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Accounting for Intangible Assets: An Empirical Study

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ABSTRACT

In the earlier period, the value of a corporate was mainly driven by its tangible assets values presented in the balance sheet. A study of 3500 companies reveals that the balance sheet explained 95% of the market value in 1978. By early 2000, the book value of the assets represented less than 15% of the total market value. The gap between market value and book value in traditional balance sheets has been attributed to the presence of intangible assets not represented in the books. Intangible assets are those assets that create value beyond tangible assets. It is a claim to future benefits that does not have a physical or financial embodiment. In this study a modest effort has been made to make an in-depth study in respect of Intangible accounting of the Dr. Reddy's Laboratories Ltd, a leading manufacturer of bulk drugs and formulation in India and abroad during the period from financial year 2001-02 to 2007-08. The objectives of this study are to measure intangible values of Dr. Reddy's Laboratories Ltd by computing three important measures namely; Economic Value Added, Market Value Added and Total Shareholders Return and to study the variations of these important indicators during the period under study through the computation of Mean, Standard deviation, co-efficient of Variation of each measure. The research findings revealed that Dr. Reddy's Laboratories Ltd has not been performing well in terms of generating wealth in excess of what was expected by the shareholders and has not earned an adequate return that compensate shareholders' for the risk taken. The company should undertake detailed analysis to identify the causes of decreasing trend of Economic Value Added and formulate its strategy to combat the situation and to add to its value creation activities.

Keywords: Intangible assets, EVA, MVA, TSR, Brand Value, Value Creation, Market Capitalization.

Accounting for Intangible Assets: An Empirical Study

In the earlier period, the value of a corporate was mainly driven by its tangible assets values presented in the balance sheet. The management of companies valued tangible resources and linked all their performance goals and matrices to those assets. Even in a mergers and acquisition scenario, the prices were based on the value of their tangible assets. The market capitalization of companies also followed the value of the tangible assets shown in the balance sheet. A study of 3500 companies reveals that the balance sheet explained 95% of the market value in 1978. Up to the early 1990s, the difference between traditionally reported book value and market values of companies is being seldom above 25%. In the latter half of the 1990s, the relationship between market value and tangible assets value changed dramatically. By early 2000, the book value of the assets represented less than 15% of the total market value. The gap between market value and book value in traditional balance sheets has been attributed to the presence of intangible assets not represented in the books. The intangible assets are becoming the key drivers of the market value in this new economy.

Intangible assets are those assets that create value beyond tangible assets. It is a claim to future benefits that does not have a physical or financial embodiment. The value of intangible assets reflects the company's strength to earn increased proportion of return compared to its competitors with the same level of tangible assets. The definition of intangible assets is given in the IAS-38 as an identifiable non-monetary asset without physical substance. AS-26 defines an intangible asset as "an identifiable non-monetary asset without physical substance held for use in the production or supply of goods or services, for rental to others, or for administrative purposes." According to this standard, intangible assets should be recognized only if, (a) it is probable that the future economic benefits that re-attributable to the assets will flow to the enterprise, and (b) The cost of the assets can be measured reliably. Intangible assets have been defined by The Institute of Chartered Accountant of India as "an identifiable non- monetary asset without physical substance held for use in the

production or supply of goods or services, for rental to others, or for administrative purposes." The intangible assets of a company include its brand, its ability to attract, develop and nurture a cadre of competent professionals, and its ability to attract and retain marqué clients.

In the present age of information and technology every corporate strives hard to maintain and, if possible, to increase its market share and building a good corporate image in the society. In corporate accounting and reporting practices the intangible assets have assumed a very important role. But in the absence of any legal compulsion in this regard, the practice followed by the corporate world is not uniform and only a few of the companies deal with this subject in the annual reports published by them. In India, the practice of measuring and disclosing intangible values in the annual published accounts is not uniform among the corporate. Of late, some eminent companies are showing some interest and using intangible parameters such as Economic Value Added (EVA), Market Value Added (MVA), Brand Value, Total Shareholders Return (TSR) and Human Resource Accounting internally as a performance gauge for refining efficiency and improving disclosure practices. The companies in India would join their hands in this type of endeavor in the years to come bearing in mind to learn that shareholders' value creation is not only the responsibility but the identity of a corporate in the present era.

Keeping this background in view, a modest effort has been made to make an in-depth study in respect of Intangible accounting of the Dr. Reddy's Laboratories Ltd, a leading manufacturer of bulk drugs and formulation in India and abroad during the period from financial year 2001-02 to 2007-08.

