

# Evaluation of Financial Performance Using Economic Value Added Metrics in Pharmaceutical and I.T. Companies - A Comparative Study

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## ABSTRACT

Economic Value Added (EVA) is a firm's true economic profit after deducting the full opportunity cost of all invested capital, equity and debt. It is regarded as a comprehensive measure of performance and is an indication of value creation and calculated by deducting the cost of capital from NOPAT (Net Operating Profit after Tax). Thus, EVA is considered as the true measure of corporate surplus or effectiveness, which should be shared by the shareholders, management and employees. It turns balance sheet assets into a charge to profit, just like cost of goods sold. EVA increases the wealth of the share holders when managers streamline operations, control the costs, and invest capital in growth oriented projects whose cost of capital is affordable to earnings, EVA is also measured after eliminating accounting distortions that could change the true value. Hence, it improves performance through all possible ways and wealth is created. This paper examines that how EVA and EVA metrics are assessed and analyzed in the Pharma and IT companies with an upshot of two companies of respective domains as case problems.

**KEYWORDS:** *EVA, NOPAT, Corporate Surplus, Shareholders, EVA Metrics*

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## Introduction

Investors measure overall performance of a firm to make decision whether to invest or to continue or to exit from an organization. In the process of goal congruence, managers' compensation is linked with the performance of the responsibility centers.

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To measure performance of a firm a good tool of measuring value created by it in a given time frame is essential. The current metrics are found to take considerable degree of complexities in quantifying the underlying measures. The more complex the process, the more is the level of subjectivity and the cost. Hence attempts are being made fruitfully to develop a single measure that captures the overall performance.

Various current performance metrics, which are based on the return on investment generated by the business entity dramatically claim their superiority over others. Therefore to reach a meaningful conclusion, returns generated by the firm in a particular year should be compared with returns generated by assets with similar risk profile. And return on investment for the current period should be compared with returns generated in past. A firm creates value only if it is able to generate higher return than its Weighted Average Cost of Equity and Debt. Also the performance valuation of a firm gets reflected by the capital market, and in turn Market investor's perception towards current performance and future performance in terms of return on capital. Here is a need to have a metric that should not only compute the current performance but also be able to incorporate the direction and magnitude of future growth.

On the other hand, the conventional performance measures directly relate to the current net income of a business entity with equity, total assets, net sales etc, in terms of Return On Equity (ROE), Return On Assets (ROA) and Operating Profit Margin failed for one or many reasons in evaluating the performance absolutely. It is due to numerator measures that are incomplete or misleading in some way or other. Besides sales growth rate considers sales and nothing else. Profit margins gauge income efficiency and nothing else. The other flaws in traditional ratios are scaled denominators such as sales or capital that don't help in decisions. Return on capital or profit on sales or manufacturing yield, or any productivity measure, is simply not a measure to be maximized as it leaves out things that also matter, such as growth and the scale of resources used by management. It is impossible to tell by examining ROC alone if a company or division is actually performing better or worse from one period to the next. Thus the traditional ratios stood as incomplete metrics and paved the path for EVA.

## The Concept of EVA

EVA is a firm's true economic profit after deducting the full opportunity cost of all invested capital, equity as well as debt. It turns balance sheet assets into a charge to profit, just like cost of goods sold. Accordingly, EVA increases when managers streamline operations, control the costs, and invest capital in growth oriented projects whose cost of capital is affordable to earnings. EVA is also measured after eliminating accounting distortions that could percept the true value, hence, it improves performance in all possible ways and wealth is created.

The remarkable features of EVA are: EVA treats leased assets as owned, which neutralizes comparisons regardless of the mix of leasing or owning assets by a firm. EVA writes-off R&D spending and Advertising spending over time, subject to cost of capital on the un-amortized balance. EVA removes cash from capital, hence, a sudden distribution of cash has no impact on EVA.

Also EVA reverses impairment charges as they are inconsequential and non-cash events. In other words, it is EVA that is impaired by a poor investment, by bearing the burden of the cost of capital that cannot be covered. EVA can also 'capitalize' restructuring costs by removing them from earnings and adding them to balance sheet capital. It means a restructuring is treated as an investment to streamline the business, not as a knee jerk admission of failure. Finally it can be stated that EVA is the best, most complete, comparable and correct way to measure the performance and understand the real profitability and value added of any company in a significant way.

