<br>13 | 1716.5<br>14 | 2734.6<br>93 | 3563.<br>077 | 6450.<br>325 | 7995         | 3979.<br>676 | 6787.<br>543 | 1650<br>0    | 1054<br>6.87 | 8129.<br>1  | 6493.<br>69    | 6315.<br>12  | 4943.<br>64  | 8710<br>5.21 | 5807.<br>014 | 21 |
| Cipla Ltd.                            | 3621.52<br>3 | 5184.7<br>29 | 5590.3<br>54 | 4849.9<br>23 | 8611.<br>467 | 10223<br>.59 | 10079<br>.27 | 12134<br>.35 | 1757<br>7.73 | 1616<br>9.73 | 7159.<br>59  | 7265.<br>07 | 7057.<br>04    | 6419.<br>82  | 6003.<br>96  | 1279<br>48.1 | 8529.<br>876 | 15 |
| Dr. Reddy'S Laboratorie s Ltd.        | -303.82      | 1279.3<br>64 | 10961.<br>02 | 4160.3<br>26 | 6461.<br>54  | 8784.<br>091 | 9037.<br>826 | 11912<br>.61 | 1523<br>1.15 | 2301<br>0.01 | 7484.<br>7   | 9325.<br>3  | 8712.<br>1     | 8542.<br>3   | 7284.<br>5   | 1318<br>83   | 8792.<br>201 | 14 |
| Glenmark Pharmaceut icals Ltd.        | 572.191<br>5 | 684.23<br>32 | 1667.3<br>71 | 3854.3<br>3  | 1009.<br>67  | 1110.<br>44  | 1302.<br>922 | 1588.<br>033 | 1418.<br>138 | 3420.<br>055 | 9345.<br>81  | 8330.<br>42 | 7370.<br>3     | 4236.<br>13  | 2084.<br>2   | 4375<br>4.03 | 2916.<br>935 | 36 |
| J B Chemicals & Pharmaceut icals Ltd. | 353.767<br>8 | 434.10<br>83 | 295.52<br>29 | 155.91<br>27 | 887.5<br>261 | 815.1<br>861 | 1098.<br>8   | 110.0<br>188 | 36.05<br>048 | 822.3<br>796 | 632.3<br>7   | 715.2<br>9  | 667.4<br>2     | 409.5<br>7   | 303.0<br>2   | 7736.<br>943 | 515.7<br>962 | 66 |
| Lupin Ltd.                            | 307.960<br>9 | 1897.2<br>79 | 2181.9<br>14 | 4311.7<br>83 | 3550.<br>019 | 5676.<br>151 | 6387.<br>294 | 8036.<br>78  | 1459<br>8.45 | 2625<br>8.7  | 6154.<br>08  | 7436.<br>19 | 3765.<br>59    | 4066.<br>58  | 1916.<br>55  | 9654<br>5.32 | 6436.<br>354 | 19 |
| Natco Pharma Ltd.                     | -168.049     | 144.16<br>56 | 177.00<br>4  | 223.75<br>29 | 211.0<br>528 | 347.3<br>232 | 321.8<br>875 | 338.4<br>418 | 840.9<br>091 | 752.7<br>959 | 2199.<br>6   | 1766.<br>5  | 837.7<br>883.2 | 727.2<br>5   | 9603.<br>534 | 640.2<br>356 | 64           |    |
| Sanofi India Ltd.                     | 1438.69<br>6 | 1052.4<br>25 | 1390.8<br>04 | 850.05<br>48 | 1132.<br>981 | 639.0<br>713 | 401.0<br>168 | 1158.<br>939 | 779.3<br>043 | 1556.<br>849 | 1842.<br>1   | 1587.<br>4  | 1480.<br>4     | 1233.<br>9   | 1123.<br>34  | 1766<br>7.28 | 1177.<br>819 | 51 |
| Torrent Pharmaceut icals Ltd.         | 284.036<br>5 | 578.02<br>27 | 790.57<br>21 | 1207.5<br>65 | 987.6<br>161 | 2719.<br>431 | 2729.<br>581 | 3716.<br>555 | 5775.<br>929 | 9153.<br>973 | 7081.<br>97  | 7779.<br>91 | 4096.<br>15    | 1061.<br>56  | 2960.<br>4   | 5092<br>3.27 | 3394.<br>885 | 30 |
| Wockhardt Ltd.                        | 1590.21<br>9 | 1133.0<br>6  | 1438.4<br>99 | 896.19<br>3  | 2619.<br>54  | 754.1<br>18  | 176.9<br>11  | 4933.<br>834 | 496.4<br>79  | 1959.<br>27  | 1963.<br>36  | 1301.<br>37 | 1893.<br>17    | 2031.<br>73  | 767.6<br>1   | 1015<br>0.35 | 676.6<br>897 | 63 |

