

# Organizational Performance Measures: A Review

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*"Commerce is a game of skill which many men play, but which few play well"*

*Ralph Waldo Emerson*

## Abstract

From the smallest business entity to the largest one, businesses and businessmen are continuously after improving their total income and wealth. If all strategic decisions of a firm are made using a suitable measurement technique which has an orientation on value creation, it would be more beneficial to all the stakeholders concerned. In this article, an attempt is made to summarize the various measurement techniques, and tie them up to the degree of sophistication required, depending on the size of the companies. This would enable all organizations from the tiny to the large to measure and then strategise.

**Key words :** Shareholder Value Creation, Performance Measurement, EVA, Balanced Score Card

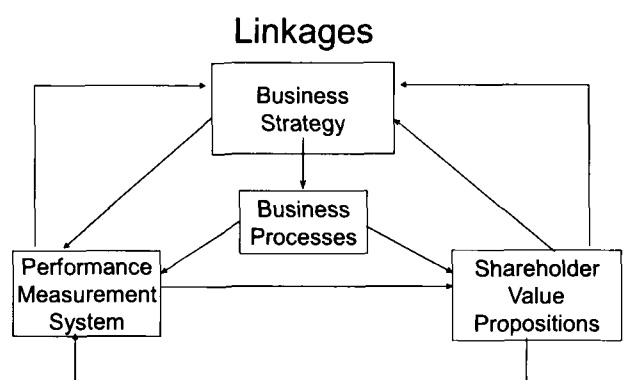
## Introduction

The strategic purpose of a firm is to create value that meets the needs of its shareholders. Value Based Management is central to Strategic Management. Value consists of the performance characteristics and attributes provided by companies in the form of goods and services for which the companies' customers are willing to pay. The financial goal of a profitable business is to produce returns in excess of its weighted average cost of capital from lenders and investors.

At this point we may reflect on why this is so. In larger companies it is the basic need of the Institutional Investors. The Business Press also emphasizes the objective of creation of value for the share holders. In large companies Top Management Compensation is being linked to creation of share holder value. Leading major companies have already adopted the use of better measures like EVA (Reddy and Reddy, 2006).

Now addressing Management Process linkages, Business Strategy consists of the management process of discovering, defining and implementing business activities that will result in a value-enhanced future of the firm. Having said this, this is invariably linked to the Performance Measurement System, which is a

management process that is used to monitor business activities and facilitate achievement of the firm's objectives. These two form two nodes of the triangle, the third node being Shareholder value propositions. All of them are interconnected by the Business Processes which is a collection of Linked Business Activities. The above concept can be best illustrated by the diagram below:



**Business Strategy** Management process to ensure that the business produces value for the firm.

**Performance Measurement System** Process of measurement to monitor the progress of the firm towards value addition.

**Business Process** Activities within a firm which are linked to each other, and add value to the company's product/service

### Shareholder Value Propositions

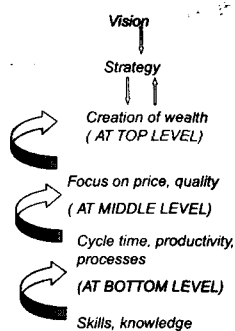
Relationships between the firm and its stakeholders, relative to other options.

In the above diagram assuming Business strategy, the processes and Shareholder Value propositions are fairly well defined, what is left to be defined is the Performance measurement system.

### The Principles of Performance Measurement are:

- Performance measurement should be systematic
- The measurement method proposed supports business strategy
- Each performance measure has a good logic behind it.
- The measurement method measures at least 80% of the inputs required for achieving a given level of performance
- Measures performance of both business and management processes.
- Performance standards should be laid by the external environment
- The company or organisation should already have a measurement culture and subjective elements in the measurement system are minimal.
- The proposed measurement system should be simple to use

The type of metric to be used in an organization would be guided by the diagram given below:



At the bottom level, simple methods may be enough. As one progresses towards the top where creation of real wealth is the prime concern, the metrics have to be examined a little carefully to determine the one which fits the organization.

It may be noted that this article would be discussing such methods which are of importance for strategic decision making and not those which are useful at the operational level, such as skills, knowledge, productivity, quality, etc.

### Review Of Some Measurement Methods Currently Available

We have traditional accounting based measures such as earnings per share and return on investment. But these do not reflect the risk or the opportunity cost of investment. We need a measuring yardstick or a metric which can measure value creation.