OBJECTIVE OF THE STUDY

The objectives of this study are as follows:

- To present a short review of the theoretical background concerning different aspects of intangible value and its impact on the value creation by a company.
- To measure intangible values of Dr. Reddy's Laboratories Ltd by computing three important measures namely; Economic Value Added (EVA), Market Value Added (MVA) and Total Shareholders Return (TSR).
- To study the variations of these three important indicators during the period under study through the computation of Mean, Standard deviation (SD), co-efficient of Variation (CV) of each measure.
- To analyze and interpret these individually to assess the level of intellectual value possessed by the company.

METHODOLOGY OF THE STUDY

The company that has been selected for this study is one of the leading manufacturers of bulk drugs and formulation in India and fairly represents Indian pharmaceutical industry. The data used in this study for the period from 2001-02 to 20007-08 have been taken from the published annual reports of the Dr. Reddy's Laboratories Ltd. The data have been suitably re-arranged, classified, analyzed and interpreted appropriately as per the requirement of the study with the help of different statistical tools and techniques.

LIMITATION OF THE STUDY

This study had the following limitations:

- The study has been carried out mainly by computing four important measures of intangible values.
- The study used the secondary data for analysis and interpretations collected from the published annual reports of the company.

Profile of the Company:

Dr. Reddy's Laboratories Ltd, which was established in 1984, is an emerging global pharmaceutical company. It is one of the leading manufacturers of bulk drugs and formulation in India and abroad. Twenty-five years since inception, Dr. Reddy's Laboratories continue its efforts to provide affordable and innovative medicines to patients across the world, either directly through Global Generics business or indirectly through Pharmaceutical Services and Active Ingredients (PSAI) business. It has share capital base of Rs.842 millions with 168.469 million equity share of Rs.5.00 each fully paid. The turnover of the Company during 2008-09 was Rs.69441 million (1.37 billion in US dollars). Gross Profit stood at Rs. 36,500 million in 2008-09 (718 million in US dollars). The percentage of international revenue to the total revenue of the company was 83.5% during 2008-09. North America (US and Canada) contributed to 35%, Europe accounted for 26%, Russia and other CIS countries contributed to 11% of total revenues in 2008-09. The Company has 40 subsidiary companies as on 31 March 2009. Dr. Reddy's global employee strength crossed 10,000 in 2008-09, of which over 2,000 were based at international locations.

Major Findings:

In the corporate world now it is perceived and recognized that intangible assets could make or break a company. Pharmaceutical companies have a high level of intangible assets which create value for the company. To improve its performance and position a company should as a strategy try to leverage intangible assets. With business expanding globally and rapidly, it is very important to have a strong base of intangible assets that only remain countable in the long run to pervade across functions and hierarchies. Intangible accounting attempts to explain the excellence achieved by a company in augmenting shareholders value creation through its intellectual properties. There are a plethora of methods for measuring the value of intangibles. The intangible values of Dr. Reddy's Laboratories Ltd have been measured in terms of certain indicators such as Economic Value Added (EVA), Market Value Added (MVA), Total Shareholders Return (TSR) etc.

Economic Value Added

Economic Value Added (EVA) introduced by US-based consultancy firm Stern Stewart and Co. is the way to measure the performance of companies based on achieving the objective of enhancing shareholders' wealth. It measures the profitability of a company after taking into account the cost of capital. It is the post-tax return on capital employed (adjusted for the tax shield on debt) less the cost of capital employed. It indicates the minimum return required by the shareholders to invest in the company's shares. It is the excess of actual return (net operating profit after tax) earned by a firm over such minimum return (weighted average cost of capital) required by the shareholders and investors. Companies which earn higher returns than cost of capital create value, and companies which earn lower returns than cost of capital are deemed destroyers of shareholder value. Economic Value Added is the measure to calculate what is left for the shareholders after paying off interest to the lenders and charging the expected cost of capital from the shareholders. Thus, it is residual income with the company after charging for the cost of capital provided by lenders and shareholders. If the Economic Value Added is positive the business is taken to have generated wealth in excess of what is expected by the shareholders and vice versa. But if the figure of Economic Value Added for a year drops to zero or turns negative this indicates that the shareholders' expectations have not been met by the company. The idea behind EVA is that shareholders' must earn a return that compensates for the risk taken.