|                                 |          |          |          |          |           |           |           |           |           |           |           |           |           |           |           |           |           |    |
|---------------------------------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----|
| Bharat Petroleum Corpn. Ltd.    | 10732.88 | 2070.44  | 26172.57 | 22954.37 | 24505.48  | 26095.82  | 31553.25  | 47012.15  | 6368.301  | 6015.205  | 2913.107  | 2482.957  | 1290.955  | 4062.6    | 6189.33   | 3920.54.1 | 2613.6.94 | 9  |
| Castrol India Ltd.              | 1447.166 | 1538.775 | 1414.47  | 2629.595 | 3227.57   | 4964.892  | 6604.994  | 5855.523  | 7450.373  | 5694.935  | 218.9     | 31.11     | 108.39    | 488.69    | 412.58    | 4006.8.64 | 2671.243  | 38 |
| G A I L (India) Ltd.            | 21439.47 | 25441.72 | 23650.13 | 27825.52 | 29603.01  | 33125.01  | 41786.53  | 44158.97  | 5227.8.2  | 4938.4.3  | 1700.9.53 | 1860.3.67 | 2208.3.27 | 2460.3.84 | 2383.9.77 | 4548.33   | 3032.2.2  | 8  |
| Hindustan Petroleum Corpn. Ltd. | 12801.18 | 1787.421 | 18202.83 | 20482.41 | 14232.77  | 29879.66  | 27102.55  | 37355.14  | 3790.0.96 | 2940.4.56 | 2190.6.03 | 1868.2.05 | 1523.2.4  | 1363.3.83 | 1349.6.65 | 3121.00.4 | 2080.6.7  | 11 |
| Indian Oil Corpn. Ltd.          | 49027.38 | 59538.85 | 66050.4  | 89501.64 | 10234.7   | 14436.7.9 | 84934.04  | 14726.9.4 | 8909.7.64 | 1121.88.8 | 8912.5.13 | 6784.6.77 | 6230.4.43 | 5249.4.77 | 4603.4.55 | 1262.129  | 8414.1.92 | 3  |
| Indraprasth a Gas Ltd.          | 877.2125 | 1324.686 | 1688.439 | 2176.055 | 1230.809  | 2715.172  | 6707.98   | 3647.056  | 3908.686  | 3869.43   | 905.72    | 945.01    | 1035.83   | 1215.27   | 1019.62   | 3326.6.97 | 2217.798  | 43 |
| Oil & Natural Gas Corpn. Ltd.   | 216403.6 | 192519.4 | 206972.2 | 200235   | 20821.9.8 | 22646.2.4 | 16125.9.8 | 41635.9.7 | 3703.63.3 | 3219.64.7 | 6220.8.19 | 6746.1.56 | 6999.5.47 | 6712.4.87 | 6405.37   | 2793.955  | 1862.63.7 | 1  |
| Reliance Industries Ltd.        | 62610.3  | 87055.87 | 112913.6 | 141812.8 | 15170.9.1 | 17741.2.4 | 23029.7.5 | 23360.2.7 | 2347.48.2 | 2758.99.3 | 6230.6    | 3639.6    | 2092.5    | 3544.7    | 8515.6    | 1948.292  | 1298.86.1 | 2  |
| Cyient Ltd.                     | 20.60435 | 43.72353 | 363.8344 | 552.2606 | 452.664   | 769.8699  | 110.9907  | 1335.5    | 1533.973  | 2109.323  | 1080.8    | 911.53    | 1025.3    | 856.32    | 754.14    | 1192.0.8  | 794.7202  | 59 |
| H C L Infosystem s Ltd.         | 803.7638 | 917.3373 | 3531.836 | 3452.077 | 3242.304  | 2666.175  | 1001.95   | 69.7635   | 2407.59   | 2984.8    | 654.02    | 1562.27   | 882.98    | 813.26    | 1479.37   | 1554.5.19 | 1036.346  | 55 |