In recent years, many companies the world-over have taken to 'value based' performance measures, which are superior to the accounting based metrics, in that they provide a more realistic and practical insight into a company's performance and also help in making better choices when faced with alternative business projects and investment plans. The 'value' referred to in 'value based' performance measures is shareholder value. The emphasis on shareholder value emerges from the premise that the ultimate aim of all businesses is to maximize the long term wealth of their owners, i.e., their shareholders. Also, maximizing shareholder value acts as an overarching objective that helps to resolve conflicts and take trade-off decisions in a consistent manner.

### 1. Stern Stewart Approach - EVA & MVA a) Economic Value Added (EVA)

The most popular and simplest value based performance measure is Economic Value Added (EVA). EVA is in fact a registered trade mark of Stern Stewart & Co., a New York based consulting firm, which introduced this concept in 1982. EVA is an estimate of a company's 'economic profit' or 'residual income', which is

the amount by which the earnings exceed or fall short of the return that investors could get by investing in other businesses of comparable risk. EVA is defined in monetary terms and is a period-based measure.

In equation form,  $EVA = NOPAT \{WACC \times CI\}$ , where

NOPAT = Net Operating Profit After Tax  
(In simple terms, NOPAT is essentially net profit after tax + interest. Interest is added back as it is considered under cost of capital.)

WACC = Weighted Average Cost of Capital or Capital Cost Rate  
(= Charge rate on equity x proportion of equity in total capital + cost of interest bearing debt x proportion of debt in total capital x (1-tax rate). Charge rate on equity is the opportunity rate of return from an equity investment of comparable risk.)

CI = Total Capital Invested at the beginning, or the average capital during the period  
(This is primarily book value of common equity & preferred stock plus interest bearing short term & long term debt.)

EVA is considered superior to several commonly used financial performance yardsticks. For example, maximizing rates of return on investment, capital employed or net assets (i.e., ROI, ROCE, RONA), do not necessarily maximize the absolute value of return to shareholders, which is in fact more important. Further, these measures ignore the requirement that the rate of return should at least be equal to the rate of capital cost.

Likewise, return on equity (ROE) too does not consider the capital cost rate, and hence, it does not tell whether the company is creating wealth for shareholders or destroying it. More important is the fact that ROE can be enhanced by increasing leverage, which is not advisable, as it would increase the company's financial risk. Both earnings and earnings per share (EPS) can be increased by investing more into the business and scaling up operations, even if the rate of return is not up to the mark.

EVA has become a popular performance measure among many of the world's renowned and admired companies, because of its simplicity and clear and direct linkage with shareholder value creation. Around 250 major corporates across the world (with total annual revenue exceeding \$ 400 billion) have implemented EVA by engaging the services of Stern Stewart & Co. Coca Cola, Siemens, Whirlpool and Eli Lilly are among the globally well known users of EVA. Among leading Indian companies, Infosys, Tata Steel and Tata Consultancy Services are examples of those that have adopted EVA.

EVA is measured for each period with the objective of progressively increasing the same. The methods available for improving EVA are to achieve better returns on existing operations, reduce the cost of capital, use less capital to realize the same returns, invest in projects that provide higher returns, liquidate capital or curtail investments in operations with inadequate returns. In order to realize its full potential, EVA has to be integrated into the strategy development process, backed by a sources and drivers of value creation.

The main limitation is that as EVA is in monetary terms, it is heavily influenced by business size. Further, it is based on financial accounting methods which can be manipulated by managers. It focuses on immediate results and is weak as a long term performance metric. It is also not adjusted for inflation-induced biases. It may be noted that going by the tenets of basic economic theory, if product and factor markets are perfectly competitive, there should be no excess profits and consequently no economic value addition. This brings us to an important practical reality that sources of value addition such as first mover advantage, ability to realize better prices, etc., could erode over time due to increasing competition. Thereafter, companies would have to look for more attractive alternatives to maintain their performance levels.

## b) Market Value Added (MVA)

MVA is a companion measure to EVA, advocated by Stern Stewart & Co. MVA of a firm is defined as the difference between total market value of capital and the actual capital invested by way of common equity, preferred stock and all forms of debt. In terms of a formula,

**MVA = Market value of capital-Book value of capital**

The principle behind MVA is that if the difference between market value and book value of capital is positive and increasing, shareholders' wealth would increase.

