

Value Added Ratios as A Performance Indicator For Profitability And Productivity Measurement: A Study Of Selected Indian Companies

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Abstract

Value Added Statement (VAS) can provide additional information to satisfy all stakeholders of the enterprise. This paper an attempt to make an empirical study of BHEL and INFOSYS for measuring the performance from the years 2008-2009 to 2012-2013 through the statement of value addition and analyze value added ratios of as a performance indicator for profitability and productivity measurement. The significance outcomes have been tested applying regression analysis. Result shows that the management of the both companies has not only improved its profitability but has also fulfilled its responsibility towards the society at large.

Keywords: Value Added, Value added statement, Gross value added, Net value added, Value added ratio.

Introduction

In current scenario along with traditional approach of measurement of financial performance an additional approach value added statement (VAS) is being used by the economist and professional to judge the growth and survival of firm. VAS is considered as significant instrument to examine the corporate performance than conventional measures based on traditional accounting system of a firm. VAS plays an important role in providing additional information in respect to the quantum of wealth generated by a firm which is generally termed as value created by a firm during an accounting period.

In India, preparation of VAS is optional however, it is being provided as a voluntary corporate supplementary statement in the annual reports. As per the accounting point of view VAS can be defined as a statement which states the income of the firm and its allocation among various stakeholders who have contributed towards its creation. VAS is generally a rearrangement of the financial information provided by the income statement which helps to understand the contribution made by an individual firm to society at large. The information provided by VAS is generally in the term of generation

and application of the value added in the form of statement.

Economist has been using this concept as a macro view for measuring the wealth created by a firm. Value added may be arrived at by deducting the value of goods and services produced by the firm, i.e., sales, revenue less the value of goods services purchases from outsider. i.e. the cost of bought in materials and services. Thus, the value added represents the sum of profit and all conversion and other cost, where conversion cost will include all manufacturing labor, overhead and other cost will cover various administrative and selling cost including interest & depreciation etc.

Value added is meaningful measure of corporate performance rather than conventional measures based on traditional financial accounting and can be particularly useful for employees' oriented approach, which will be more fruitful discussion with employees and can be especially useful in productivity arrangements (Davada, R. H., 2012). VAS is a major factor which enhances the shareholders wealth (Nandi K. C., 2011). The value added statement disclosures are

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useful in social reporting it supplement additional financial information to satisfy all stakeholders (Mandal Niranjana, Goswami Suvarun, 2008). VAS has served to the society and on the other hand it also contributes towards the growth and development of the company (Singh Pradeep, 2008). The VAS can provide additional information to satisfy all stakeholders of the enterprise (Jauhari Shilpi, 2012). Value added is meaningful measure of corporate performance than conventional measures. (Krishna Kumar R., 2011). Value added is different from profit figure, it would help users of accounting to use value added information to make decisions. Value added ratios were helps to the company to measure the productivity and efficiency of an organization (Yogesh B.S., Mahadevappa B., 2014).

Research Objective

In this paper an attempt has been made to specifically analyze the pattern of value addition and understand the

usefulness of value added ratios as a means of an indicator for profitability and productivity measurement in selected Indian companies. It is believed that the focus on value added and their ratios has a direct impact on the profitability and would lead to the long term success of the company.

Research Methodology

1. To test the Impact of market micro structure variables on the disclosure practices of Indian and U.K. Banks.
2. To make a comparison of disclosure practices of Indian and U.K. Banks.

Methodology

Present study is based on secondary data. The required data have been collected from the Annual Financial reports of the Bharat Heavy Electricals Limited (BHEL) and

Table-1 Value Addition Statement of BHEL

(Amount in Crore rupees)

Particular	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
A. Generation of Value Addition					
Value of Production (less excise duty)	27,351	33,598	41,527	47,815	47,219
Less - Direct Material, Power & Fuel and Payments to Contractors	17,458	20,427	23,051	28,717	27,759
Value Added	9,894	13,171	18,476	19,098	19,460
Less - Other Operating Exp (Net of income)	567	845	3,461	2,479	3,196
Net Value Addition	9,327	12,326	15,015	16,619	16,264
% to value of production	34.10%	36.69%	36.16%	34.76%	34.44%
B. Application of Value Addition					
Employees payments	4,113	5,243	5,410	5,466	5,753
Depreciation	334	458	544	800	953
Financial charges:					
Interest on borrowings	31	34	55	51	125
Tax Provision (Income Tax., Def. Tax., FBT & Prior Period)	1,711	2,280	2,994	3,262	2,818
Dividend (including dividend tax)	947	1,332	1,775	1,821	1,544
Retained Profit	2,164	2,979	4,237	5,219	5,071

Source: computed and compiled on the basis of information available in the annual reports of BHEL from 2008-2009 to 2012-2013.