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|--------------------------|---------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|--------|--------|--------|-----------|---------|-----------|-----------|----|
| H C L Technologi es Ltd. | 2709.23 | 6003.639 | 5278.692 | 7430.413 | 8588.196 | 10402.22 | 11537.14 | 20816.61 | 3874.7.72 | 6226.5.6 | 1450.2 | 1195.2 | 1253.8 | 1114.0.97 | 7004.88 | 2309.17.3 | 1539.4.49 | 12 |
|--------------------------|---------|----------|----------|----------|----------|----------|----------|----------|-----------|----------|--------|--------|--------|-----------|---------|-----------|-----------|----|

|   |          |          |          |          |          |          |          |          |          |          |          |          |          |         |          |           |          |    |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|----------|-----------|----------|----|
| Hexaware Technologi es Ltd.                 | -54.0478 | 158.395  | 472.1666 | 138.3888 | 125.0676 | 796.492  | 1237.65  | 605.0764 | 1539.501 | 1144.666 | 1112.12  | 759.9    | 565.99   | 427.81  | 348.66   | 4992.759  | 332.8506 | 75 |
| K P I T Technologi es Ltd.                  | 149.7302 | 150.7618 | 275.2833 | 391.3864 | 1294.876 | 823.3254 | 626.0854 | 701.641  | 1439.468 | 1997.335 | 1294.876 | 823.3254 | 626.0854 | 701.641 | 1439.468 | 1273.5.29 | 849.0192 | 58 |
| Mphasis Ltd.                                | 204.409  | 637.077  | 724.778  | 1542.312 | 1430.276 | 6414.542 | 8270.157 | 6287.135 | 7274.317 | 2146.482 | 434.95   | 574.11   | 853.16   | 1092.29 | 1139.55  | 3902.5.54 | 2601.703 | 39 |
| Oracle Financial Services Software Ltd.     | 864.266  | 773.6794 | 1052.468 | 1250.131 | 1766.852 | 2300.348 | 1662.161 | 4613.515 | 3837.28  | 8769.48  | 1128.53  | 1539.69  | 237.71   | 1738.38 | 648.58   | 3218.3.07 | 2145.538 | 45 |
| Polaris Consulting & Services Ltd. [Merged] | -205.732 | 1250.31  | 616.987  | 349.235  | 973.6207 | 375.583  | 798.5062 | 1682.716 | 1346.174 | 1467.603 | 604.15   | 426.22   | 291.75   | 252.66  | 477.11   | 6273.825  | 418.255  | 71 |
| Ramco Systems Ltd.                          | -486.498 | 466.459  | 357.149  | 433.094  | 174.2915 | 113.394  | 13.956   | 101.247  | 213.399  | 273.179  | 4081.06  | 3863.07  | 3657.4   | 3457.42 | 3740.09  | 1654.2.87 | 1102.858 | 53 |
| Rohta India Ltd.                            | 583.3056 | 156.4183 | 1289.927 | 2697.767 | 2807.69  | 1649.646 | 2793.189 | 1236.981 | 1102.1.3 | 1152.359 | 7984.58  | 4929.95  | 4517.57  | 4318.67 | 2365.06  | 2746.1.81 | 1830.787 | 47 |
| Tata Elxsi Ltd.                             | 179.3233 | 237.4378 | 397.0075 | 462.5263 | 254.4832 | 282.3944 | 35.45466 | 314.4252 | 378.7249 | 814.9603 | 508.9    | 372.31   | 292.38   | 147.46  | 124.5    | 4802.287  | 320.1525 | 76 |
| Blue Dart Express Ltd.                      | 133.2827 | 555.2662 | 571.7309 | 709.4634 | 741.7042 | 537.4454 | 920.8628 | 1245.077 | 2300.135 | 1266.913 | 477.51   | 359.26   | 428.09   | 387.77  | 379.35   | 1101.3.86 | 734.2573 | 61 |