## Review of Literature

For the last twenty years, researchers, corporate professionals and consultants engaged in the field of finance have been paying their attention on the EVA by admitting the limitations of traditional measures of performance. But a majority of them have drawn inferences about the theoretical discussion of it and a few of them have concentrated to make the concept as a legitimate tool of corporate financial performance measurement. The present section briefly thrashes out the notable researches carried out so far by the scholars in the field.

Stern (1990) in his paper titled 'One Way to Build Value in Your Firm, Executive Compensation', published in the journal, *Financial Executive*, Nov / Dec. 1990, pp. 51-54 has observed that, "as a performance measure EVA comes closer than any other tool to capture the true economic profit of an enterprise. It is directly linked to the creation of the shareholders' wealth over time. EVA based financial management and incentive system gives the manager a superior information and motivation to take a decision that will create the greatest shareholder of a private enterprise". The author also argues that the best way of maximizing for shareholder return is to offer incentives to managers for making decisions that boost long term value. The managers may be guided by EVA and they can be remunerated a proportion of both the total EVA and the positive change in EVA.

Stewart (1994) in his paper titled 'EVATM Fact and Fantasy', published in the journal, *Corporate Finance*, Vol. 7, No. 2, June 1994, pp. 71-84 has opined that, "EVA is a powerful new management tool that has gained growing international acceptance as the standard of corporate governance. It serves as the centerpiece of a completely

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integrated frame-work of the financial management and incentive compensation”. He also argues that it can transform energies and resources to create sustainable value for companies, customers, employees, management, government and shareholders.

Mayfield. John (1997) in his paper titled ‘Economic Value Management’, published in the journal, *Management Accounting*, Sep 1997, pp. 32-33 has observed that EVA provides a positive strategy planning, capital budgeting decision, pricing decision and also basis for incentive compensation.

Gary C Biddle, Robert M Bowen, James S Wallace (1998) in their paper titled ‘Economic Value Added: Some Empirical Evidence’, published in the journal, *Managerial Finance* Patrinton, Vol. 24, Issue 11, 1998 suggests that the managers respond to EVA incentives, and there is no evidence to support claims that EVA is more closely associated with equity returns or firm values than net income.

Josie McLaren (1999) in his paper titled ‘A Strategic Perspective on Economic Value Added’, published in the journal, *Management Accounting*, London, Vol. 77, Issue 4, Apr 1999, concludes that EVA is seen as a tool for reducing conflicts of interest between the principals outside the firm and the agents within the firm.

Saba Gurudas (2000) in his paper titled ‘Shareholder Value and EVA: New Corporate Goals’, published in the journal, *Chartered Accountant*, April 2000, pp. 46-51 He demonstrates how EVA is the best measure for deducing shareholder value enhancement.

Jawaher Lal and Madhu Malik (2001) in their paper titled ‘Economic Value Added (EVA) and Corporate Performance’, published in the journal, *The Management Accountant*, 36(7), July 2001, pp 528-534. They attempt to analyze the superiority of EVA over traditional profit based performance measures, and its computation, implementation and application with special reference to a detailed case study of Hindustan Lever Ltd.

S. David Young, F. O’Byrne Stephen (2003) in their book titled ‘EVA and Value-Based Management - A Practical Guide to Implementation’, published by Tata McGraw-Hill Publishing Company Ltd, New Delhi, in their book addresses a number of technical issues and accounting adjustments to EVA.

Karam Pal Singh, M.C. Garg (2004) in their book titled ‘Economic Value Added (EVA) in Indian Corporate’, published by Deep & Deep Publications Pvt. Ltd, New Delhi, 2004, stated that EVA as an emerging concept of financial management has strong underlying standards, regulations and natural appeal.

Shivakumar Deene (2006) in his Ph.D thesis titled ‘Economic Value Addition of Consumer Product Sector Companies in India’ submitted to Gulbarga University,

Karnataka, examined that the Market Value Added of the consumer product sector companies have been driven by Economic Value Added.

Lokananda Reddy, Irala.(2007) in his Ph.D thesis titled 'Corporate Performance Measures in India' submitted to JNTUH, examined that the value creation of the firms is possible only by using EVA.

Kaur, M and S. Narang (2008) in their paper titled 'Economic Value Added Reporting and Financial Performance: A study of Satyam Computer Services Ltd,' published in ICAI journal of Accounting Research, The study found much divergence between the reported and calculated EVA figures and discussed the need to provide more reliable view of its value addition. The study suggested companies and accounting professionals to compare EVA statement scientifically and then publish it in the annual reports.

