



Measures of Business Performance in the Knowledge Economy

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Abstract

Today's economy is fundamentally different from the economy that was about four decades ago. Knowledge and knowledge-based assets are more important than anything else for gaining competitive advantage over others. Because of this difference, new measures of performance need to be used along with the traditional ones so as to measure the true performance of companies. No single measure based on financial accounting information can be relied upon because of the inherent limitations of that information itself. Some of the new measures are based on value added by the business like Economic Value Added and Market Value Added. Others measure performance in relation to the key resource for a particular business e.g. human resource in case of information technology industry and brand power in case of personal products industry. The use of non-financial information in measuring performance is also being considered crucial and the measures based on such information are the balanced scorecard (that has developed from a performance measurement model to a strategic management model) and the intangible assets monitor that is being used by Infosys Technologies Ltd. in India. This article attempts to provide an insight into all these new measures of performance being used in today's knowledge economy.

Keywords: balanced scorecard, business performance, economic value added, intangible assets monitor, knowledge-based assets, market value added

Introduction

The importance of business performance measurement across industries has elevated and is being described as a revolution (Bassioni, 2005). The emergence of information era in the last decades of the twentieth century has made obsolete many of the fundamental assumptions of industrial age competition. The companies can no longer achieve sustainable competitive advantage by merely deploying new technology into physical assets and by excellent management of financial assets and liabilities. In the knowledge economy, wealth creation is tied directly to the creation, transformation and capitalisation of knowledge. Knowledge economy companies are built on a new set of assumptions. Kaplan and Norton (1996) have distinguished these companies with industrial age companies on five grounds. First, information technology has enabled today's organizations to integrate supply, production and delivery processes so that operations are triggered by customers' orders and not by production plans as compared to industrial age companies that worked with customers and suppliers through arm's length transactions. Second, information age companies have to offer customised products and services to its diverse customer segments without paying the usual cost penalty for high variety, low volume operations as compared to industrial age companies that used to prosper by offering low cost but standardised products and services. Third, information age companies compete against the best companies in the world. Domestic borders are no longer a barrier to competition. Fourth, today's companies that compete in industries with rapid technological innovation have to be masters at anticipating customer's future needs, devising radical new product and service offerings. Even for companies in industries with relatively long product life cycles, continuous improvement in processes and product capabilities is critical for long-term success. Last, industrial age companies created sharp distinctions between two groups of employees. The first group was the intellectual elite i.e. the managers and engineers. Companies used their analytical skills to design products and processes, select and manage customers and supervise day-to-day operations. The second group was composed of people who actually produced the products and delivered the services. This direct labour work force was a principal factor of production for those companies but they used only their physical capabilities and not their minds. As compared to this, in today's companies, all employees must contribute value by what they know and by the

information they can provide. Investing in, managing and exploiting the knowledge of every employee has become critical to the success of information age companies.

The industrial age companies relied on traditional measures of business performance that were based on accounting information only and most of such measures were capital related measures like the return on capital employed (ROCE). ROCE is defined as operating income divided by the book value of capital employed. The problem being faced by financial analysts is that whether these traditional measures of performance, measure efficiently, the fitness levels of today's companies or not. The answer to this question is that such performance measures are inappropriate for the purpose mainly due to the following reasons. First, such measures in the form of ratios increase with time as the fixed assets (the denominator in most calculations) are frequently depreciated at rates much more rapid than the erosion in earnings and cash flows generated by those assets (the numerator in the same calculations). In addition, fixed assets are usually recorded in the balance sheet at historic nominal values, whereas earnings and cash flows generally increase with inflation. Second, accounting ratios vary widely depending on the accounting principles used. Large variations in accounting ratios often results from differences in both the interpretation and application of accounting standards, as well as from regional or national differences in the standards themselves. Third, capital related measures cannot judge the competitive position of all companies universally. This is so because capital is not the key factor for all companies. There are other important factors where businesses need to build competitive strengths like human resources, brand power and technological skills. Therefore, for some businesses, capital may not be the prime factor. For example, for infotech companies, people are more important than anything else and hence, higher weightage should be given to performance measured in relation to the human resource rather than capital employed. Last, such measures do not consider the non-financial information in the form of intangible assets like employee skills, motivation, customer loyalty etc. that are critical to the performance of any company. According to Gacia-Merino et al. (2010), the traditional factors of production have become secondary, while corporate success is primarily based on the development and utilization of intangible resources. Also, to be successful in today's competitive environment, a good performance measurement system should incorporate strategic success factors (Lee and Han, 1995).