|                                     |              |              |              |              |              |              |              |              |              |              |              |             |              |              |              |              |              |    |
|-------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|--------------|--------------|--------------|--------------|----|
| Container Corpn. Of India Ltd.      | 4328.95<br>4 | 4638.3<br>14 | 7091.0<br>33 | 7883.6<br>31 | 7518.<br>427 | 6364.<br>76  | 5081.<br>51  | 5994.<br>129 | 6320.<br>6   | 5379.<br>59  | 6568.<br>32  | 5065.<br>2  | 4545.<br>87  | 2633.<br>23  | 4885.<br>16  | 8429<br>8.73 | 5619.<br>915 | 22 |
| Gateway Distriparks Ltd.            | 289.881<br>9 | 638.19<br>12 | 648.23<br>72 | 644.58<br>94 | 893.8<br>902 | 492.5<br>932 | 674.0<br>413 | 1030.<br>724 | 749.3<br>709 | 480.6<br>031 | 120.4<br>1   | 174.2<br>4  | 158.2<br>7   | 42.45        | 97.34        | 7134.<br>832 | 475.6<br>555 | 69 |
| Gati Ltd.                           | 122.447<br>7 | 167.25<br>13 | 200.48<br>65 | 119.25<br>56 | 429.6<br>6   | 160.0<br>138 | 205.5<br>604 | 298.8<br>49  | 37.36<br>08  | 285.9<br>26  | 241.3<br>4   | 232.6<br>3  | 138.9<br>4   | 162.6<br>8   | 152.4<br>9   | 851.2<br>989 | 56.75<br>326 | 80 |
| Great Eastern Shipping Co. Ltd.     | 6124.17<br>1 | 4956.6<br>43 | 5895.2<br>08 | 7196.3<br>51 | 9171.<br>665 | 2358.<br>785 | 146.4<br>06  | 491.4<br>63  | 1254.<br>13  | 1074.<br>56  | 5849.<br>23  | 5626.<br>86 | 3513.<br>25  | 3936.<br>3   | 4257.<br>39  | 5591<br>9.29 | 3727.<br>952 | 26 |
| Jet Airways (India) Ltd.            | 6371.03<br>7 | 4768.2<br>5  | 2722.0<br>3  | 11074.<br>7  | 5501.<br>34  | 5051.<br>79  | 8619.<br>623 | 6642.<br>31  | 1597.<br>996 | 2602<br>5.3  | 2743.<br>56  | 3528.<br>88 | 2660.<br>06  | 6060         | 7072.<br>25  | 2614<br>0.6  | 1742.<br>71  | 86 |
| Shipping Corpn. Of India Ltd.       | 9858.90<br>9 | 7381.9<br>61 | 5705.1<br>15 | 3035.3<br>75 | 4682.<br>839 | 820.8<br>81  | 2438.<br>628 | 7889.<br>65  | 1010<br>8    | 7004.<br>32  | 1083<br>9.57 | 1133<br>0.6 | 1042<br>4.73 | 1085<br>8.72 | 1110<br>2.01 | 6347<br>7.4  | 4231.<br>827 | 24 |
| Spicejet Ltd.                       | -323.182     | 513.35<br>6  | -1071.7      | 1866.4<br>6  | 3508.<br>42  | 454.4<br>79  | 670.3<br>05  | 7508.<br>43  | 2800.<br>84  | 9394.<br>97  | 894.7<br>7   | 258.3<br>1  | 184.0<br>3   | 585.7<br>3   | 697.1<br>3   | 2703<br>1.7  | 1802.<br>11  | 88 |
| Dish T V India Ltd.                 | -320.479     | 2205.3<br>5  | 2461.8<br>7  | 3558.4<br>2  | 4119.<br>64  | 2473.<br>42  | 1814.<br>37  | 549.7<br>28  | 192.6<br>1   | 352.1<br>3   | 4102.<br>6   | 6538.<br>61 | 305.6<br>9   | 568.4<br>1   | 1053.<br>06  | 2676<br>2    | 1784.<br>14  | 87 |
| Entertainm ent Network (India) Ltd. | -261.451     | 48.938<br>87 | 184.42<br>06 | 1.7450<br>88 | 262.9<br>5   | 14.41<br>787 | 563.2<br>585 | 645.9<br>694 | 702.8<br>747 | 1130.<br>562 | 845.8<br>9   | 800.3<br>5  | 746.2<br>8   | 576.3<br>5   | 362.4<br>5   | 6099.<br>107 | 406.6<br>071 | 72 |