Vishwanath, R (2009) in his paper titled 'EVA Financial Management System at Godrej Consumers Products Ltd', available at SSRN web site. The study explained three elements of EVA program followed by GCPL: (i) EVA centers, (ii) operational practices of EVA drivers which improve EVA results and (iii) EVA – based incentive programs for bonus – eligible managers.

Dr. Himanshu Choudhary and Vandana Sharma (2010) in their paper titled 'EVA Discipline Getting Hotter At HARSCO Corporation', published in the journal, Indian Journal of Finance, Jun 2010, pp. 12-20, stated that the creation of long term value for HARASCO's stockholders is continuing by adopting EVA.

Anil K. Sharma and Satish Kumar (2010) in their paper titled 'Effectiveness of Economic Value Added and Conventional Performance Measures – Evidences from India', published in IIMS Journal of Management Science, volume 1, issue 1, Jan-Jun 2010, pp 60-78, stated that EVA is the best performance measure, so the Indian companies should disclose EVA figures in their financial statements.

A.K. Vashisht and Meenu Gupta (2012) in their paper titled 'Economic Value Added as a Performance Measurement Tool in Banks' published in The Indian journal of Commerce, vol. 65, issue 1, Jan-Mar 2012, pp 53-61, stated that EVA is a superior measure of performance and as a predictor of shareholders' wealth.

From the review of literature it is evident that the researchers have given much importance to EVA in measuring performance or value creation of any company. As the business world is moving towards greater transparency and superior corporate governance, shareholder value creation aspect is of utmost importance in the present scenario of corporate performance and management. So one cannot deny the present necessity of an exclusive study in the field of EVA and its role in performance evaluation in any industry of any country.

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## Objectives

The main objective of the paper is to analyze and compare the financial performance of select Pharmaceutical and IT companies through EVA metrics. Hence, the specific objectives are:

1. To assess and analyze the Economic Value Added (EVA) of Pharma and IT companies.
2. To compare the trend of EVA, EVA Margin and EVA Momentum of Pharma and IT companies.

## Hypotheses

The objectives of the study are ascertained through the following hypotheses.

H01: There is no significant difference between the Trend of EVA of Pharmaceutical and I. T Companies.

H02: Trend of EVA Margins of Pharmaceutical and I.T. companies are not differing significantly.

H03: Trend of EVA momentum of Pharmaceutical and I.T. companies are not differing significantly as they hail from new economy oriented and knowledge base industries.

## Data Sources and Methodology

The present paper is a case method, empirical and comparative study of Dr. Reddy's Laboratories Limited and Tata Consultancy Services in an analytical way. It used the secondary data published in the annual reports of the select companies. Data analysis was made through the metrics of EVA, EVA Margin and EVA Momentum. To ascertain the hypotheses, co-efficient of correlation and t-tests are employed. The time span of the study ranges from 2008-2014.

## Limitations

Though the study is very comprehensive in nature, it is subjected to the following limitations:

1. The EVA calculations of select companies were made based on the data provided by the annual reports of select companies.
2. EVA measures of select companies may not reflect the EVAs of other companies of the same sector as there may be many differences in the economic values of Income statement and balance sheet of individual companies.

## Profile of Sample Companies

### Dr. REDDY'S LABORATORIES LIMITED (DRL)

It was established in 1984, which is an integrated global pharmaceutical company, committed to providing affordable and innovative medicines for healthier lives. DRL started its operation in the Active Pharmaceutical Ingredients (API) segment, with a single drug in 60 tonne facility near Hyderabad.

During FY 2011, the company launched 135 new generic products, filed 107 new product registrations and filed 56 DMFs globally. On 11<sup>th</sup> April 2001, it has rung the symbolic bell and DRL became the first pharmaceutical company in the Asia-Pacific, outside Japan to be listed on NYSE. DRL is the fastest Indian Pharmaceutical Company to cross \$1 billion in revenue.

### TATA CONSULTANCY SERVICES (TCS)

TCS was established in 1968 by Tata Sons, it is the largest Indian IT services company and one of the top 10 global IT service companies. TCS has 142 offices across over 47 countries and generates around 20 per cent of India's IT exports. It bagged the country's first software project, the Inter-Branch Reconciliation System (IBRS) for the Central Bank of India. In 1981, TCS set up India's first software research and development centre, the Tata Research Development and Design Center (TRDDC) in Pune. It is the company having a greater vision, mission and line of business incomparable to any competitor.