Table-2 Value Addition Statement of INFOSY*(Amount in Crore rupees)*

Particular	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Generation of Value Addition					
Income	21,693	22,742	27,501	33,734	40,352
Less – Operating expenses excluding personnel costs					
Software development and business process management expenses	1,656	1,461	2,083	2,634	3,994
Selling and marketing expenses	272	250	294	397	432
General and administration expenses	1,665	1,085	1,304	1,647	1,802
Value Added from operations	18,600	19,946	23,820	29,056	34,124
Other income(including exceptional items)	473	991	1,211	1,904	2,359
Total Value - Added	19,073	20,937	25,031	30,960	36,483
Distribution of value added					
Human resources					
Salaries and Bonus	11,405	12,085	14,856	18,340	22,566
Providers of capital					
Dividend	1,345	1,434	3,445	2,699	2,412
Taxes					
Corporate income taxes	919	1,681	2,490	3,367	3,367
Dividend tax	228	240	568	438	403
Income retained in business					
Depreciation and amortization	761	905	862	937	1129
Retained in business	4,415	4,592	2,810	5,179	6,606
Total	19,073	20,937	25,031	30,960	36,483

Source: computed and compiled on the basis of information available in the annual reports of INFOSYS from 2008-2009 to 2012-2013.

INFOSYS and also from other reports, published research, websites etc. For the purpose of the study the period of the five financial year's i.e. 2008-2009 to 2012-2013 has been taken. The data has been computed, analyzed and compared with the help of generation and distribution pattern of value added statement and value added ratios. In order to assess the behavior of the data, simple statistical techniques i.e. Regression Analysis has been used to determine cause and effect relationship between variables and also statistical test like Independence t-test has been applied in this study.

Research Hypotheses

In order to achieve the objectives of the study following hypotheses has been framed, these hypothesis has been tested through linear regression model.

1. Ho: There is no significant impact of sales on net value added of BHEL.

2. Ho: There is no significant impact of sales on net value added of INFOSYS.

Results and Discussion

Analysis of value added statement

Value added statement of BHEL and INFOSYS prepared on the basis of profit and loss account information given reports of the company. Value Added Statements reveals that how the company generated Gross value added and how it is distributed net value added to the different stakeholders of the company.

Testing of HYPOTHESES

Ho1 -There is no SIGNIFICANT impact of SALES on net value added of BHEL.

Linear regression model has been used to test the hypothesis, In this model the Net Value Added of BHEL and INFOSYS for the Financial years 2009 to 2013 is taken as dependent variable where as Sales is taken as independent variable, to look at the cause and effect relationship between Net value added and sales. On applying the model to the available data the following regression results have been obtained-

Table-3 Regression Analysis between SALES and net value added.

R	R Square	Adjusted R Square	B	Sig.
.991 ^a	.983	.977	.342	.001 ^a

Above table shows the multiple R- value comes to 0.991, which indicates a very strong relationship between the sales and value added. Coefficient of determination (R²) of .98 indicates that 98% of the variation in value added is explained by the sales. The p- value (calculated value) is less than the table value (.001<.05) at 5 % level of

significant. So, we reject the null hypothesis which means there is positive and significant correlation between sales and value addition.

Ho2 -There is no SIGNIFICANT impact of SALES on net value added of INFOSYS.

Table-4 Regression Analysis between SALES and net value added.

R	R Square	Adjusted R Square	B	Sig.
.999 ^a	.997	.996	.918	.000 ^a

Above table shows the regression results of the model used to analyze the relationship between net value added and sales. The 'Multiple R' is .999, which is closer to 1, than there is highly correlation between the variables. The results of R square showed that sales explained 99.7% of the variance in NVA. and the p value (0.000) is less than the table value (.05) at the 5% level of significant. So, we reject the null hypothesis that mean there is a significant difference between sales and value added and sales have a positive impact on net value added.

Ratio Analysis

Value Added Ratio analysis help in the decision making and data can be used for monitoring the management performance as well as for comparing the performance of its competitors. Thus, the various value added ratio are:

a) **Net Value Added to Net Worth ratio**-Table-5 depicts the Net Value Added to Net Worth ratio of BHEL, recorded a downward trend from the year 2009-2010 to 2012-2013 respectively. While in the case of INFOSYS, the VANWR recorded a decreasing trend in the first year after that year INFOSYS has a constant trend from the year 2010-2011 to 20012- 2013. So, the ratio is greater in INFOSYS than BHEL. This indicates a good sign for the contributors of INFOSYS as regard the safety of their funds in comparison to the contributors of BHEL.

b) **Net Value Added to Capital Employed ratio**- The value added to capital employed ratio of BHEL has almost an increasing trend over the periods of five years as compare to INFOSYS. So, ratio is higher in BHEL, it can be said that managerial efficiency of BHEL is better than INFOSYS, is comparatively efficient utilization of capital for generating the quantum of value added.

c) Net Value Added to SALES ratio- It is seen from table-5. That the value added to sales ratio reveals almost an increasing trend over the year of INFOSYS, whereas BHEL has an increasing trend in the initial two year after that it has a constant trend during the last year. So, Value added to sales ratio of INFOSYS is higher than BHEL, which reflects that INFOSYS has comparatively effective sales promotion policy to enhance the performance of the BHEL.