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|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|------------|--------------|--------------|----|
| H T Media Ltd. | 463.688<br>2 | 580.58<br>89 | 1487.1<br>76 | 1674.0<br>42 | 957.8<br>012 | 1549.<br>416 | 1894.<br>129 | 1809.<br>834 | 782.5<br>652 | 1420.<br>618 | 1266.<br>35 | 853.1       | 855.4       | 1013.<br>29 | 494.9<br>2 | 1710<br>2.92 | 1140.<br>195 | 52 |
| P V R Ltd.     | 26.2618<br>7 | 13.811<br>41 | 105.74<br>4  | 266.25<br>86 | 106.3<br>318 | 169.3<br>2   | 41.56<br>184 | 46.19<br>93  | 251.5<br>83  | 69.56<br>576 | 882.0<br>2  | 1290.<br>41 | 1275.<br>22 | 825.7<br>4  | 837.4      | 5273.<br>223 | 351.5<br>482 | 74 |

|                                    |              |              |              |              |              |              |              |              |              |              |             |              |             |             |             |              |              |    |
|------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|--------------|-------------|-------------|-------------|--------------|--------------|----|
| T V Today Network Ltd.             | 112.158<br>7 | 122.44<br>29 | 135.89<br>19 | 358.37<br>48 | 43.90<br>88  | 86.87<br>99  | 15.21<br>04  | 92.71<br>61  | 105.<br>1    | 614.<br>7845 | 565.<br>62  | 463.<br>51   | 432.<br>96  | 339.<br>24  | 283.<br>59  | 3115<br>.179 | 207.<br>6786 | 77 |
| Zee Entertainment Enterprises Ltd. | 2519.17<br>7 | 1395.4<br>94 | 2429.8       | 4620.4<br>06 | 3963.<br>755 | 5680.<br>369 | 5867.<br>682 | 3329.<br>124 | 5418<br>.073 | 1126<br>9.64 | 4500<br>.9  | 2561<br>2913 | 1995<br>.6  | 2558<br>.1  | 6102<br>.4  | 4068<br>2.52 | 25           |    |
| Cadila Healthcare Ltd.             | 1123.60<br>1 | 1304.0<br>64 | 1411.6<br>66 | 1403.9<br>29 | 1967.<br>085 | 3913.<br>638 | 4210.<br>419 | 5405.<br>629 | 2447<br>.008 | 6156<br>.194 | 4564        | 4559<br>.1   | 4147<br>.9  | 2165<br>.9  | 1705<br>.2  | 4648<br>5.33 | 3099<br>.022 | 34 |
| Caplin Laboratories Ltd.           | 8.27165<br>9 | 18.330<br>52 | 15.429<br>85 | 10.770<br>46 | 33.01<br>806 | 14.88<br>78  | 51.64<br>127 | 144.2<br>472 | 202.<br>6383 | 310.<br>959  | 241.<br>34  | 232.<br>63   | 138.<br>94  | 162.<br>68  | 152.<br>49  | 1738<br>.274 | 115.<br>8849 | 79 |
| Divi'S Laboratories Ltd.           | 607.237<br>9 | 750.15<br>43 | 1576.8<br>95 | 3073.5       | 3760.<br>981 | 2863.<br>536 | 2889.<br>814 | 5142.<br>069 | 6725<br>.362 | 7767<br>.451 | 2797<br>.31 | 2785<br>.65  | 1971<br>.51 | 1948<br>.61 | 1565<br>.05 | 4622<br>5.13 | 3081<br>.675 | 35 |
| Granules India Ltd.                | 36.3335<br>1 | 22.053<br>54 | 21.068<br>79 | 61.893<br>35 | 56.90<br>98  | 43.09<br>203 | 171.8<br>094 | 311.9<br>888 | 382.<br>9177 | 1139<br>.002 | 1246<br>.67 | 1633<br>.91  | 1036<br>.04 | 653.<br>41  | 530.<br>81  | 7234<br>.089 | 482.<br>2726 | 68 |
| Marksans Pharma Ltd.               | 83.8582<br>1 | 228.13<br>99 | 100.19<br>44 | 135.22<br>22 | 191.0<br>044 | 77.58<br>778 | 2152.<br>41  | 433.3<br>77  | 322.<br>4706 | 655.<br>8729 | 259.<br>25  | 244.<br>86   | 252.<br>03  | 134.<br>04  | 224.<br>28  | 323.<br>0211 | 21.5<br>3474 | 81 |