The next question that follows is what measures of performance should be used then? This article tries to answer this question by critically analysing the performance indicators for the knowledge economy companies starting with the basic indicator i.e. a profit.

The Basic Performance Indicator

The objective of any business organization is to fulfill a need of the community and the essential measure of achievement is that the community accepts the service at the given price and the total revenue of the organization exceeds the total outlay i.e. it operates at a profit. Thus, profit is the first performance indicator of any business organization. The amount of profit can be compared internally either with the past achievements or with a defined target of achievement. Comparisons can also be made against the performance of other business organizations but such comparisons will not indicate the adequacy of profit.

Adequacy of profit is related to the needs of the business which in turn are governed by its objectives and composition. However, the amount of profit must be adequate to provide for the cost of capital i.e. the reward expected or demanded by different classes of shareholders as well as providers of other long-term capital; the investment needs of the business including costs of replacing assets in inflationary circumstances and costs of additional assets for growth and working capital requirements; the reserves and contingencies deemed necessary as protection against expected or unexpected circumstances. The adequacy of profit needs will be peculiar to each business and the different phases of its evolution.

Economic Value Added (EVA) and Market Value Added (MVA)

As said above, the profit earned by a company must provide for the cost of capital. This is absolutely necessary for a company to create wealth. Unless a business returns a profit that is greater than its cost of capital, it may be said to operate at a loss. The enterprise would pay taxes as if it had a genuine profit but it cannot be said to create wealth if it returns less to the economy than it devours in resources. The concept of Economic Value Added (EVA)¹ is also based on this very argument.

EVA is net operating profit minus an appropriate charge for the opportunity cost of all capital invested in an enterprise. It is an estimate of true economic profit or the amount by which earnings exceed or fall short of the required minimum rate of return that shareholders and lenders could get by investing in other securities of comparable risk.

There are basically two parts to EVA - Efficiency and Growth. EVA is the difference between the percent rate of return and the percent cost of capital or what is called the return spread (that is a measure of efficiency) times the capital (that is a measure of size). To increase EVA, a company can improve its efficiency, reduce its cost of capital or increase its capital. It is an issue of both quality and quantity. EVA, as a measure, points out that growth without efficiency is bad and also that efficiency without growth isn't really much better. The four key strategies to increase value in the EVA framework are to improve the return earned on existing capital, invest as long as returns exceed the cost of capital, divest capital when returns fail to achieve the cost of capital and reduce cost of capital by optimizing capital structure.

EVA also provides a road-map to the ultimate goal of improving Market Value Added (MVA)². By definition, MVA is the present value of all future EVAs. MVA measures the value added by the management of a company over and above the capital invested in it by the investors. Market Value Added is computed as the excess of market value of the firm over the economic capital.

Thenmozhi (2000) has studied the MVA relationship of share price with MVA per person (MVAPS), Earning Per Share (EPS), Return on capital employed (ROCE) and Return on Net Worth (RONW). He concluded that MVA and MVAPS are better performance measures influencing the share price behaviour. However, neither MVA/MVAPS nor any single measure could explain stock price variance more satisfactorily. This implies that a combination of performance measures have to be used to understand the impact on share price behaviour. As far as investors are concerned, MVAPS is an important measure which should be considered while making their stock market decisions compared to the other traditional measures of performance.

Gandhok et al (2002) have presented the ranking of the top 500 companies on the basis of wealth created. The ranking, till year 2003, was done on the basis of MVA of the companies. Ranking of year 2004 (Gandhok and Subramanian, 2004) has been done according to a different methodology that is based on EVA rather than MVA. This might be so because MVA need not necessarily reflect true performance of a company as the market value of a company could be tainted with imperfections in the capital market.

Beyond Capital Related Metrics of Performance

Performance of a company is generally measured in terms of size related metrics like total market capitalisation or sales. However, these metrics are no indicators of the ability of a company to take on the future. For this purpose, a new approach is needed and an effort has been made in which ET Intelligence Group (ETIG) joined hands with Boston Consulting Group (BCG). The idea behind the new approach is that it is not advisable to use capital related measures to judge competitive position as capital is not the key factor for all companies. There are other important factors where businesses need to build competitive strengths like human resource, brand power and technological skills. The criterion for identifying the key factor is "Where does a business spend most annually?" Whether it is on marketing, people or capital? The study done by the ETIG-BCG group, on considering the industry aggregate figures, showed that infotech industry is people intensive as the total salary spend is much higher than other expenses like marketing and capital costs. Personal products, Foods, Consumer durables and Paints are brand intensive businesses as marketing spend (i.e. advertising plus promotion plus distribution) is greater than salary and capital costs. Capital intensive businesses were automobiles, oils and petrochemicals, metals, textiles, pharmaceuticals and so on because capital costs (i.e. cost of capital multiplied by capital employed) is greater than salary and marketing cost. According

¹ EVA is the registered trademark of Stern Stewart & Co.

