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Value Creation Measurements: An Industry Based Study in India

K. Kiran Kumar[1], VineethaVijayan[2]

[1]Assistant Professor, Kristu Jayanti College (Autonomous), Bengaluru, India

[2]Assistant Professor, Kristu Jayanti College (Autonomous), Bengaluru, India

Abstract: ***Company management and financial analysts has a challenging task which is finding the best value creation measure for an industry and company. With regard to this very few studies lead to the conclusion that there isn't a unique indicator of value creation measurement by considering internal and external factors. Therefore, the study gives importance to find the best value creation measurement for an industry among selected value creation variables and traditional performance measure during the period 2009 to 2018. Value creation measures like Tobin's Q(TQ), Enter price value to sales (EV/Sales) and Market value added(MVA) are considered as dependent variables and accounting based variables such as Earning per share(EPS), Return on Assets(ROA), Return on Net worth(RONW), Profit Before Exceptional Items (PBEI) and Net income(NI) are considered as independent variables. Therefore, the study sheds light on whether each industry has distinct set of variables determining shareholder value creation. In order to achieve this objective the results of the study proved that MVA is the best shareholder value measurethan Tobin's-Q and EV to sales. Furthermore, the results of this study reveals that each industry/sector has a specific shareholder value creation variable which explains the shareholder value for selected industries. EPS is the significant value creation measurement at 5% significant levelfor Cement and Auto Mobile Industry whereas EPS is the value creation measure buthas a negative significant level in Pharmaceutical industry. For the banking sector, RONW is the value creation measure. The study found that each industry have a distinctive set of variables determining its shareholder value creation. However, it can be seen that EPS is the most significant variable and bench mark for selected industries for creating value to their shareholders.***

Keywords: MVA, EV to sales, Tobin's-Q, EPS, ROA, RONW, PBEIT and NI, R^2 and Linear Regression

1. Introduction

Last two decades many studies concluded that economic variables or accounting variableshave either created value or not created value to their shareholders and since the 90s theymentionedvalue creation isthe benchmark for measuring performance. Starting from value creation, modern measureswere developed like EVA, MVA Tobin's Q, and total shareholders return whereas EPS, ROA, RONW, Net Income and PBEI etc.are accounting variables used for measurement. Generally, companies choose the appropriate indicator that is suitable totheir needs. In order to create value for the shareholders it is the manager's role to choose the appropriate variable which leads to the following questions

- Is there a single specific shareholder value measurement that can be used as an indicator of value creation for any firm in any industry?
- In case there is specific shareholder valuemeasure,does it fit for all industries or do different industries need to be valued and measured according to specific yardsticks?

The best understandable measure of company performance and value creation is the stock price (Jensen& Murphy-1990 and Milbourn-2003). Stewart (1991-1994) states that EVA is the best suited variable to explain value creation of shareholders and EVA is aperfectbenchmark to reveal the level of benefit for a firm's management. However,shareholder value creation measures have evolved considerably in the last 25 years. Many studies provided results that proved or disproved. Traditional accounting-based measures to quantify shareholder creation, such as Earnings per Share(EPS),Return on Net worth(RONW), Return on Assets(ROA), PBEI and Net Income have recently been challenged and supplemented by economic-based measures of shareholder creation, such as EVA, market value added (MVA), EV to sales and Tobin's Q. Variousreportsdone on finding the best measure that explain shareholder value creation. Sharma &Kumar(2010) found 112 studies on EVA, and the outcome of 18 studies were discussed which were published between the year 1991&2011 on SVCM byHall (2013-2016).

The present study is ashareholder value creation measurement that is applicable to a particular industry or firm. In order to achieve this objective, the current study analyzed more shareholder value creation variablescompared to the previous studies and applies these measurements to four different categories of firm'snamely Pharmaceutical industries, Automobile industries, Bank industries and Cement Industries. Moreover, this study applies three different value measures, namely Tobin's Q, EV to Sales and MVA to analyze, prove, disprove or provide results and findings to shareholders value creation measures.

2. Review of Literature

An attempt is made to preset literature to the present study. It is observed that some studies given more attention given by researchers to the specific industry, whereas less attention has been given to the selected companies in various industrial sectors which are the emphasis of this study. However, almost all these studies have been dealt with shareholder value creation. The review helps to shape the study and identify the research gap.

Mc Gahan & Proter (1997)-found that industry effects accounts for a lesserprofit changes in the manufacturing

industry but more changes in theentertainment industry, transport industry and retail industry. In recent times, **Baca *et al.* (2000)**elucidate that industry sector effects have surpassed countryeffects in explaining variations in stock market returns of seven developedcountries. Hence, if one can find a corporate performance measure that bestexplains shareholder value creation for a particular industry, that performancemeasurement should be used as tool for management to manage and improve shareholder value creation, and for shareholders even as apossibleperformance benchmark for compensating the management of that industry.