## The Process of Measuring EVA and EVA Metrics

### EVA

The most basic definition of EVA is a simple three-line calculation – sales less operating costs less financing costs. Operating costs include the depreciation and amortization of business assets that must be replaced or replenished to stay in business, along with tax due on operating profit. The financing costs cover all capital, which include the opportunity cost of equity as well as interest on borrowed funds. Said in another way, EVA is net operating profit after taxes, or NOPAT, less the capital charges computed by multiplying the amount of invested capital by the weighted average cost of the capital, hence, by equation EVA is,

$$\text{EVA} = \text{Sales} - \text{Operating Costs} - \text{Financing Costs}$$

$$\text{EVA} = \text{NOPAT} - (\text{CAPITAL EMPLOYED} * \text{WACC})$$

Where;

NOPAT = Net Operating Profit after Tax before interest.

WACC = Weighted Average Cost of Capital.

## EVA Margin

EVA Margin is EVA as a percent of sales. It is the firm's true economic profit margin net of all operating and capital costs. It is a measure of the total profitability and productivity of the business model, spanning income efficiency and asset management. EVA Margin neutralizes comparisons between capital lean firms like Wal-Mart that run with miniscule operating margins, and margin rich businesses like Intel that ties up mammoth amounts of high risk production capital. Unlike conventional operating margins, EVA Margins fully and correctly recognize the value of superior asset management and successfully achieve lean, high velocity business models. Symbolically,  $EVA\ margin = EVA / Sales$ .

## EVA Momentum

EVA Momentum is the change in EVA over a period, stated as a percent of prior period revenues. It measures the EVA growth rate, scaled to the sales size of the business. It is the only business performance ratio where a bigger result is always better, because when Momentum is bigger, EVA and franchise value are bigger, too. EVA Momentum thus qualifies as every company's objective function – the ratio indicator everyone should aim to increase over time. And, it is the single best measure a CFO can use to quantify the quantity and value of forward plans, and to stimulate line teams to generate better plans during the planning process. EVA Momentum is positive for a negative EVA business that is turning around and becoming less negative. It is flat or falling for a profitable business whose business model is fatiguing or under competitive pressure. Symbolically,

$EVA\ momentum = \Delta EVA / Trailing\ Sales$ .

## Analysis, Discussion and Findings

### EVA of DRL

It is evident from Table-1 that the total capital employed by DRL fluctuated year by year. It was found that the sales increased by 127.82 per cent in 2006 that moved to 712.99 per cent in 2014 from the base year 2005. The average figure of capital employed of DRL was Rs. 6,070.07 crores over a period of 10 years. Similarly, Adjusted Operating Profit after Taxes and NOPAT were also moved from 143.55 per cent, 130.21 percent in 2006 to 653.46 percent and 525.13 percent in 2014 respectively. The WACC fluctuated between 6 per cent to 12 per cent over the study period. It is due to the continuous growth in all the variables that EVA of DRL moved from 133.38 per cent to 575.12 per cent over the study period. Hence the average EVA of the company over the study period was 1,237.25 crores. It indicates that the EVA growth is highly considerable. It can also be inferred that EVA of DRL was increasing except in 2007-08 and 2011-12 over the study period due to NOPAT.



### **EVA Margin of DRL**

EVA margin of DRL is quite evident from Table-2 over the study period. EVA margin does mean the relationship of EVA to sales. It is due to the dynamics of EVA and sales with a considerable growth from the base year, that the EVA margin moved from 104.98 percent in 2006 to 80.87 percent in 2014, which is an indication of declining space, size and level of EVA as a per cent over the sales. It also states that the EVA was not consistent due to changes in Sales, NOPAT and other variables.

### **EVA Momentum of DRL**

EVA momentum is all about change in EVA to sales as a measure. From Table-3 it is evident that the change in EVA momentum of DRL was very positive during 2006, 2007, 2009, 2010, 2012, 2013 and 2014 whereas, in 2008 and 2011 the change was negative and not significant. Hence, the EVA momentum was reflected by the change in EVA, due to decline in EVA on the whole.