However, in case the market value of a company's equity increases at a slower rate than the equities of other comparable firms with similar risk profile, then the company in question would in fact be destroying value for its shareholders in a comparative sense, though in absolute terms it may be creating value. The primary disadvantage with MVA therefore is that it does not consider the opportunity cost of the capital invested in the company. The other limitations of MVA are that it does not take account of interim returns to shareholders (by way of dividends) and cannot be applied to privately held firms or to business divisions within a company.

The concept of Excess Return (ER) overcomes the first disadvantage associated with MVA as pointed out above. ER is defined as the as the difference between the actual value and the expected value at the end of the measurement period. In other words, it amounts to redefining MVA with a minor adjustment as follows:

**MVA = Market value of capital- book value of capital-increase in capital value that would have been achieved through investments in other alternative avenues of comparable risk**

Going back once again to the basic concept of MVA, in theory, market value of equity should reflect the capital market's expectations of future free cash flows, discounted at the cost of capital. However, actual market value could be influenced from time to time to varying degrees by several extraneous factors, short term

speculative pressures, etc., as a result of which MVA is subject to fluctuations and distortions.

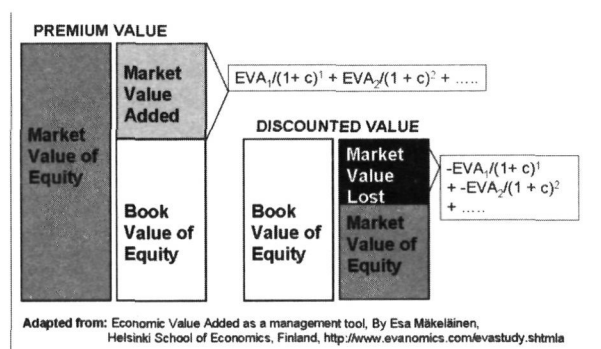
## c) EVA Projection & MVA

Though its opponents criticize that EVA is primarily a financial measure that reports past performance, it can be projected into the future and used for comparing investment options. If one forecasts the capital, NOPAT and capital charge of future years, one can project a future EVA stream and also calculate the present value of the EVA stream. In theory, this should be the same as MVA, because conceptually, MVA reflects the present value of all future EVAs., Therefore, in principle,

$$MVA = EVA_1/(1+c)^1 + EVA_2/(1+c)^2 + EVA_3/(1+c)^3 + \dots$$

where, c = weighted average cost of capital

**Figure 1: EVA & MVA**



## 2. BCG Approach: CFROI, CVA, TSR & TBR

The central elements of BCG's approach are Cash Flow Return on Investment (CFROI) and Cash Value Added (CVA). The concepts of Total Shareholder Return (TSR) and Total Business Return (TBR) form the foundation of this method. Over 100 global corporate majors have engaged BCG to implement the CFROI program. Procter & Gamble is the best known user of CFROI and TBR.

### a) Cash Flow Return on Investment (CFROI)

In simple terms, CFROI is the equivalent of ROI computed based on cash flows, instead of profits. CFROI compares the sustainable cash flow generated by a firm with the total cash invested (towards both fixed assets and working capital) to generate these inflows. Sustainable cash flow is defined as cash flow less economic depreciation. Economic

depreciation is the annuity required for replacing the productive assets at the end of their economic life, calculated as amount required to replace the productive assets divided by future value interest factors of annuity (FVIFA), calculated over the economic life of the assets at the average cost of capital. For a single period, CFROI can be calculated as follows:

$$\text{CFROI} = \frac{[\text{Cash Flow} - \text{Economic Depreciation}]}{\text{Cash Invested}}$$

For multiple periods, CFROI is computed as the internal rate of return (IRR) that equates the gross investment made by the capital owners to the periodic cash flows by recognizing the finite economic life of depreciating assets and the residual value of non-depreciating assets such as land and working capital. CFROI for a given project or business plan is the same for all the years, as it is calculated based on the IRR principle. In contrast, return on capital employed (ROCE), which is calculated as NOPAT divided by Book Capital, shows an upward trend. It is less than CFROI during the initial years and is more than CFROI during the later years.

#### b) Cash Value Added (CVA)

CVA is BCG's metric for measuring economic profit. It is conceptually similar to EVA, but is based mainly on cash items.

$$\text{CVA} = \text{OCF} - \text{ED} - \text{CCOGI}$$

where, OCF = Operating Cash Flow

ED = Economic Depreciation

CCOGI = Capital Charge on Gross Investment

CCOGI is the average capital cost per year (in absolute terms) that meets the investors' financial requirements. It is constant over the investment period.

