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Value based measurement of financial performance

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Abstract
Every company has to be very cautious in selecting their measurement tools, as it will affect substantially the management resources and every department of the company. The concept of economic framework is an innovative way to measure the value of a company. This economic measurement system determines companies' worth and performance based on their economic situation not according to accounting numbers produced using traditional accounting rules. According to the past studies, economic frameworks set quality standard in measuring performance and it is necessary for company to create value for share- holders. Due to ample of evolution in last decade in the corporate world, managers and investors are seeking for an economic framework which better mirror the value and profitability of their company. Accounting tools which are being used till today are not sufficient and unlikely in facing the challenge arising from efficient capital markets and owners. Value based measurement framework, a new economic dimension is required, which could better reflect the opportunities and downsides. There are number of value based measurement in the economic frame- work, for example Economic Value Added (EVA), Cash Value Added (CVA), Cash Flow Return on Investments (CFROI), Shareholder Value Analysis (SVA) and Market Value Added (MVA). Any of these can be chosen by a company as their economic framework.
Value added is a measure of economic performance of an economic entity which has a fairly long history of application in economics. It has been regarded as the increase in wealth of an economic entity. Thus, it is a particular concept of income measurement. A company creates value for its shareholders when the shareholder return exceeds the required return to equity. The shareholder's wealth is measured by the returns they receive on their investment. Economic Value Added (EVA) was introduced and advocated by Stern Stewart and Co. in 1982. This study intended to identify why EVA should be used as financial performance measure over the conventional measures and any added value or added advantage in EVA compare to conventional methods. Today EVA has been able to gain attention of the corporate giants like Coca-Cola, TATA, and Reliance etc. as it is able to depict the true profitability of the company, and however, there have been very little research conducted on EVA in Asian countries including India.

Keywords: EVA, Disclosure, Wealth maximization, Performance Measures, MVA

1. Introduction
On this earth every task is performed for any purpose whether it is an economic activity or non-economic activity. Business organizations that are related with economic activities especially are also operated for some specific purpose. But due to changes in micro and macro elements of business environment, the main aims of business have also changed. For example, earlier profit maximization was considered the main aim of any business but after sometime this aim has been replaced by the aim of wealth maximization and today this aim has also become unpopular. At present, value generation has taken the place of main aim of all types of business. Now Profit maximization as a concept is age-old, wealth maximization is matured and value maximization is today's wisdom (Chandra *et al*, 2012) [3].
In order to operationalise this objective, shareholder wealth is traditionally proxies by either standard accounting magnitudes (such as profits, earnings and cash flows from operations) or financial statement ratios (including earnings per share and the returns on assets, investment and equity). This financial statement information is then used by managers, shareholders and other interested parties to assess current firm performance, and is also used by these same stakeholders to predict future performance. Further, under the semi-strong form of the efficient market hypothesis, the publicly available information contained in these variables is readily interpreted by the market, and thereby incorporated into future stock prices. For years, investors and corporate managers have been seeking a timely and reliable

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measurement of shareholders' wealth. With such a measure, investors could spot over or underpriced stocks, lenders could gauge the security of their loans and managers could monitor the profitability of their factories, divisions and firms.

A company creates value for its shareholders when the shareholder return exceeds the required return to equity. The shareholder's wealth is measured by the returns they receive on their investment. They get returns in two parts, that are first in the form of dividends and the second in the form of capital appreciation reflected in market value of shares of which market value is the dominant part. The market value of share is influenced by number of factors, many, of which, may not be fully influenced by the management of firm. However, one factor, which has a significant influence on the market value, is the expectation of the shareholders regarding the return on their investment. So every organization must work for value generation. But only creation of value is not sufficient for an organization. There should also an effective method for the correct calculation of this generated value.

2. Introduction of Financial Performance Measures

Traditionally the methods of measurement of corporate performance are many. Common bases used are: - Net Profit Margin (NPM), Operating Profit Margin (OPM), Return on Investment (ROI), Return on Net Worth (RONW) etc. Profit after Tax (PAT) is an indicator of profit available to the shareholder and Profit before Interest after Tax (PBIAT) is an indicator of the surplus generated using total funds. ROI is still recognized as the most popular yardstick of profitability measurement.

However, the traditionally used profit indicators are ineffective parameters in explaining whether the reported profit covers the cost of capital. Old profit concept fails to indicate clear surplus. The basic proposition is that the Return on Capital Employed should be greater than the Cost of Capital (i.e. ROCE > K0).