Artikis (2007)- Evaluated the link between Economic Spread &Marketvalue for all companies, other than financials institutions, listed in the ASE during 2000-2004. The study was examined relationship on total market and on selected industry. The selected sample firms were divided into 6 industries these are consumer non-cyclical, communications, consumer cyclical, industrial, basic materials and technology. Therefore, Economic spread was the independent variable and Market value over the invested capital is the dependent variable in regression analysis. The study found for the total market that there is a statistically significant relationship between ES and MV66.67%. On the other hand, industry basis the results found a positive relationship between ES and MV variables in all industries except the technology industry.

Visaltanachoti, Luo&Yi -(2008),Research by Bowman & Helfatrevealing that there are three variables that determine a specific firm's performance, industry performance, business and company factors. **Schmalensee (1985)** found that 75% variance of industry rates of return explained by selected industry factors. **Wernerfeldt and Montgomery (1988)** used a different performance measurement (Tobins" Q) than Schmalensee and found similar results. In this study, it wasargued that, in order to achieve the company most optimally for shareholders and used appropriate shareholder value creation measure as benchmark in future.

Venugopal & Reddy (2016) The study measure theshareholdervaluecreationinIndianpharmaceuticalcompanies.Theywere foundthat39firms outof77were wealthcreators. **Mani,(2015-2016)**he madealist of Indian companies with maximum shareholder value in the year 2016. To identify companies he applied five variables that have a potential to provide highest shareholder value to the selected companies. The Returnon Capital Employed (ROCE), Returnon Equity (ROE),PE-Gratio, Dividend yield, and EPS growth rate. The study used Price Eearning- Growth ratio to identify the companies that create highest shareholder value.

3. Objectives of the Study

- To study the financial performance of selected industries with regard to shareholder value creation.
- To determine the best suited measure of shareholder value creation for the selected industries.
- To examinewhether each industry havedistinct set of variables determining shareholder value.

4. Hypothesis Statement

Based on the above objectives of the study the following hypothesis were formulated

H_0: Selected industries do not have the same set of variables which measures its Shareholder Value Creation

H_1: Selected industries have the same set of variables determining its Shareholder Value Creation

5. Sample of Data

Financial data of the previous ten years have been collected from the National Stock Exchange (NSE), India during the period from 2009 to 2018.Five companies from each industry relating to **P**harmaceutical, Banking, Automobile and Cement industries were selected as the sample for the study.

6. Tools of Analysis

For this study**, f**inancial and statistical tools were used to find out the best suitable measure for a specific industry**.** Four major industries were taken for the analysis and toolsused are

(a) **Financial Tools**:

1) Earnings per share (EPS)
2) Return on Assets (ROA)
3) Return on Net worth (RONW)
4) Profit before exceptional items and tax (PBEIT)
5) Net Income
6) Market Value Added (MVA)
7) Tobin's-Q (TQ)
8) Enterprise value to sales (EV to sales)

(b) Statistical Tools

Mean, Standard Deviation, T-test, R^2 and Regression coefficient. The multiple regression model used is:

Tobin's-Q $= a_{ij} + \beta 1EPS_{ij} + \beta 2ROA_{ij} + \beta 3RONW_{ij} + \beta 4PBEIT_{ij} + \beta 5NI_{ij} + er_1$

EV/Sales $= a_{ij} + \beta 1EPS_{ij} + \beta 2ROA_{ij} + \beta 3RONW_{ij} + \beta 4PBEIT_{ij} + \beta 5NI_{ij} + er_1$

MVA $= a_{ij} + \beta 1EPS_{ij} + \beta 2ROA_{ij} + \beta 3RONW_{ij} + \beta 4PBEIT_{ij} + \beta 5NI_{ij} + er_1$

7. Analysis and Interpretation

Thebelow table no:1 shows the goodness of fit between the variables of selected industries.As per the coefficient of determination (R^2), in Pharmaceutical industryEPS is the best explanatory power for creating value towardsMVA (0.57). In Auto Mobile industry PBEIT is the best explanatory power for creating value towardsMVA(0.63). Moreover, in banking sector RONW is the best explanatory power for creating value towardsMVA (0.73) whereas in Cement Sector EPS is the best explanatory power for creating value towards MVA(0.93).Therefore, we can say that MVA(modern technique) is the best suited value measure for the shareholders when compared to other dependent variables like Tobin's –Q and EV/Sales(traditional technique).