It is claimed that CVA is superior to EVA, as it is not affected by accounting distortions. Further, when the rate of return equals cost of capital, while CVA is zero for each year, EVA shows an upward trend with negative figures in the initial years and positive figures during later years. This is because CVA considers capital

charge on gross investment, which is constant; while EVA considers charge on book capital, which reduces over time.

#### c) Total Shareholder Return (TSR)

TSR represents the change in capital value of a company's shares plus dividends over a given period, divided by the shares' value at the beginning of the period. For a single holding period, TSR is defined as follows:

$$\text{TSR} = \frac{[(\text{End Market Value} - \text{Beginning Market Value}) / \text{Beginning Market Value}] + [\text{Dividend} / \text{Beginning Market Value}]}$$

For multiple holding periods, TSR is computed as the long-term internal rate of return (IRR) that shareholders earn by investing in a company's stocks.

$$\text{Beginning Market Value} = \frac{\text{Dividend}_1}{(1+\text{TSR})^1} + \frac{\text{Dividend}_2}{(1+\text{TSR})^2} + \dots + \frac{\text{End Market Value}_n}{(1+\text{TSR})^n}$$

BCG considers TSR as the most useful measure of value creation because it takes into account both dividends and capital gains, is not biased by size and is difficult to manipulate. But TSR cannot be calculated for a privately held firm or for the division of a company. (It may be noted here that MVA does not consider dividends and is biased by size, as it computes absolute figures).

#### d) Total Business Return (TBR)

TBR is the internal counterpart of TSR. It can be applied for private companies or business units whose shares are not publicly traded. Definition of TBR is quite similar to that of TSR, with the difference being that free cash flows from operations are considered in place of dividends. For a single period, TBR is computed as follows:

$$\text{TBR} = \frac{[(\text{End Business Value} - \text{Beginning Business Value}) / \text{Beginning Business Value}] + [\text{Free Cash Flow} / \text{Beginning Business Value}]}$$

The beginning and end values are estimates of business value of the firm at the beginning and end of the period. These may be estimated as Free Cash Flow divided by Cost of Capital OR NPV of expected Cash Flows.

TBR for multiple periods is measured through

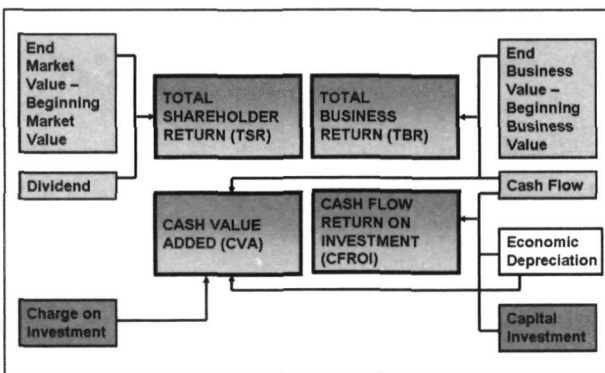
the IRR approach as indicated below:

$$\text{Beginning Value} = \text{Free Cash Flow}_1 / (1+\text{TBR})^1 + \text{Free Cash Flow}_2 / (1+\text{TBR})^2 + \dots + \text{End Value}_n / (1+\text{TBR})^n$$

TBR is moderated using a time fade model, which considers that a company's return on investment and its growth rate would reduce over time towards a global average due to competitive pressures from new entrants.

As TBR incorporates cash flow returns on both existing assets and assets to be added in future, it is significantly influenced by CFROI. BCG recommends combining of CFROI with TBR to take resource allocation decisions. If current CFROI vs cost of capital and TBR of business plan vs target TBR are both positive, such projects would receive the highest priority for investment.

**Figure 2: BCG Approach- TSR, TBR, CFROI & CVA**



Detractors of the BCG Approach criticize that CFROI and CVA defer most of the depreciation to later years in order to achieve even distribution of returns and capital cost through the project's life time. CFROI also includes salvage value of assets in its calculations. These features make the performance measures more subjective, as part of the future profit is brought into the present. It is said that CFROI is a long term subjective measure, while EVA is a short term objective measure.

