EVA: Critical financial success factor for Indian Industry: A Case study of selected sectors

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ABSTRACT
Financial Performance of any Organization can be measured through various traditional measures like Return on Capital Employed, Return on Equity, Earning Per Share, Net Profit Margin etc., but for maximization of Shareholder's wealth the modern tool like Economic Value Added (EVA) can also be used. EVA, that triggers Shareholder Value, is currently adopted by the major companies as strategic measure of value addtion. The capital providers of the firm i.e., Shareholders invest their money for their individual profit objective. This paper analyses the EVA and its relation with ROCE and Net Profit. With the help of case study of 15 Indian companies. The paper concluded as variables ROCE and NOPAT both explains the variance in the level of EVACE and ANOVA analysis revealed that differences in level of ROCE, NOPAT and EVACE during the 6 years period of the study, have not shown significant difference.

Keywords: Financial Performance, EVA, ROCE, NOPAT, EVACE

I- INTRODUCTION
The concept of Economic Value Added (EVA) was pioneered with a New York based firm M/s Stern Stewart & Company. The commercial segment working in the Indian territory is now recognising the importance of this method as a result of which some Indian companies viz. TCS, Wipro, Tech Mahindra, HCL Technology, Airtel, Cipla, Dr. reddy's lab, Sun pahrma, ICICI bank, Kotak mahindra bank, HUL, IOC, ONGC and HPCL, have started calculating EVA. Infosys Technologies Ltd. is the first Indian company to report its EVA in the annual report. Over the past few years EVA has emerged as a new concept to judge financial performance of an entity. Highly regarded corporations like Coca-Cola, AT&T, etc. have setup EVA measurement systems throughout their organization.

The economists have used the term "Value Added" for a long time, for an economist, Value Added represents a company's contribution to the Gross Domestic Product (GDP). If the values added of all production units in the country are summed up, the result is Value Added in the economy, which equal to Gross National Product (GNP) i.e. National Income. It describes whether a business has best utilized its assets to generate return and maximize shareholders' value (Erasmus, 2008). To simplify, EVA is just a way of measuring an operation's real profitability. It holds a company responsible for the cost of capital and manages their business (Fernandez, 2001). It is a improved organism than the traditional method that give confidence growth. It effectively measures the productivity of all the factors of production viz. Land, Labour, Capital and Entrepreneur and Management (Drucker, 1995).

OBJECTIVES

The present study has been undertaken to achieve the following specific objectives.

1. To present the EVA in selected 15 companies.
2. To identify the variable that predicts EVA in selected firms.

II- REVIEWS OF LITERATURE

The review of literature on the subject is vast thus some selected reviews are presented as under:

Khan et.al., (2012) empirically examine the power of EVA by analysing Selected BSE listed companies for their value creation for their shareholders. They have taken a sample from BSE-30 companies to test by using multiple correlation and multivariable linear regression model between company's profitability, size (net worth), growth ability's (sales growth) put pressure on their EVA. Their analysis resulted as a promising cause and revealed that company's economic value can be increased by using the EVA as a tool for better management. (Chandra, et.al., 2012) Singh & Mehta, (2012), conducted a study to explain the explanatory power of EVA for shareholders value creation. They have provided empirical evidences on use of various information content of EVA and conventional method (Chouhan and goswami, 2014). The inference from this paper is that IT companies should always try to maximize shareholders value (DeWet & Toit, 2007). If this is not done then their stocks will not be able to stand in the market. This analysis helps us to dig below the surface numbers to tell us more about the underlying business and whether there is a prima facie case for using EVA as one of the range of performance measurement tools (Elali, 2007). They reported a constructive association among EVA and shareholder value creation (Farsio et.al., 2000). However, when the explaining power of EVA versus traditional performance measures regarding equity market value or returns is considered, the results are mixed. Thus an attempt will be made to find that shareholders wealth of the firm is largely positively associated with or driven by its EVA generating capacity in Indian context (Forker & Powell, 2008).

Ramana, DesirajuVenkata, (2010) in his research paper on, Market Value Added and Economic Value Added: Some Empirical Evidences, revealed that the development in the Indian capital market, both in depth and breadth along with the increased awareness among the shareholders(Garvey & Milbourn, 2000), has increased the pressure on the companies to consistently perform better.

Stewart (1991) claims that EVA is the ultimate proxy of MVA. Following Stewart (1991), several studies examined the relationship between EVA and MVA using the Stern Stewart-1000 data. This study makes an attempt to fill the gap. This study empirically examines the relationship between MVA and EVA of the Indian companies (Griffith, 2004). Though the focus of the paper is the relationship between EVA and MVA, it also tries to understand the relationship between MVA and other common measures (Hamel,1997).