Capital Employed highlights long term capital and cost of capital represents weighted average cost of capital. Traditionally, Profit after Tax is shown in the Profit & Loss Account to indicate the profit available to the shareholders, both preference and equity. Ability to maintain dividend is not a test of profit adequacy. Firm's profitability and the measurement of such profitability are usually calculated by traditional profitability measures such as return on equity (ROE), return on assets (ROA), net farm income (NFI) and the operating profit margin (OPM).

3. EVA as a type of Value Added

Value added is a measure of economic performance of an economic entity which has a fairly long history of application in economics. It has been regarded as the increase in wealth of an economic entity. Thus, it is a particular concept of income measurement. It has its traditional roots in macro-economics, especially regarding the calculation of national income which is measured by the productive performance of a national economy and which is called National Product or Domestic Product. These notions represent the value added of a national economy during a specific period. Other than this common use of the value added concept, it has also been discussed and practiced as a useful economic and performance indicator in different areas of economics and business administration. The fact that it represents the result of a calculation means that the value added concept is related very much to accounting. But in contrast to the traditional income calculation, one of its major characteristics is that it can be and has been used not only in one or two accounting areas but in all three types of systems: national accounting, financial accounting and managerial accounting.

The General Accounting Plan defines value added as the difference between total productions for the period, to which is added the commercial" margin (gross margin) on merchandise sales, and the consumption of goods and services supplied by third parties for that production

4. Review of Literature
Researches worldwide reveal that

Sharma, A.K. & Satish Kumar (2008) [21] in their research paper on, Association of EVA and accounting earnings with market value: evidence from India, examined whether Economic Value Added (EVA) can be used as a tool of performance measures while investing in Indian market and provide evidence about its superiority as a financial performance measure as compared to conventional performance measures in Indian companies. To achieve this, performance of the Indian listed manufacturing companies is compared with traditional mandated corporate financial performance measures used in investment analysis. Further, the present study ranks the performance Indian companies on the basis of various performance measures and suggests to investors which performance measures should be used to analyze the companies in order to make better investment decision. The result of this study reveals that investor should use EVA along-with traditional measures in firm valuation and making investment strategy (Chouhan *et al*, 2013; Chouhan *et al*, 2013 & 2014) [7, 9, 8].

Erik Stern (2010) in his article on, Why EVA Is the Best Measurement Tool for Creating Shareholder Value, presented a comparison between traditional and modern financial performance measures has been made. According to it, Economic value added (EVA) has transformed the corporate finance scene and business practice by transferring modern business theory from classroom to boardroom. Traditional measures, with their roots in accounting, distort economic reality. As they do not consider the cost of capital and unless they take into account the cost of capital, return measures can become inflated. On other hand, EVA is not just a financial metric, but it is a complete management system focused on value creation. Bold implementation of EVA signals the beginnings of transparency and accountability, in a firm and implementing EVA half-heartedly or without incentives spells disappointment.

Joshi, Sanjay Satyanarayan (2011) [17], in his research paper on, Relationship Between EVA, MVA and other Accounting Measures of Fertilizer Companies in India showed a relationship between EVA, MVA and other accounting measures of fertilizer companies in India. He examined that value creations for shareholders of fertilizer companies in India through Economic Value Added and Market Value Added. The objectives of the study are to examine the relationship between EVA, MVA and other accounting measures like Return on Investment (ROI), Return on Equity (ROE), Earnings per Share (EPS) and Return on Net worth (RONW) through correlation analysis and also ANOVA is used to compare the mean value of EVA and MVA for studied fertilizer companies(Khan *et al*, 2012) [12].

Kanthakrishnan, R. and S. Jeyaraj (2011), [20] in their research paper on, Enterprising on Eva Excellence - An

Empirical Study on Select Companies in India, selected few companies in India with intent to provide an insight into the role of Economic Value Added concept as a performance measurement/ management tool in the Indian context. In this study, it is found that there has been a remarkable turnaround of the Indian corporate sector over the past few years. The article focused on the importance of EVA as an improved measure of corporate performance over the traditional performance indicators like PAT, ROI, ROCE, EPS, etc.

Worthington, Andrew and West, Tracey (2001) in their paper on, Economic Value-Added: A Review of the Theoretical and Empirical Literature revealed that with increasing pressure on firms to deliver shareholder value, there has been a new emphasis on devising measures of corporate financial performance and incentive compensation plans that encourage managers to increase shareholder wealth. One professedly recent innovation in the field of internal and external performance measurement is a trade-marked variant of residual income known as economic value-added (EVA). This paper attempts to provide a synoptic survey of EVA's conceptual underpinnings and the comparatively few empirical analyses of value-added performance measures. Special attention is given to the GAAP related accounting adjustments involved in EVA-type calculations.