### 3. Alcar Approach - Shareholder Value Added (SVA)

Shareholder Value Added (SVA) is authored by Dr. Alfred Rappaport co-founder of LEK/Alcar

Consulting Group, and is based on the Discounted Cash Flow (DCF) methodology. One of the drivers of Shareholder Value is said to be value growth duration, which represents the period over which investments are expected to earn returns in excess of the cost of capital. Thereafter, the competitive edge would be lost, and the rate of return would reduce to the cost of capital.

SVA is far less used than EVA or CFROI. The idea of SVA is to discount the estimated future cash flows to the present and hence continuously calculate the value of the firm.

SVA is calculated as follows: Forecast profit after tax and depreciation for the value growth duration; then subtract capital expenditure and increase in current assets during each year to arrive at the annual net cash flows. Discount the cash flow stream using weighted average cost of capital. Estimate the residual value of the business and find its present value. Thereafter, calculate total shareholder value (TSV) as below:

TSV = Present value of operating cash flow stream + present value of residual value-market value of debt

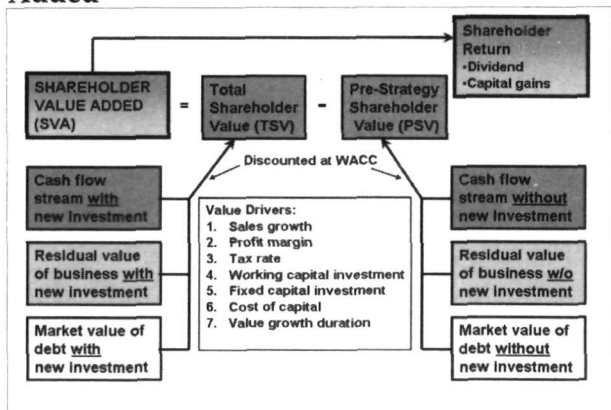
Pre-strategy value = [Cash flow stream before new investment discounted at weighted average cost of capital]- market value of debt

### Shareholder Value Added (SVA) by the strategy = TSV Pre-strategy Value

The SVA approach suggests that firms should select strategies that maximize SVA, find highest valued use for all assets, link performance evaluation and managerial incentives to SVA and return cash to shareholders if the investment options are not attractive.



**Figure 3: Alcar Approach - Shareholder Value Added**



#### 4. Marakon Approach

The Marakon Approach to value based performance measure is developed by Marakon Associates, an internationally renowned management consulting firm. Here, shareholder value creation is measured as the ratio of market value (M) and book value (B) of a firm's equity, where market value is the value in the stock market, while book value is the sum invested by the shareholders. Shareholder wealth is positive and increasing if M/B is greater than 1 and increasing. In effect, this is MVA expressed in terms of a ratio instead of in monetary terms. Value creation is determined by two value drivers 'market economics' and 'competitive position'.

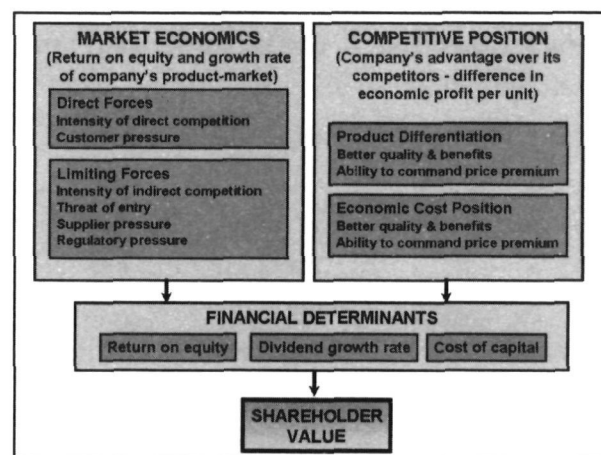
**Market economics** reflects the attractiveness of the market in which the company operates. It is evaluated as the total economic profit (EP) or equity spread (difference between return on equity and cost of equity) generated by all companies in the applicable product-market context. If the aggregate EP is positive, the market economics is considered as attractive. The basic principle behind Market Economics is thus similar to that of EVA, though it is applied to the industry in this case and not to the company.

Market economics is in turn said to be determined by two direct and four limiting forces. The direct forces are intensity of direct competition and customer pressure. The four limiting factors are intensity of indirect competition (substitutes), threat of entry, supplier pressures and regulatory pressures.

supplier pressures and regulatory pressures. EP projections have therefore to be made with a fair degree of accuracy by objectively determining the impact of these factors.