² MVA is the registered trademark of Stern Stewart & Co.

to the study, research and development spend is not the highest expense for any business in India yet. The measures that should be used in addition to the existing ones for measuring performance according to the key factor identified for an industry are shown in Table 1.

Table 1: Performance measures according to key factor

Nature of Industry	Performance Measure
For people intensive industries	Profit per employee
For brand intensive industries	Profit per brand
For capital intensive industries	Return on capital employed

These measures along with the existing ones, would help in measuring performance of companies more objectively. All the measures discussed till now are based on financial data. It is now being emphasised by many research scholars that non-financial information should also be used for measuring performance.

Beyond Financial Measures of Performance

In 1990, the Nolan Norton Institute, the research arm of KPMG, sponsored a one-year multi-company study which was motivated by a belief that existing performance measurement approaches, primarily relying on financial accounting measures, were becoming obsolete. The study participants believed that reliance on summary financial performance measures were hindering organizations' abilities to create future economic value.

Kaplan and Norton (1996) developed a new performance measurement model to what they labeled a "Balanced Scorecard" organized around four distinct perspectives, that is, financial, customer, internal business process and innovation and learning. These four perspectives represent a balance between external measures for shareholders and customers and internal measures of critical business processes, innovation and learning and growth. The perspectives are balanced between the outcome measures i.e. the result from past efforts (which are easily quantifiable) and the measures that drive future performance (which are somewhat subjective and judgmental). These four perspectives of the Balanced Scorecard (BSC) are discussed below.

Financial Perspective

The BSC retains the financial perspective since financial measures are valuable in summarizing the readily measurable economic consequences of actions already taken. Financial performance measures indicate whether a company's strategy, implementation, and execution are contributing to bottom-line improvement. Financial objectives typically relate to profitability which is measured, for example, by operating income, return-on-capital-employed or more recently, economic value-added. Alternative financial objectives can be rapid sales growth or generation of cash flow.

Customer Perspective

In the customer perspective of the Balanced Scorecard, managers identify the customer and market segments in which the business unit will compete and the measures of the business unit's performance in these targeted segments. This perspective typically includes several core or generic measures of the successful outcomes from a well-formulated and implemented strategy. The core outcome measures include customer satisfaction, customer retention, new customer acquisition, customer profitability, and market and account share in targeted segments.

Internal Business Perspective

In the internal business process perspective, executives identify the critical internal process in which the organization must excel. These processes enable the business unit to deliver the value that will attract and retain customers in targeted market segments, and satisfy shareholder expectations of excellent financial returns.

The internal business process measures focus on the internal processes that will have the greatest impact on customer satisfaction and achieving an organization's financial objectives.

The internal business process perspective reveals two fundamental differences between the traditional and the BSC approaches to performance measurement. Traditional approaches attempt to monitor and improve existing business processes. They may go beyond financial measures of performance by incorporating quality and time based metrics. But still focus on improvement of existing processes. The scorecard approach, however, will usually identify entirely new processes at which an organization must excel to meet customer and financial objectives.

Learning and Growth Perspective

The fourth perspective of the BSC, learning and growth, identifies the infrastructure that the organization must build to create long-term growth and improvement. The customer and internal business process perspectives identify the factors most critical for current and future success. Businesses are unlikely to be able to meet their long term targets for customers and internal processes using today's technologies and capabilities. Also, intense global competition requires that companies continually improve their capabilities for delivering value to customers and shareholders.

Organizational learning and growth comes from three principal sources: people, systems, and organizational procedures. The financial, customer, and internal business process objectives on the balanced scorecard typically will reveal large gaps between the existing capabilities of people, systems and procedures and what will be required to achieve breakthrough performance. To close these gaps, businesses will have to invest in re-skilling employees, enhancing information technology and systems and aligning organizational procedures and routines. These objectives are articulated in the learning and growth perspective of the Balanced Scorecard.