Table-l

Economic Value Added of Dr. Reddy's Laboratories Ltd
(Rs. in Millions)

Particulars	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Operating Profit	5095	3944	2555	173	2186	11555	6128
Tax on Operating Profit	423	398	205	2	363	2510	1186
Net Operating Profit after Tax (A)	4672	3546	2350	171	1823	9045	4942
Total Capital Employed	15504	18873	21223	20984	22297	63119	64110
Weighted Average Cost of Capital (%)	12.7	11.9	10.7	12.3	13.7	10.7	9.8
Cost of Capital (B)	1973	2238	2269	2571	3052	6475	6309
Economic Value Added (A-B)	**2699**	**1307**	**80**	**(2400)**	**(1229)**	**2570**	**(1367)**
Average (Mean)= 237.14		Standard Deviation= 1865.08			Coefficient of Variation= 786.48%		

Source: Computed from Annual Reports of Dr. Reddy's Laboratories Ltd from 2001-02 to 2007-08.

The Economic Value Added can be expressed in an equation form as-
Economic Value added = NOPAT- (WACC x Capital Employed)
Where, NOPAT = Net Operating profit after tax
WACC = Weighted Average Cost of Capital

NOPAT is calculated from net profit after tax as appeared in the Profit and Loss Account by adding back interest payments, non operating expenses and subtracting non operating income. Stern and Stewart has mentioned 164 types of adjustments which are made with the net profit to calculate NOPAT to convert accounting profit to economic profit that are kept out of purview of this article for time and space constraints. Weighted average cost of capital is the weighted average of the cost of all types of own capital and borrowed capital with weights equivalent to the proportion of each element in the total capital of the company. Capital employed denotes all funds belonging to the equity shareholders, preference shareholders and all interest bearing loan capital.

Economic Value Added (EVA) of Dr. Reddy's Laboratories Ltd has shown a fluctuating trend during the study period from 2002-03 to 2008-09. It was Rs 2699 million in 2002-03 which was decreased to (-) 2400 million in 2004-05. In 2006-07 it increased to Rs 2570 million but it finally decreased to (-) 1367 million in 2007-08. The decrease in EVA during the study period was mainly due to decreasing trend having fluctuations in NOPAT compared to increasing trend throughout the period of study in cost of capital. During the seven years study period The NOPAT has shown an increase of only 6% while the cost of capital has shown an increase of 220% during the same period. The EVA was the lowest during the year 2004-05 being Rs (-) 2400 million and the highest during the year 2008-09 being Rs 2699 million while the weighted average cost of capital was the highest during the year 2007-08 being Rs 1973 million and the lowest during the year 2001-02 being Rs 1973 million. The mean EVA during the seven years period under study was Rs. 237.14 million with standard deviation of 1865 and co-efficient of variation of 786% thereby projecting a very high degree of variation during the period. It signified that Dr. Reddy's Laboratories Ltd has not been performing well in terms of generating wealth in excess of what was expected by the shareholders and has not earned a adequate return that compensate shareholders' for the risk taken.

Market Value added

Stewart has introduced another measure of shareholders value called Market Value Added (MVA). It tells how much value a company has added to or subtracted from its shareholders investment. MVA, therefore, denotes the confidence of the capital market on the performance of a company. It is used as a supplementary to economic value added to evaluate the performance of a company in the stakeholders' value creation. It is determined by the excess of market value of debt and equity over economic book value. The MVA is a measure of the investors perception of value added. It may be considered as a cumulative measure of corporate performance. Whether a company has a positive or negative MVA depends on the level of rate of return compared to cost of capital. Successful companies add their MVA and thus increase the value of capital originally invested and unsuccessful companies decrease the value of the original invested capital.

Table-II

Market Value Added of Dr. Reddy's Laboratories Ltd
(Rs. in Millions)

Particulars	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Average Market Value Of Equity	60527	69821	87124	63302	81216	122492	99832
Current Market Value Of Debt	47	41	184	31	21863	21541	14679
Market Value Of Debt &Equity (A)	60574	69862	87308	63333	103079	144033	114511
Book Value Of Debt & Equity (B)	15504	18873	21070	20984	44135	63119	64107
Market Value Added (MVA) (A-B)	**45070**	**50989**	**66238**	**42349**	**58944**	**80914**	**50404**
Net MAV During the Year	8327	5919	15105	(23889)	16595	21970	(30510)
Average (Mean) = 56415		Standard Deviation= 12508			Coefficient of Variation= 22.17%		

Source: Computed from Annual Reports of Dr. Reddy's Laboratories Ltd from 2001-02 to 2007-08.