**Competitive position** indicates a company's competitive advantage over its rivals. It is defined as the quantum of EP generated per unit product by a business, relative to the average EP per unit earned by all competitors in the market. This is influenced by two factors product differentiation (price premium due product superiority) and economic cost position (due to lower economic cost of production). Here again, the concept of Economic Profit is applied, which is the fundamental principle behind EVA as well.

**Figure 4: Marakon Approach Strategic Determinants of Value Creation**



Various strategic options can be arrived at by considering the impact of the underlying parameters affecting market economics and competitive position, thereby producing more credible and accurate forecasts than that generated by using only a financial model.

#### 5. McKinsey Approach

McKinsey & Co's approach is based on the economic profit concept. McKinsey distinguishes itself by way of an overall framework and principles for value based management. The four steps advocated by McKinsey are explained briefly below:

##### a) Ensure the Supremacy of Value Management

Top management should take on embrace value maximization as the ultimate financial objective by focusing on discounted cash flow (the most direct method of value creation) and avoid traditional measures like accounting rates of return, earnings per share and profit growth as they do not truly reflect value creation. Non-financial goals such as productivity, market share, customer satisfaction, product innovation and quality improvement should motivate employees in various functional areas. In cases where non-financial goals are in conflict with the financial goals, the conflict should normally be resolved in favour of the latter.

### b) Find the Value Drivers

The key drivers that influence the performance of the business and hence its value, need to be identified at three levels:

- Generic level : e.g., Operating margin & return on capital
- Business unit level : Product mix, customer mix, operating leverage, etc.
- Grass roots level : Operating value drivers like capacity utilization, cost per delivery etc.

### c) Establish Appropriate Managerial Processes

The principal message here is that value maximization objective should drive strategy formulation and evaluation, target setting, budgets, action plans and performance measurement & incentive systems.

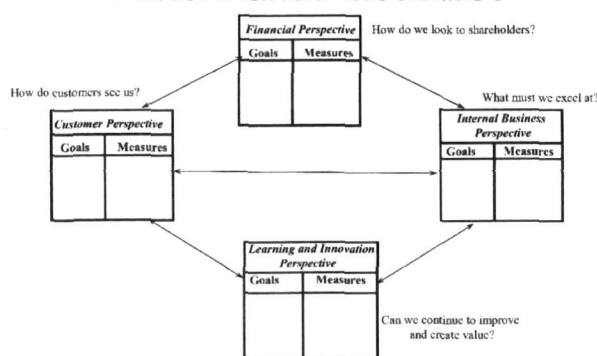
### d) Implement VBM Properly

Implementing value based management is a complex process and requires a change in the mindset of the decision makers. Six conditions are necessary for excellent value based management: being performance driven, value-based, managed bottom up as well as top down, two-way communications, strong self-reinforcement process and low cost.

## 6. Balanced Score Card

Kaplan and Norton feel that financial measures are inadequate for guiding and evaluating organizations' trajectories through competitive environments. In effect, they feel that organizations should have leading indicators to create future financial value. The Balanced Score Card, which is their creation, provides for a comprehensive frame-work that translates a company's strategy and vision into a coherent set of performance measures.

### The Balanced Scorecard Links Performance Measures



(Adapted from: *The Balanced Score Card*, by Robert S Kaplan, and David P. Norton; HBS Press)

#### Financial perspective

The Balanced Score card retains the financial perspective. Financial measures indicate whether a company's strategy, implementation and execution are contributing to profitability.

#### Customer Perspective

The measures include customer satisfaction, customer retention, new customer acquisition, customer profitability and market share.

#### Internal-Business-Process

In this the company's managers identify the critical internal processes in which the organisation must excel. The processes must enable deliver value propositions that will attract and retain target customers, while satisfying shareholder expectations of excellent financial returns

#### Learning and Growth perspective:



This perspective focuses on building infrastructure for Long term growth and improvement.

### **Increasing Popularity of the Balanced Score Card.**

The increasing popularity of the balanced Score Card is due to:

- Performance measurement is connected to strategic success
- Places emphasis on the importance of all stakeholders, not just investors
- Encourages consideration of linkages among performance measures in all areas of the firm.
- The need for some measures which comment of preparedness for future success is recognized.