### **EVA of TCS**

It is very evident from the Table-4 that the sales value and cost of goods sold by TCS increased very significantly throughout the study period. Similarly, NOPAT was moved from 126.66 per cent in 2006 to 812.10 per cent in 2014. The total capital employed by TCS increased very significantly over the study period. The average figure of capital employed by TCS was Rs. 21,051.02 crores over the period of 10 years. The WACC was almost between 8 per cent and 15 per cent over the study period. It is due to the continuous growth in all such variables that the EVA of TCS moved from 108.26 per cent to 674.81 per cent from the base year to 2014. Hence, the average EVA of the company over the study period was Rs.5,693.98 crores. It indicates that the EVA growth is very significant.

### **EVA Margin of TCS**

EVA margin of TCS is quite evident from Table-5 over the study period. It is due to EVA and sales volatile trend that the Eva margin moved from 79.64 per cent in 2006 to 80.41 per cent in 2014. From 2005 to 2014 the EVA margin was found declining due to the disproportionate growth of the sales towards the growth of the EVA.

### **EVA Momentum of TCS**

Table-6 is evident for the change in EVA of TCS which was very positive during the study period except in 2009, as the change in the year was negative and not so significant. Hence, EVA momentum is very glaring in 2007, 2010, 2011 and 2014 and in the rest of the years it was not so considerable.

- Please refer Table-1 to Table-6

## Coefficient of Correlation

From Table-7 it is evident that the EVA to EVA Margin and EVA to EVA Momentum of DRL and TCS as well as DRL EVA to TCS EVA are positively correlated, whereas DRL EVA Margin to TCS EVA Margin and DRL EVA Momentum to TCS EVA Momentum are negatively correlated. It indicates that the EVA to EVA margin relationship of DRL to TCS is not so significant as well the trend of DRL and TCS EVA to EVA momentum, both, independently and cooperatively very leastly positive. But there is a strong relationship between the EVA trends of both DRL and TCS, which states that in the new economy companies EVA is almost similar.

**Table-7: Coefficient of Correlations of EVA, EVA Margin and EVA Momentum of DRL and TCS**

Aspect	DRL	TCS
EVA to EVA Margin	0.04	0.03
EVA TO EVA Momentum	0.20	0.43
DRL EVA to TCS EVA	0.63	
DRL EVA Margin to TCS EVA Margin	-0.22	
DRL EVA Momentum to TCS EVA Momentum	-0.11	

## Test of Hypotheses

H01: There is no significant difference between the EVA of Pharma and I. T Companies.

H02: EVA Margins of Pharma and I.T. companies are not differing significantly

H03: EVA momentum of Pharma and I.T. companies are not differing significantly as they hail from new economy oriented and knowledge based industries.

**Table-8: T-test**

S.No.	Variable	Level of significance	Calculated value	Table value	Decision
1	EVA	0.05	3.57	2.101	Rejected
2	EVA MARGIN	0.05	1.360	2.101	Accepted
3	EVA MOMENTUM	0.05	0.457	2.120	Accepted

Source: compiled by the authors ( $v = n_1 + n_2 - 2$ )

From Table-8 it is evident that the EVA of DRL and TCS are significantly differing, but the EVA Margin and EVA Momentum is almost near for both organizations. It indicates that the EVA differs significantly due to the nature and size of the business over the years. But the EVA Margins as well as EVA momentum are the equilibrium tools that properly consolidate the companies at the end by giving proper value addition in terms of growth or change in the volume of EVA. Hence,  $HO_1$  is rejected and,  $HO_2$  and  $HO_3$  are accepted.

## Conclusion and Suggestions

EVA is an innovative financial metric to evaluate the performance of business organizations of various sectors. EVA of an IT Company is superior to a Pharmaceutical Company due to increase in Net Operating Profits after taxes and a significant decline in capital charges. EVA Margin is also found to follow similar type of trend. Since the growth of EVA is comparatively very high to a Pharma Company, it could achieve the momentum at par with IT Company. So it can be asserted that despite changes in all the variables the EVA Margins and Momentum more or less follows a similar trend in both companies as they hail from new economy based industries. In the case of EVA there is a high distinguishability, as cost and other operating elements are involved in it. It is beyond doubt that if Pharma and other manufacturing companies manage the cost properly with best tools like ABC, Target Costing, etc. they can ensure the high level of EVA at par with IT and other services sector companies.

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