|   |          |          |          |          |          |          |          |          |           |           |           |           |           |           |           |           |           |    |
|---|----------|----------|----------|----------|----------|----------|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----|
| Shilpa Medicare Ltd.                    | 37.06117 | 28.59433 | 95.51461 | 146.0796 | 266.4137 | 544.492  | 570.1945 | 467.7866 | 487.3129  | 939.212   | 792.61    | 716.54    | 625.9     | 350.23    | 280.04    | 6347.981  | 423.1988  | 70 |
| Strides Shasun Ltd.                     | 294.7371 | 368.5991 | 421.9164 | 877.163  | 238.4797 | 799.9303 | 138.8027 | 1218.699 | 1998.04   | 1371.623  | 1631.33   | 864.29    | 1760.23   | 1721.57   | 90.31     | 2438.6    | 1625.733  | 49 |
| Sun Pharmaceutical Inds. Ltd.           | 2842.501 | 4409.944 | 5703.936 | 9841.98  | 10990.59 | 8533.81  | 12916.09 | 18519.57 | 5766.802  | 803.7082  | 9529.68   | 7450.88   | 5186.58   | 4550.69   | 2250.37   | 1092.97.1 | 7286.476  | 17 |
| Suven Life Sciences Ltd.                | 53.43054 | 2.457649 | 17.8491  | 172.464  | 197.555  | 269.911  | 540.205  | 110.656  | 193.8631  | 1899.835  | 327.55    | 258.86    | 247.24    | 527.28    | 385.7     | 2587.576  | 172.5051  | 78 |
| Bharti Airtel Ltd.                      | 14602.3  | 19141.97 | 40150.66 | 795.0139 | 81852.23 | 96297.91 | 74822.77 | 60946.44 | 3483.08   | 8859.944  | 1378.35.5 | 1073.38.3 | 1081.35   | 6792.9.5  | 2927.5.2  | 8928.91.4 | 5952.6.09 | 5  |
| G T L Infrastructure Ltd.               | 117.1331 | 624.279  | 999.243  | 2951.23  | 1424.19  | -1795    | 2445.83  | 2831.41  | 9359.3    | 7002.32   | 2628.78   | 8947.79   | 7689.81   | 2842.69   | 3456.39   | 3750.2    | 250.013   | 83 |
| G T L Ltd.                              | 84.84011 | 516.5996 | 150.575  | 1406.129 | 505.8006 | 1698.339 | 4766.488 | 1426.12  | 1536.99   | 6623.5    | 6356.02   | 3898.41   | 5592.85   | 3317.37   | 1395.83   | 2131.9.5  | 1421.3    | 85 |
| Himachal Futuristic Communications Ltd. | -1441.58 | -1074.4  | 1246.664 | 1461.49  | 2478.03  | 1239.52  | 2048.69  | 172.7635 | 521.6326  | 1232.445  | 1434.53   | 1173.9    | 1196.57   | 1131.37   | 755.33    | 878.505   | 58.567    | 82 |
| I T I Ltd.                              | -6581.93 | 7130.13  | 3604.76  | 5044.45  | 3799.82  | 6230.51  | 2429.78  | 2208.6   | 597.357   | 112.8436  | 472.04    | 100.52    | 507.91    | 735.33    | 319.89    | 3850.5.1  | -2567     | 89 |
| Mahanagar Telephone Nigam Ltd.          | -5701.42 | 18376.9  | 15354.7  | 17905.1  | 22173.4  | 40126.05 | 7439.284 | 21300.32 | 4602.3.03 | 1118.9.24 | 1061.8.42 | 1136.7.88 | 1261.8.52 | 1290.0.26 | 1980.0.76 | 1138.72.2 | 7591.483  | 16 |
| Tata Communications Ltd.                | 5811.175 | 4156.929 | 4492.698 | 377.3461 | 4050.164 | 1622.624 | 72.5095  | 1765.472 | 2262.907  | 4631.296  | 4656.33   | 4205.97   | 2894.24   | 4098.13   | 3488.68   | 4844.1.45 | 3229.43   | 32 |
| Tata Teleservice (Maharashtra) Ltd.     | -7861.94 | 7193.53  | 4541.55  | -766.79  | 580.4818 | 10711.8  | 16118.9  | 15450.7  | 1410.7.6  | 2181.9.9  | 2147.74   | 7447.11   | 1070.8.92 | 4193.71   | 4371.99   | 7341.8.2  | 4894.55   | 90 |