Goldberg, S. R. (1999) [11] in his research paper on, Economic value added: A better measure for performance and compensation revealed that Economic value added has become increasingly popular as a decision-making tool—especially for measuring performance and compensation. Is it really better than using traditional measures like earnings per share (EPS) or Return on Equity (ROE).

Bardia (2002) [2] in his paper on EVA as performance Indicator- A Case Study of Infosys wrangled that the concept of EVA is better than the concept of accounting profit as a tool a value creation because it considers the overall cost of capital. In this paper an attempt has been made to analyze the financial performance of Infosys Technologies Ltd. On the basis of traditional parameters like ROCE, ROE, EPS, etc. and the new performance measure EVA.

5. Objectives of the study
The objectives of the current research work can be listed as under:
1. To analyze the disclosure practices of various value based financial performance measures (Traditional& others) in sample units.
2. To evaluate EVA as a performance measurement tool in comparison of traditional methods.

6. Research Methodology used in the research
In this research ten companies will be selected as sample from different industries like IT, FMCG, Automobile, Infrastructure, Machinery, telecommunication, Steel, Cement and Pharmaceuticals based on the significance of the sectors and growth of the companies. Sample companies will be drawn by using Convenience Sampling. The study covers the period of five year (2007-2011). Various statistical and other techniques such as T test, F test, Chi square test, ANOVA, correlation, regression, balance score card, cash value added, CFROI etc. has been used. In the present research secondary data have been collected from various sources such as annual reports of companies, newspapers, business magazines and journals etc. Besides calculation, for analyzing and drawing possible correct conclusions from EVA, following variables have been used as tools in present research-
❖ Capital Employed
❖ Weighted Average Cost of Capital
❖ Earnings Per Share (EPS)
❖ Return on Average Net worth (ROANW)
❖ Return on Capital Employed (ROCE)
❖ Return on Total Assets (ROTA)
❖ Net Operating Profit after Taxes (NOPAT)
❖ Market Value Added (MVA)
❖ Balance Score Card
❖ Cash Value Added

Hypothesis of the study
H0= There is no difference in sector-wise disclosure practices of financial performance.
H1=There is a significant difference in sector-wise disclosure practices of financial performance.

7. Data Analysis and Interpretation
Disclosure Practices of Sample units
The above 10 companies were selected for the purpose of the current Study and before comparative study of the above companies it is required to know their disclosure and types of disclosure. Hence, it is shown in table 3.1. For the purpose of scores of disclosure the category of disclosure was being prepared as under:
Disclosure in Financial records=1
Disclosure in directors report=2
Disclosure in Additional information=3
Non-financial disclosure=4
For Non-Disclosure=5

Short name of companies are as under
Infosys Limited= IL; Bharti Airtel=BA; Cipla Limited=CL; Dr Reddy's Laboratory.= DRL; HDFC Bank Limited= HDFC; Dabur Limited= DL; Indian Oil Corporation=IOC, Hindustan Patro Chemicals Limited=HPCL; Oil and Natural Gas Corporation of India Limited=ONGC; Hero Motor Corporation= HM;

Table 1: Disclosure scores and points

Disclosure Points	IL	BA	CL	DRL	HDFC	DL	IOC	HPCL	ONGC	HM
Net Operating Profit	3	5	5	3	4	1	2	2	1	1
EPS	1	1	1	1	3	1	1	1	1	1
ROANW	3	5	5	3	2	3	3	5	3	2
ROCE	3	5	5	3	2	3	1	3	2	3
ROTA	3	5	5	3	3	3	5	1	2	3
ROI	3	5	5	1	2	3	5	5	3	3
liquidity ratio	3	5	5	3	5	3	5	5	3	3
Invested Capital	1	1	1	1	1	1	1	1	1	1
Firm Size	3	1	3	3	2	2	3	1	2	3

Continue Table

Cost of Equity	3	5	5	3	5	5	5	5	5	3
BETA	3	5	5	5	5	5	5	5	5	3
listing Status	4	1	4	4	1	1	2	3	3	3
Share Prices	1	3	2	3	3	3	3	3	3	3
Ratio of Debt to Total Equity	3	5	5	3	5	5	3	2	5	5
WACC	3	5	5	3	5	5	5	5	5	3
EVA	3	5	5	3	5	5	5	5	5	3
MVA (Market Capitalization)	3	5	3	3	5	3	5	3	3	3
CVA	5	5	5	5	5	5	3	3	5	5
BSC	5	5	5	5	5	5	5	5	5	5

Disclosure of various items by companies

Table-1 shows the disclosure of the various items and the place of disclosure of those items. Further to analyze the disclosure statistically there are three important points to be considered; whether all the items required for disclosure are disclosed by all the companies? (Or there is any inter-company difference) Whether all the items are being disclosed by the companies at the same place? (Or difference in place of disclosure) And whether disclosure of selected disclosure points by all the companies remains equal in all the companies? (Or there is an item wise difference)

To analyze the intercompany difference between disclosure the following hypothesis were developed:
H0= No significant difference exists between companies for disclosing the selected disclosure points
H1= A significant difference exists between companies for disclosing the selected disclosure points
To test the above hypothesis the one sample t test is being used. The result of one sample t test is being shown under table 2.