Ghanbari and Sarlak (2006) studied economic value added in Indian automobile industry. The objectives of the study are: to compute and analyze Economic Value Added (EVA) of firms in the automobile industry and to identify the EVA trend of the industry the period of the study (Irala & Reddy, 2006). The study found that the Economic Value Added (EVA) of only 30 % of the selected companies is positive and 70 % of the selected companies have destroyed their shareholders wealth by negative EVA (Ismail, 2008).

Karam Pal Singh and Mahesh Garg (2004) examined the EVA disclosure in Indian companies. They revealed that out of 50 companies, only 32 companies have generated positive EVA and 18 companies have destroyed their shareholders' wealth in 1998 (Jambulingam, 2002). In 2000, only 29 companies have generated positive EVA. In 2001, only 34 companies have generated positive EVA. And the same trend continued in 2002. The study also found that 1/3 of total companies are reporting negative EVA throughout the period and 1/3 companies are generating positive EVA (Khan et.al., 2012).

III- RESEARCH METHODOLOGY

Research Type: this research approach is analytical in the nature where secondary data are used to test the hypotheses and present conclusions from data analysis.

Scope of Study:

Empirical research

Secondary data: Secondary data of 15 companies for a period of 6 years were used in the current study.

Sampling: Sampling refers to the technique or the procedure the researcher would adopt in selecting some sampling units from which inferences about the population is drawn. 15 companies were selected for 6 year data and includes 90 years of EVA and other measures.

Population: The population of the current study includes all the companies working in India,

Sample and its selection: 15 companies for a period of 6 years were selected from different sector to predict an overall views of EVA and traditional measures in the current study.

Independent variables: ROCE and NOPAT are treated as independent variables used to predict dependent variable.

Dependent variables: Stressors: EVACE is taken as dependent variable which is converted as relative measure by the help of capital employed percentage.

DATA ANALYSIS

To analyse the data first the EVA and other measure for the selected companies were calculated and are shown in the table-1 as under:

Table-1: EVA and other measures of selected companies

Company name	Year	EVA	Return on Capital Employed (ROCE)	Net Operating Profit after Taxes (NOPAT)
Infosys	2015	-2,039.11	25.29	12,164.00
	2014	-2,235.54	24.01	10,194.00
	2013	4,609.81	25.16	9,116.00
	2012	2,771.18	28.46	8,470.00
	2011	-1,230.86	26.30	6,443.00
	2010	2,927.07	26.06	5,803.00
TCS	2015	6,119.60	41.32	19,256.96
	2014	5,750.36	40.74	18,474.92
	2013	5,350.48	38.35	12,786.34
	2012	4,725.30	43.17	10,975.98

	2011	1,988.67	38.05	7,569.99
	2010	2,398.16	36.98	5,618.51
WIPRO	2015	-3,685.23	22.73	8,193.10
	2014	-2,892.63	23.96	7,387.40
	2013	3,024.94	22.98	5,650.20
	2012	219.14	17.44	4,685.10
	2011	-2,782.93	20.35	4,843.70
	2010	3,032.86	27.54	4,898.00
Tech Mahindra	2015	-1,673.53	17.6	2,256.20
	2014	-885.57	25.52	2,458.90
	2013	273.62	13.37	652.5
	2012	-139.81	9.91	460.6
	2011	-788.44	15.3	696.7
	2010	520.09	16.03	727.4
HCL technology	2015	-1,790.08	31.86	6,345.95
	2014	-943.17	36.33	5,984.62
	2013	1,963.26	32.57	3,704.72
	2012	300.12	25.51	1,950.42
	2011	-1,343.09	17.36	1,198.28
	2010	677.42	17.69	1,056.24
AIRTEL	2015	1,46,184.75	8.05	1,56,553
	2014	75,774.21	6.65	83,774
	2013	58,375.07	5.68	64,548.00
	2012	61,622.64	7.06	69,562
	2011	2,454.96	10.79	7,716.90
	2010	4,441.29	24.39	9,426.15
Cipla	2015	571.80	10.17	1,539.97
	2014	815.23	13.21	1,818.34
	2013	1,180.79	16.33	2,011.86
	2012	751.75	14.38	1,421.46
	2011	199.12	16.13	960.39
	2010	319.11	22.13	974.59
Reddy	2015	-508.01	14.25	1,679.40
	2014	-1,003.56	18.59	1,679.40
	2013	-5.77	15.98	1,932.80
	2012	190.14	12.53	1,932.80
	2011	490.22	14.2	893.4
	2010	430.65	15.87	846.1
Sun Pahrma	2015	-4,075.34	-5.58	-1,474.13