d) Net Profit to Value Added ratio- Net profit to value added ratio of BHEL is more than INFOSYS. BHEL reflects increasing trend, whereas INFOSYS has decreasing trend from 2008-2009 to 2012-2013. This shows that BHEL has higher pool of owner's share than INFOSYS.

e) Net Value Added to Share Capital ratio- Table-5 depicts that an increasing trend of both companies INFOSYS as well as BHEL till 2013. After observed the fluctuation over the period under the study in the ratio of these companies we can say that the contribution of INFOSYS towards society is considerably high as compare to BHEL.

f) Net Value Added to Fixed Assets ratio- Again it is observed from the Table-5 that the value added to fixed assets ratio of BHEL has declining trend throughout the period of study but INFOSYS has registered the increasing trend during the study period due to proper management in handling the fixed assets by the INFOSYS in the terms of capital productivity.

Table 5- Value Added Ratio Analysis of BHEL and INFOSYS

Ratios / Years	2008-09		2009-10		2010-11		2011-12		2012-13	
		INFOSYS	BHEL	INFOSYS	BHEL	INFOSYS	BHEL	INFOSYS	BHEL	INFOSYS
Net value added to Net worth ratio (%)	0.72	1.07	0.77	0.95	0.75	1.02	0.65	1.04	0.53	1.01
Net value added to capital employed ratio (Rs. Crore per Employee)	1.08	1.09	1.05	0.97	1.09	0.97	1.36	1.20	1.79	1.01
Net value added to sales ratio (%)	0.34	0.88	0.37	0.92	0.36	0.91	0.34	0.92	0.34	0.90
Net profit to Net value added ratio (%)	0.34	0.31	0.35	0.28	0.40	0.26	0.42	0.27	0.41	0.26
Net value added to share capital ratio	19.03	66.69	25.16	72.34	30.64	87.21	33.92	107.87	33.19	127.11
Net value added to fixed assets ratio (times)	6.34	5.02	5.1	5.54	4.42	6.17	3.87	7.62	3.65	8.19

[Source: -Calculated From Annual Reports of BHEL and INFOSYS from 2008-09 to 2012-13.]

Conclusion

From the analysis so far it may be concluded that Value Added Reporting remains voluntary in India and though value added statement is useful to judge the performance and productivity of an enterprises for managerial decision making. It is also found that INFOSYS is a good company as compare to BHEL because the most ratios of INFOSYS higher than BHEL which indicates the good performance and productivity of an enterprise. But BHEL also shows

fine performance during the preceding few years. INFOSYS is highly efficient in generation of value (Wealth) as it's ratio shows that it is efficiently used its sales promotion scheme, capital productivity, labor productivity in order to creation of value and the contribution of it towards the society is also high. Finally, study identified that VAS, as part of Corporate Annual Report Supplementary information, it conclude that the key management indicators at the top are broad indicators that relate to the organization's goals. Such

indicators are usually financial, value added-based ratios that provide management with information on productivity and profitability.

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Appendix

A. REGRESSION Analysis of value added(Y) and SALES (X) of BHEL.

DESCRIPTIVE STATISTICS

	Mean	Std. Deviation	N
NVA	1.3910E4	3066.51132	5
Sales	3.9502E4	8877.81927	5

Correlations

		Value added	sales
Pearson Correlation	NVA	1.000	.991
	sales	.991	1.000
Sig. (1-tailed)	NVA	.	.000
	sales	.000	.
N	NVA	5	5
	sales	5	5

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.991 ^a	.983	.977	462.37463

a. Predictors: (Constant), sales

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.697E7	1	3.697E7	172.939	.001 ^a
	Residual	641370.902	3	213790.301		
	Total	3.761E7	4			

a. Predictors: (Constant), sales

b. Dependent Variable: NVA

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	382.537	1049.249		.365	.740
	sales	.342	.026	.991	13.151	.001

a. Dependent Variable: NVA

B. REGRESSION Analysis of value added(y) and SALES (x) of INFOSYS.

DESCRIPTIVE STATISTICS

	Mean	Std. Deviation	N
NVA	2.6497E4	7207.93134	5
Sales	2.9204E4	7840.14632	5

Correlations

		NVA	Sales
Pearson Correlation	NVA	1.000	.999
	Sales	.999	1.000
Sig. (1-tailed)	NVA	.	.000
	Sales	.000	.
N	NVA	5	5
	Sales	5	5

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.999 ^a	.997	.996	440.38428

a. Predictors: (Constant), Sales

ANOVA^b

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.072E8	1	2.072E8	1.069E3	.000
	Residual	581814.944	3	193938.315		
	Total	2.078E8	4			

a. Predictors: (Constant), Sales

b. Dependent Variable: NVA

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-315.000	843.525		-.373	.734
	Sales	.918	.028	.999	32.689	.000

a. Dependent Variable: NVA