Balanced Scorecard supplements the short-term financial measures with four new management processes that link the long-term strategic objectives with short-term actions. The first new process, "Translating the Vision" helps managers build a consensus around the organization's vision and strategy. The top level management might work for several months to develop a mission statement but if the managers at the operational level are unable to translate those words into the appropriate action, a large gap would exist between the mission statement and the employees' knowledge of how their day to day actions can contribute to realizing the company's vision.

The second process, "Communicating and Linking" lets managers communicate their strategy up and down the organization and link it to departmental and individual objectives. Traditionally, departments are evaluated by their financial performance and individual incentives are tied to short term financial goals. The scorecard gives managers a way of ensuring that all levels of the organization understand the long term strategy and that both departmental and individual objectives are aligned with it.

The third process, "Business Planning" enables companies to integrate their business and financial plans. Almost all organizations today are implementing a variety of change programs, each with its own champions, gurus and consultants and each competing for senior executive's time, energy and resources. Managers find it difficult to integrate those diverse initiatives to achieve their strategic goals - a situation that leads to frequent disappointments with the program's results. But when managers use ambitious goals set for balanced scorecard measures as the basis for allocating resources and setting priorities, they can undertake and co-ordinate only those initiatives that move them toward their long term strategic objectives.

The fourth process, "Feedback and Learning" gives companies the capacity for what is called as strategic learning. Existing feedback and review processes focus on whether the company, its departments or its individual employees have met their budgeted financial goals.

The innovative CEOs use the balanced scorecard not only to clarify and communicate strategy, but also to manage strategy. In effect, the balanced scorecard has evolved from an improved measurement system to a core management system. The senior executives in some companies use the balanced scorecard as the central organizing framework for important managerial processes like individual and team goal setting, compensation, resource allocation, budgeting and planning, and strategic feedback and learning.

Another important tool that is based on non-financial information is the Intangible Assets Monitor (IAM). The IAM was developed by Sveiby (1997). The IAM framework divides the market value of a company into the tangible net book value and the intangible assets. Intangible assets are classified into three categories i.e. the external structure, internal structure and individual's competence.

External structure consists of relationships with customers and suppliers, brand names, trademarks, the reputation or image of the business. The external structure may or may not be legally owned by the company. Internal structure consists of a wide range of patents concepts, models and computer and administrative systems. These are created by the employees or bought from outside and are thus generally 'owned' by the organization. Individual competence is people's capacity to act in various situations. It includes skill, education, experience, values and social skills. People are the only true agents in business. All assets and structures, whether tangible or intangible, are the result of human action and depend ultimately on people for their continued existence.

According to Sveiby (1997), the IAM is similar to the balanced scorecard in that both suggest that non-financial measures must complement the financial indicators. Both concepts categorise the non-financial, the intangible capital into three parts. The categorisation is also similar with different names. For instance, customer perspective of BSC is similar to external structure of IAM, internal business perspective of BSC is similar to internal structure of IAM and learning and growth perspective of BSC is similar to people's competence of IAM. Both concepts also argue that the non-financial ratios and indicators must be lifted from the operational to the strategic level of the firm. Both also agree that this approach should be used for improving learning and not merely as a new control instrument. However, there are some theoretical differences as given by Sveiby (1997). One is that the IAM is based on the notion of people as an organization's only profit generators. Human actions are converted into both tangible and intangible assets. The BSC does not make this assumption. There are a few other theoretical differences also but what is important is the realisation of the fact that metrics based on non-financial information for measuring intangible assets have become indispensable in the knowledge economy.

CONCLUSION

All the above said measures emphasise that the traditional summary financial performance measures are grossly inappropriate for measuring the performance of companies in the present information age. New performance measures are inevitable and especially those that rely on non-financial information will go a long way. Knowledge based companies are keen on developing a framework of performance measurement that gives due weightage to the intangible assets not reflected in the financial statements. This is reflected in the annual report of Infosys wherein an economic value added statement, an intangible assets score-sheet that reflects the knowledge capital of the company and the valuation of 'Infosys' brand have been reported as additional information to shareholders. The objective of such information, according to the annual report, is to provide investors a tool for evaluating the market-worthiness of the company. More of such information should be reported by companies so as to enable the investors to evaluate business performance meaningfully and take informed decisions. Meaningful performance measurement will prove to be a challenging task for the investors as well as the financial managers of tomorrow.

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