The Market Value Added can be expressed in an equation form as-
MVA = Current market value of debt and equity- Economic book value,
Where Economic book value= Share capital + Reserve + Debt

The market value added of Dr. Reddy's Laboratories Ltd has shown a fluctuating trend during the study period. It fluctuated between Rs 42349 million in 2004-05 and Rs 80914 million in 2006-07. The highest MVA during the year 2006-07 was mainly attributable to the rise in the average market value per share. The seven years average of MVA was Rs 56415 million with a standard deviation of 12508 and co-efficient of variation of 22.17% thereby transpires a more or less stable position of the company during the period of study. The year wise net market value added (MVA) has also projected a mixed trend during the period under study. From Rs 8327 million in the year 2001-02, it went down to Rs 5919 million in the next year (2002-03) thereafter it went up to Rs 15105 million in 2003-04 and again shoots down to Rs (-) 23889 million during the next year (2004-05). There after it increased to Rs 21970 million in 2006-07 but again decreased to Rs (-) 30510 million in 2007-08. It signified that Dr. Reddy's Laboratories Ltd has been performed well in terms of market value added during the five years of the study period, while in the two years (2004-05 and 2007-08) it failed to do so.

Total Shareholders Return (TSR)

Total Shareholders Return (TSR) is a composite indicator which takes into account total shareholders' fund and the dividend declared or proposed by the company. It represents the change in the capital value of a company over a period of one year, plus dividends, expressed as a percentage of gain or loss on the beginning capital value. Thus the TSR is calculated by dividing the sum of the increase in capital value of equity during the period plus dividend paid out by the company during the financial year by capital value of the company at the beginning of the financial year under review. Capital value implies capital employed excluding Debt capital. The exclusion of debt capital provides more accuracy in measuring the Total Shareholders' Return (TSR). This may be expressed in percentage form as-

TSR = [(Closing capital value-Beginning capital value) +Dividend] x 100
(Beginning Capital value)

The year wise computation of TSR (Total Shareholders Return) of Dr. Reddy's Laboratories Ltd depicts a fluctuating trend during the period of study. The Total Shareholders Return during the year 2001-02 was Rs. 3839 million which decreased to Rs. 654 million in 2004-05 thereafter it shows increasing trend and shoots up to Rs 11728 million in 2006-07 but it had declined to Rs. 5015 million in next year (2007-08). The total shareholders return as a percentage of beginning capital employed showed fluctuating trend and fluctuated between 3.19 % (in 2004-05) and 35.94 % (in 2006-07). The seven years average percentage return on beginning capital value was 19.63% during the study period. It was encouraging and carried good message to the shareholders towards satisfaction of their expectation. However, it was projecting a high degree of variation with a standard deviation of 11.64 and co-efficient of variation of 59.32% during the study period.

Table- lII

Total Shareholders Return of Dr. Reddy's Laboratories Ltd
(Rs. in Millions)

Particulars	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Closing Capital Value	14580	18069	20470	20741	22621	43734	48118
Beginning Capital Value	11315	14580	18069	20470	20741	32636	43734
Addition during the Year	3265	3489	2401	271	1880	11098	4384
Dividend	574	383	383	383	383	630	631
Total Shareholders Return	3839	3872	2784	654	2263	11728	5015
Total Shareholders Return (% of Beginning Capital)	33.93	26.56	15.41	3.19	10.91	35.94	11.47
Average (Mean) = 19.63		Standard Deviation= 11.64			Coefficient of Variation= 59.32%		

Source: Computed from Annual Reports of Dr. Reddy's Laboratories Ltd from 2001-02 to 2007-08.

CONCLUSION

In the present era of professional management the shareholders value creation is the pivot around which all functions and activities of a corporate house revolves. It requires total commitment from all business processes. It can refer as a value management and the intangible parameters such as Economic Value Added (EVA), Market Value Added (MVA) and Total Shareholders Return (TSR) indicate its degree and quality towards this achievement. The Economic Value Added of Dr. Reddy's Laboratories Ltd has shown the decreasing trend having negative values during the study period. It signified that Dr. Reddy's Laboratories Ltd has not been performing well in terms of generating wealth in excess of what was expected by the shareholders and has not earned an adequate return that compensate shareholders' for the risk taken. The Market Value Added (MVA) signified that Dr. Reddy's Laboratories Ltd had performed well during the five years of the study period, while in the two years it failed to do so. The Total Shareholders Return (TSR) was encouraging and carries good message to the shareholders towards satisfaction of their expectation. All these factors have contributed to the corporate image and goodwill of the company. But the company should undertake detailed analysis to identify the causes of decreasing trend of EVA and negative values of year wise net market value added in the two years of the study period and formulate its strategy to combat the situation and to add to its value creation activities.

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