Table 1: The Coefficient of Determination for Multiple Regression

Industry	Value measures	Value creation Measure	R^2
Pharmaceutical	Tobin's-Q	ROA	0.14
	EV/Sales	EPS	0.94
	MVA	EPS	0.57
Auto Mobile	Tobin's-Q	ROA	0.17
	EV/Sales	PBEI	0.73
	MVA	EPS	0.64
Banking	Tobin's-Q	PBEI	0.10
	EV/Sales	NI	0.40
	MVA	RONW	0.73
Cement	Tobin's-Q	RONW	0.30
	EV/Sales	ROA	0.38
	MVA	EPS	0.93

The below table no: 2 presents the regression coefficients for the selected modelsalong with levels of significancefor finding out specific value creation measure for a particular industry during the period of study 2009 to 2018. From this study it is found that some variables are significantand some are insignificant regression coefficientwhich means that each industry has a separate value creation measure. From this study EPS is the statistically significant measure at 5% level based on t-statistic and it isthe value creation measure in Auto Mobile industry and Cement industry where as in Pharmaceutical industry again EPS is the value creation measure but it shows a negativesignificance at 5% levelwith regard to Market Value Added (MVA). These industries concentrate more on EPS since an investor can see the value of stock in terms of how much the market is willing to pay for each Indianrupee of earnings and also EPS tends to increase MVA to create more value to these industries.Banking being a service sector has RONW as its value creation measure at a negative significance level of 5% based on t-statistic. RONW also measures how a banking company can efficiently utilize its assets in order to make profits.

From the above analysis it is evident that there is no fixed variable for the selected industries and that every shareholder valuecreation measurement has a different set of significant value drivers. Therefore, the studyaccepts the Null Hypothesis (H0) which states that each industrydo not have the same set of variables which measures its Shareholder Value Creation. The implication of this finding is that the management can concentrate on the specific significant value drivers that increase or decrease the shareholder value creation for a specific industry.

Table 2: Regression Coefficient at 5% significance level

Industry	Value measures	Value creations	Regression Coefficient	t-statistic	Significance
Pharmaceutical	Tobin's-Q	ROA	0.044	0.742	In significant
	EV/Sales	EPS	-0.055	0.390	In significant
	MVA	EPS	-15452.051	0.046	Significant
Auto Mobile	Tobin's-Q	ROA	0.198	0.224	In significant
	EV/Sales	PBEI	0.000	0.002	Significant
	MVA	EPS	14064.319	0.005	Significant
Banking	Tobin's-Q	PBEI	-4.75	0.363	In significant
	EV/Sales	NI	0.000	0.047	Significant
	MVA	RONW	-226852.703	0.010	Significant
Cement	Tobin's-Q	RONW	-0.022	0.102	In significant
	EV/Sales	ROA	-0.334	0.054	In significant
	MVA	EPS	688307.403	0.003	Significant

Source: own observations and compilations

8. Recommendations

1) The study suggests that the Fund managers can now use a specific shareholder value creation measurement before creating a portfolio and they need to take different value creation measure in case of industries like Auto Mobile and Cement industries which should consider EPS as the key value driver for MVA.
2) They should take MVA as the value measure and apply in every portfolio construction before offering.
3) For company management, they should concentrate more on their operating efficiency which increases their profits and efficiently increases its shareholder value.
4) Banking sector should concentrate more on their Return on Networth as it is the most important variable to the shareholders and it also shows how the banking sector utilizes their assets for creating profits.
5) In pharmaceutical industry negative significance of EPS creates value to their shareholders. Therefore, managers should focus more on MVA when compared to other value measures.

9. Conclusion

The above study revolves aroundvalue creation through Tobin's-q, MVA, EV to sales and traditional performance measures. The results of the study states the best suited value creation measure for a specific industry in India and it is recommended that this measure can be used as a benchmark.This paper concentrates only on the financial performance measurements extracted from the financial statements of selected firms from selected industries. The results of the studyis significant and fills the gap in literature, as previous studies mainly focused onhomogenous samples when compared to the present study which analyzes 20 firms fromfourdifferent industries with threedifferent valuemeasurementssuchas Tobin's-Q, EV to salesand MVA. It wasproved that MVA is the best shareholder value measurethan Tobin's-Q and EV to sales.Furthermore, the results of this study reveals that each industry/sectorhas a specific shareholder value creation variable which explainsthe shareholder value for selected industries.EPS is the significant value creation measurement at 5% significant

levelfor Cement and Auto Mobile Industrywhereas EPS is the value creation measure buthas a negative significantlevel in Pharmaceutical industry. For the banking sector, RONWis the value creation measure.

The study found that each industry have a distinctive set ofvariables determining its shareholder value creation.However, it can be seen that EPS is the most significant variable and bench mark for selected industries for creating value to their shareholders.

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