**The problems with the Balanced Score Card are:**

- Measurement set is not systematic in nature
- Connection between the measures and achievement of shareholder value is not clear.
- Difficult & costly to capture the data required to measure what is needed
- Focus is on the present
- The key to strategic success is preparing for the future
- Difficult to identify gaps, conflicts and redundancies in the measurement system

### **Discussion**

The various value-based performance measures have emerged from the need to find a more realistic and practical alternative to traditional accounting based measures. They have several commonalities and also differences. They fall into two broad categories (i) those that arrive at a measure of economic profit or return on investment and (2) those which directly capture shareholder return. Some measures are expressed in terms of absolute values and others in terms of a ratio or percentage. There are measures which are more suited for inter-period comparisons and those that provide an integrated multi-period result

by using the IRR or DCF approach. A statement comparing the major value based measures along these is tabulated below.

Performance Measure	Principle	Nature of Measure	Methodology & Application
1. EVA	Economic Profit	Monetary value	Inter-period comparison
2. CVA	Economic Profit - Cash	Monetary value	Inter-period comparison
3. CFROI	Cash Return on Investment	Ratio/percentage	IRR from multi-year projections
4. MVA	Shareholder return - Capital Gain from markets	Monetary value	Inter-period comparison
5. SVA	Shareholder value - Calculated from performance projections	Monetary value	DCF from future projections
6. TSR	Shareholder return - Capital Gain + Dividend	Ratio/percentage	IRR from multi-year projections
7. TBR	Investor return - Business Gain + Dividend	Ratio/percentage	IRR from multi-year projections
8. Marakon	Shareholder return - Equality of calculations & market reality	Ratio/percentage	Inter-period comparison

While making strategic business decisions, the subjectivity in projecting future profits/cash flows and discounting rates is likely to be a greater source of error/differences in judgment than that caused by the differing approaches of the various metrics.

The activities in the Balanced Score Card approach, take around four months for a firm to develop and the consultant's involvement is heavy. The complexity involved at each stage, viz: Measurement Program Design, Definition of Strategic Objectives, Selection of Strategic Measures, and building the Implementation plans; is high. The firm has to deploy considerable resources and time to capture the data required.

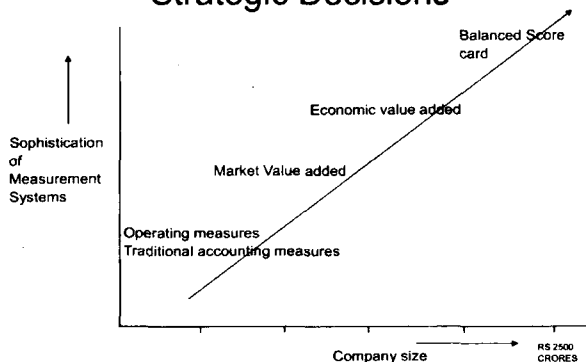
As stated, there is a definite need to measure and strategise and the comments below would relate the measures discussed to the size of the company. Normally, in large organizations (Rs.1000 crores and above of sales) many initiatives would be under way e.g., Business Process Re-engineering, Total Quality Management, Lean initiatives, SCM programs etc., These may not be linked to targeted improvement of strategic objectives. Each of the initiatives is pushed by different champions in the organisation and compete for scarce resources. Managers, in a variety of manufacturing and service organizations, who have tried to build Balanced Score Cards for their organizations, have found that it is not as

simple as it seems. The factors which have contributed to the failed experiences include, defects in the structure, errors in the choice of measure etc.

In small companies, the situation is that the alternatives would be chosen based on simple ROI measures; the other factors (considered intangible) being evaluated at the Management level on a subjective basis.

In mid-size companies quoted in the stock market such measures as MVA could be used. An attempt is made to put the above diagrammatically.

### Performance Measurement of Strategic Decisions



### Conclusions

Companies have to grow in a competitive environment, in order to survive. To grow the companies need to strategise. However, to this end it is necessary for the managers to take risks, and experiment so that the company can learn and grow. Suitable metrics need to be chosen. The incentive compensation of the executives must be linked to the performance as indicated by the chosen metric so that the Senior executives keep focused on long term achievements as well as the short term.

In conclusion, while the merit of value-based metrics as such is not in doubt, the choice of metric should very well be decided based on one's convenience and objectives. Smaller companies may use comparatively simple measures such as EVA and MVA. Larger companies may benefit by using more complex metrics. The extent to which one makes the adjustments and refinements to improve

accuracy can also be decided based on the relative importance and sensitivity of making very refined calculations. It may also be prudent where necessary to compare the results arrived at from more than one metric.

**Ultimately, it is not the metric that one uses that determines the final result, but how one actually performs.**

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