	2014	-5,798.88	-27.91	-1,474.13
	2013	-3,366.33	6.38	-2,828.52
	2012	-1,272.56	20.92	516.55
	2011	640.40	20.3	1,907.37
	2010	270.50	17.3	1,346.98
ICICI	2015	3.71	13.89	11,175.35
	2014	7.22	13.39	9,810.48
	2013	1,321.34	12.48	8,325.47
	2012	-1,024.99	10.7	6,465.26
	2011	3,353.72	8.41	8,004.66
	2010	815.10	8.9	5,380.49
Kotak	2015	62.61	13.19	1,865.98
	2014	-854.70	12.23	1,502.52
	2013	-260.55	14.37	1,360.72
	2012	-264.50	13.59	1,085.05
	2011	-361.24	19.26	1,569.24
	2010	20.98	23.27	1,327.36
HUL	2015	3,793.79	88.95	4,315.26
	2014	3,415.26	88	3,867.49
	2013	3,403.59	98.44	3,796.67
	2012	2,264.23	59.68	2,691.40
	2011	1,845.36	101.16	2,153.00
	2010	1,787.90	101.36	2,108.00
IOC	2015	4,043.54	4.28	5,280.59
	2014	3,846.82	5.99	5,280.59
	2013	6,283.89	5.01	7,115.39
	2012	6,541.46	4.39	7,115.39
	2011	520.24	10.81	8,085.62
	2010	779.04	15.74	10,998.68
ONGC	2015	2,890.38	9.38	18,116.86
	2014	388.78	12.26	18,116.86
	2013	-511.06	13.02	21,583.70
	2012	35.66	17.2	20,956.25
	2011	-2,823.81	37.32	22,824.97
	2010	1,129.59	23.7	19,727.57
HPCL	2015	2,408.35	6.23	2,728.79
	2014	1,613.50	4.1	1,792.14
	2013	702.10	2.74	791.32
	2012	822.69	3.2	911.92

	2011	1,466.72	8.02	1,700.48
	2010	1,233.32	9.61	1,475.15

As per the objectives of the research to find out the relationship between the EVA and the traditional measures and variable that predicts EVA in selected firms, following hypothesis is developed:

H_1= The attributes containing the traditional measures significantly influence the level of EVA in their companies.

To identify key variables having impact on EVA multivariate regression analysis has been used with SPSS-19 software and results were shown in table 2 as under:

Table-2: Multiple regression analysis of stress at home

A. Descriptive Statistics

	Mean	Std. Deviation	N
EVACE	27.5392	23.97386	90
ROCE	18.01	10.909	90
NOPAT	4595.60	19245.063	90

B. Correlations

		EVACE	ROCE	NOPAT
Pearson Correlation	EVACE	1.000	-.338	-.145
	ROCE	-.338	1.000	-.176
	NOPAT	-.145	-.176	1.000
Sig. (1-tailed)	EVACE	.	.001	.086
	ROCE	.001	.	.049
	NOPAT	.086	.049	.
N	EVACE	90	90	90
	ROCE	90	90	90
	NOPAT	90	90	90

C. Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	ROCE	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).
2	NOPAT	.	Stepwise (Criteria: Probability-of-F-to-enter <= .050, Probability-of-F-to-remove >= .100).

a. Dependent Variable: EVACE

D. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.338[a]	.114	.104	22.69015	.114	11.355	1	88	.001
2	.397[b]	.157	.138	22.25807	.043	4.450	1	87	.038

D. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.338[a]	.114	.104	22.69015	.114	11.355	1	88	.001
2	.397[b]	.157	.138	22.25807	.043	4.450	1	87	.038

a. Predictors: (Constant), ROCE
b. Predictors: (Constant), ROCE, NOPAT

E. ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5846.220	1	5846.220	11.355	.001[a]
	Residual	45306.181	88	514.843		
	Total	51152.401	89			
2	Regression	8050.732	2	4025.366	8.125	.001[b]
	Residual	43101.668	87	495.421		
	Total	51152.401	89			

a. Predictors: (Constant), ROCE
b. Predictors: (Constant), ROCE, NOPAT
c. Dependent Variable: EVACE

F. Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	40.921	4.636		8.827	.000					
	ROCE	-.743	.220	-.338	-3.370	.001	-.338	-.338	-.338	1.000	1.000
2	(Constant)	43.594	4.721		9.235	.000					
	ROCE	-.824	.220	-.375	-3.752	.000	-.338	-.373	-.369	.969	1.032
	NOPAT	.000	.000	-.211	-2.109	.038	-.145	-.221	-.208	.969	1.032

a. Dependent Variable: EVACE

Above analysis revealed that the variation in EVACE is explained by the selected two traditional measures i.e., ROCE and NOPAT.