Table1: the given table depicts the observations related to all the sample companies, i.e., Traditional companies and Modern companies, for the sample period of 15 years ranging from 2005-2019. These figures explained the trends of total EVA and Average EVA of the sample companies. This data also express the ranks of various companies based on average EVA. From the figures, it can be seen that nine companies out of 90 companies have negative EVA, which ranges from Rs. -4894.55 million to -58.567. This is explained in the table that few companies have Negative EVA for the continuous years, which is not suitable for the companies' health; for instance, polarize consulting ltd has negative EVA for the first four years under observation, i.e., 2005,2006,2007,2008 consecutively. Spice jet ltd and the jet airways show negative EVA almost every year under study except one or two years. Dish TV India Ltd follows the same trends. From this table, a comparison of Traditional and Modern companies can also depict. In this observation, the five top ranks are given to all the traditional companies except one company, i.e., Bharti Airtel Ltd., which is at the place five where and first four ranks are given to traditional companies. On the offender side, worst performing five ranks to the Modern companies, and the

only one traditional company having negative average EVA is placed at 84 positions. Hence, from the table, it can be clearly said that traditional companies are performing better than modern companies.

#### STATISCAL RESULT OF Z TEST ON THE BASIS OF ECONOMIC VALUE ADDED

|                     | <i>Variable 1</i> | <i>Variable 2</i> |
|---------------------|-------------------|-------------------|
| Mean                | 17.22817          | 12.67314          |
| Known Variance      | 164.3085          | 549.8552          |
| Observations        | 48                | 42                |
| Z                   | 1.120865          |                   |
| P(Z<=z) one-tail    | 0.131173          |                   |
| z Critical one-tail | 1.644854          |                   |
| P(Z<=z) two-tail    | 0.262345          |                   |
| z Critical two-tail | 1.959964          |                   |

Z test is designed to compare independent two samples applicable for large when the population variance is known. In the present study, the z test is performed in Ms- Excel. At the confidence level of 95%, the critical value obtained from the table is +- 1.96. The observed value of z is calculated as 1.120865, which is less than the tabulated value and within the acceptance region. Hence, the null hypothesis is accepted, and the alternate hypothesis is rejected. Therefore, statistical results proved that there is no significant difference in the performance of traditional companies Modern companies based on EVA.

#### Findings

1. Based on Ranks that are assigned as per Average EVA most of the top ranks are secured by the Traditional companies than the Modern companies.
2. In the first five most wealth creating companies only one company of modern sample able to secure a position at the number five.
3. On the other side, top destroyer of the wealth according to the given sample most of the ranks secured by the Modern companies.
4. Value of Z statistics is depicted that there is no significant difference in the performance of the Sample companies based on the EVA.

#### Conclusive remarks

Performance evaluation is vital for the companies and the investors for decision making. Investors evaluate the performance of the safety of their investments and companies to perform better in the future. In both cases, performance evaluation is essential, but the comparative analysis is more important. Comparing their performance with the competitors can motivate companies to perform more efficiently, and the investor side, before investing their fund's comparative analysis of the companies, can generate more returns. In the present study, two

samples were compared on EVA base, i.e., Traditional companies and the Modern companies. For conducting the study, first ranks are given to all the companies and from the ranks analysis it was found that the traditional companies secured better ranks than modern companies based on average EVA. After that Z test perform to make the comparison of both samples. The study undoubtedly proves that there is no significant difference in the performance of traditional companies and Modern companies based on EVA.

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