Table 2: One-Sample Test

Companies	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
IL	11.909	18	.000	2.9474	2.427	3.467
BA	10.500	18	.000	4.0526	3.242	4.864
CL	12.723	18	.000	4.1579	3.471	4.844
DRL	11.303	18	.000	3.0526	2.485	3.620
HD FC	10.137	18	.000	3.5789	2.837	4.321
DL	9.130	18	.000	3.2632	2.512	4.014
IOC	9.750	18	.000	3.5263	2.766	4.286
HP CL	8.841	18	.000	3.3158	2.528	4.104
ON GC	9.347	18	.000	3.2632	2.530	3.997
HM	10.913	18	.000	2.9474	2.380	3.515

Table 2 revealed that there is a significant difference (p=.000< 0.5) in the disclosure of various disclosure points among all the companies.
To further elaborate the differences of disclosure among the disclosure of the various disclosure points following hypothesis were developed:

H0= Disclosure of selected disclosure points by all the companies remains same in all the companies.
H1= a significant difference exists in the Disclosure of selected disclosure points between all the companies.
To analyze the above hypothesis one way 't' test were being conducted. The result of one way 't' test were shown in table 4.

Table 4: One-Sample Test

Disclosure item	N	Mean	Std. Deviation	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Net Operating Profit	10	2.9000	1.51831	5.596	9	.000	1.90000	1.1894	2.6106
EPS	10	1.2000	.61559	1.453	9	.163	.20000	-.0881	.4881
ROANW	10	3.8000	1.19649	10.466	9	.000	2.80000	2.2400	3.3600
ROCE	10	3.4500	1.27630	8.585	9	.000	2.45000	1.8527	3.0473
ROTA	10	3.3500	1.42441	7.378	9	.000	2.35000	1.6834	3.0166
ROI	10	3.7500	1.25132	9.828	9	.000	2.75000	2.1644	3.3356
liquidity ratio	10	4.2000	1.19649	11.961	9	.000	3.20000	2.6400	3.7600
Firm Size	10	2.8000	1.05631	7.621	9	.000	1.80000	1.3056	2.2944
Cost of Equity	10	4.4500	.99868	15.449	9	.000	3.45000	2.9826	3.9174
BETA	10	4.7000	.73270	22.584	9	.000	3.70000	3.3571	4.0429
listing Status	10	2.7000	1.38031	5.508	9	.000	1.70000	1.0540	2.3460
Share Prices	10	2.7500	.63867	12.254	9	.000	1.75000	1.4511	2.0489
Ratio of Debt to Total Equity	10	4.4500	.99868	15.449	9	.000	3.45000	2.9826	3.9174
WACC	10	4.5000	.88852	17.616	9	.000	3.50000	3.0842	3.9158
EVA	10	4.4000	.94032	16.170	9	.000	3.40000	2.9599	3.8401
MVA (Market Cap)	10	3.9500	1.14593	11.513	9	.000	2.95000	2.4137	3.4863
CVA	10	4.8000	.61559	27.606	9	.000	3.80000	3.5119	4.0881

Table 4 revealed that a significant difference exists in the Disclosure of selected disclosure points between all the companies (p=0.05>significant value), but in case of disclosure of only on item i.e., EPS the disclosure remains same in all the companies as t=1.453, P=0.163>0.05.

Hence we can conclude that despite of various Accounting standards there is a huge difference in disclosing the selected items by the selected companies which represent the Indian market and part of BSE and NSE. Thus accounting experts and CA's have to think about the disclosure of non-financial items in the

8. Findings, Conclusions and Suggestions

The major findings that were found in present study are that there is a significant difference exists in the Disclosure of selected disclosure among the companies and companies are disclosing that Category of disclosure of the selected items remains same in various companies. We can conclude that despite of various Accounting standards there is a huge difference in disclosing the selected items by the selected companies which represent the Indian market and part of BSE and NSE. Thus accounting experts and CA's have to think about the disclosure of non-financial items in the annual report and provide guidelines for disclosure. The Institute of Chartered Accountants of India should include IFRS in Indian companies so that generalization of accounting practices can be done.

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