Further, to find out the significance in the level of the traditional and modern measures during the period of the study following hypothesis is developed:

H_1= Significant change exists in the level of various traditional and modern measure during 2010-15.

To identify key variables in stress multivariate regression analysis has been used with SPSS-19 software and results were shown in table 2 as under:

Table-3: Multiple regression analysis of stress at school

A. Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
ROCE	2010	15	17.68	13.190	3.406	10.38	24.99	0	45
	2011	15	16.42	10.835	2.797	10.42	22.42	0	38
	2012	15	17.75	10.406	2.687	11.99	23.52	2	43
	2013	15	17.91	10.795	2.787	11.93	23.89	2	38
	2014	15	20.21	11.086	2.862	14.07	26.35	2	41
	2015	15	18.09	10.457	2.700	12.29	23.88	2	41
	Total	90	18.01	10.909	1.150	15.73	20.30	0	45
NOPAT	2010	15	1385.54	1276.201	329.514	678.80	2092.28	21	4441
	2011	15	241.94	1825.573	471.361	-769.03	1252.90	-2824	3354
	2012	15	5169.50	15762.969	4069.981	-3559.74	13898.74	-1273	61623
	2013	15	5489.68	14844.248	3832.768	-2730.79	13710.15	-3366	58375
	2014	15	5133.15	19748.134	5098.946	-5803. 00	16069.31	-5799	75774
	2015	15	10153.81	37746.117	9746.006	-10749.29	31056.92	-4075	146185
	Total	90	4595.60	19245.063	2028.608	564.80	8626.40	-5799	146185
EVACE	2010	15	32.6957	21.04539	5.43390	21.041	44.3502	10.16	70.16
	2011	15	24.4078	29.74738	7.68074	7.9342	40.8813	-19.47	69.16
	2012	15	28.6177	23.52357	6.07376	15.5908	41.6446	-3.0 1	68.16
	2013	15	30.2393	20.64908	5.33157	18.8042	41.6744	5.61	67.16
	2014	15	24.1602	26.26845	6.78249	9.6132	38.7072	-9.53	66.16
	2015	15	25.1149	24.28108	6.26935	11.6685	38.5613	-6.85	65.16
	Total	90	27.5392	23.97386	2.52707	22.5180	32.5605	-19.47	70.16

B. ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ROCE	Between Groups	113.250	5	22.650	.182	.969
	Within Groups	10478.222	84	124.741		
	Total	10591.472	89			
NOPAT	Between Groups	9.2368	5	1.8478	.484	.787
	Within Groups	3.20410	84	3.8148		
	Total	3.29610	89			
EVACE	Between Groups	932.157	5	186.431	.312	.905
	Within Groups	50220.243	84	597.860		
	Total	51152.401	89			

It is clear from the above analysis that for all the three factors the value of F is very low that is not significant ($p>0.05$). Thus we can say that the differences in the selected variable i.e., ROCE, NOPAT and EVACE during the 6 years period have not shown significant different.

CONCLUSIONS

EVA is the modern measure that presents that whether the wealth of the shareholders have increased by the working of the management of the company and the positive value has shown that the wealth has been increased. In case of various companies the level of EVA were shown in the paper. Further the regression analysis has shown with final Regression model that both the independent variables (ROCE and NOPA) explains almost 13.8 % of the variance of EVACE. The two regression coefficients, plus the constraints are significant at 0.05 levels. The impact of multi colinerarity in the 2 variables is substantial. They all have the tolerance value of 0.969, indicating that only over 3.1% of the variance is accounted for by the other variables in the equation. The ANOVA analysis provides the statistical test for overall model fit in terms of F Ratio. Using the values of ROCE and NOPAT this errors can be reduced by 15.74% (8050.732/51152.401), which is deemed to be statistically significant with the F ratio of 8.125 and significance at level of 0.001^{b}. Finally, it can be concluding that both variables i.e., ROCE and NOPAT explains the EVACE. The ANOVA analysis further revealed that differences in the selected variable i.e., ROCE, NOPAT and EVACE during the 6 years period have not shown significant different

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