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TRADITIONAL PERFORMANCE MEASUREMENT SYSTEMS: LIMITATIONS, CRITICISMS

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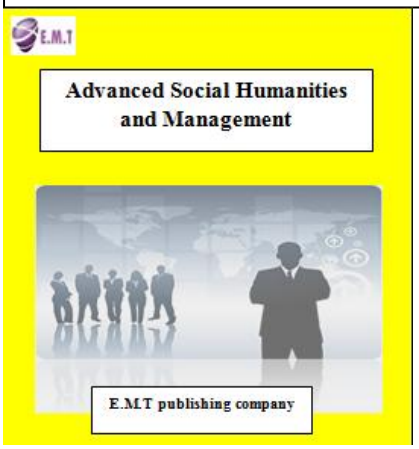


ABSTRACT

Prior studies have identified problems with traditional management control and performance measurement systems to evaluate managerial and business unit performance (Kaplan and Norton, 1996; Olve, Roy, and Wetter, 1999). One response has been the use of the balanced scorecard (BSC) to provide a more causal-linked comprehensive set of financial and non-financial measures of performance. This paper reviews several accepted concepts of performance measurement systems with emphasis on the balanced scorecard (BSC).

Keywords: Performance Measurement Systems, Traditional Performance Measurement Systems, Balanced Scorecard

INTRODUCTION

Prior studies show disadvantages from traditional management control and performance measurement systems to evaluate managerial performance (see, for example, Johnson and Kaplan, 1987; Kaplan and Norton, 1996a; Olve, Roy and Wetter, 1999). In the last decade, traditional management control and performance measurement systems have been increasingly criticised on the basis that they were designed for an environment of mature products and stable technologies. This is in contrast to businesses today, which are changing rapidly (Olve et al., 1999). Hence, evaluations based solely on these attempts will not meet the needs of the contemporary business environment.

In response to the criticisms aimed at the traditional management control and Performance measurement systems, many scholars tried to develop new concepts of management control and performance measurement systems to overcome the limitations of the traditional systems (see, for example, Kaplan and Norton, 1992; Otley, 2001). Some of the innovations included: activity-based costing; activity-based budgeting; activity-based cost management; economic-value-added; and the balanced scorecard (BSC), developed by Kaplan and Norton (Otley, 2001)

Of these innovations, the BSC arguably constitutes the most significant development in management accounting. This is reflected by the fact that it has been adopted widely around the world (Malina and Selto, 2001). The BSC has been developed to provide a superior combination of non-financial and financial measures to meet the shortcomings of traditional management control and performance measurement systems (Kaplan and Norton, 1992).

LITERATURE REVIEW

Review of Performance Measurement Systems

Historically, literature concerning performance measurement can be divided into two phases (Ghalayini, Noble and Crowe,1997). The first phase started in the 1880s and ended in the 1980s. This phase emphasised financial measures of performance such as profit, return on investment and return on assets. The second phase began in the early 1980s. This phase arose due to the emergence of global competition which forced companies to implement new technologies and philosophies of production and management (Ghalayini et al., 1997).

Limitations of Traditional Performance Measurement Systems

Despite a multitude of literature on traditional performance measurement systems, no specific definition exists. In fact, researchers have used many terms to refer to traditional performance measurement systems. For example: cost accounting (manufacturing cost accounting) (Drucker, 1990; Blenkinsop and Burns, 1992); productivity (Skinner, 1986); traditional cost accounting systems (Kaplan, 1983; Ghalayini et al., 1997); traditional performance measurement systems, traditional management cost systems and traditional performance measures (Ghalayini et al., 1997; Bourne, Mills, Wilcox, Neely and Platts, 2000); traditional accounting systems (Eccles, 1991; Kaplan, 1983); traditional accounting-based approaches (Burgess, Ong and Shaw, 2007); and traditional measures of performance (Olsen et al., 2007).
Despite the proliferation of terms regarding traditional performance measurement systems, there seems to be agreement based on traditional accounting or cost accounting systems which focus on financial performance measures (Ghalayini et al., 1997), for example, return on investment (ROI), return on assets (ROA), return on sales (ROS), purchase price variances, sales per employee, profit per unit of production and productivity.
Over the last decade, traditional performance measurement systems have been increasingly criticised on the basis that they were designed for an environment of mature products and stable technologies (Drucker, 1990; Skinner, 1986; Ghalayini et al., 1997; Eccles, 1991; Kaplan, 1983; Johnson and Kaplan, 1987; Ittner and Larcker, 2001; Kaplan and Norton, 1996a; Olve et al., 1999; Bourne et al., 2000; Blenkinsop and Burns, 1992; Burgess et al., 2007; Olsen et al., 2007). Moreover, Neely (1999) argued that there are seven main reasons that lead to the criticism of the traditional performance measurement systems. These reasons are:
(1) the changing nature of work;
(2) increasing competition;
(3) specific improvement initiatives;
(4) national and international awards;
(5) changing organisational roles;
(6) changing external demands; and
(7) the power of information technology.

Therefore, traditional performance measurement systems are designed for a mature product with stable technology in contrast to the present rapidly changing business environment.Not surprisingly, the traditional performance measurement system is seen as inadequate in meeting the needs of the contemporary business environment (Olve et al., 1999).
In fact, many writers argue that the exclusive use of traditional measurements in today's businesses leads to several limitations, including the following.

- A concern with direct labour efficiency (Skinner, 1986; Drucker, 1990; Blenkinsop and Burns, 1992; Ghalayini et al., 1997). Specifically, the heavy focus on direct labour efficiency is based on the realities of the 1920s when direct labour accounted for 80% of all manufacturing costs other than raw materials. This technique would be misleading today since currently very few companies have direct labour costs that run as high as 25% (Drucker, 1990). As a result, it fails to provide or support a coherent manufacturing strategy, since the company effort focuses on being a low-cost producer (Skinner, 1986).
- Overemphasis to achieve and maintain short-term financial results (Kaplan, 1983; Skinner, 1986; Eccles, 1991; Kaplan and Norton, 1996b). This overemphasis on short-term financial results can be dangerous since it might force the manager to manipulate the reporting figures due to incentives (Eccles, 1991).
- Furnishes misleading information for decision-making (Drucker, 1990; Ghalayini et al., 1997). Financial reports are a lagging metric since they are usually closed monthly, and are a result of decisions made one or two months prior, making it too old to be useful (Ghalayini et al., 1997).

- Fails to consider the requirements of today's organisation and strategy (Skinner, 1986). The heavy emphases on cost reductions hinder innovation, as well as the ability to introduce rapidly product changes or develop new products (Skinner, 1986).
- Encourages short-term thinking and sub-optimisation (Skinner, 1986; Olve et al., 1999; Neely, 1999; Olsen et al., 2007). Thus, short-term financial focus discourages long-term thinking, for example, it can lead to R&D reductions, cutbacks in training and postponement of investment plans (Olve et al., 1999).
- Provides misleading information for cost allocation and control of investments (Johnson and Kaplan, 1987). Moreover, the numbers generated by traditional performance measurement systems often fail to support the investments in new technologies and markets that are essential for successful performance in global markets (Eccles, 1991).

To respond to the criticisms of the traditional performance measurement systems, many scholars tried to develop new concepts of performance measurement systems that can solve the limitations of the traditional systems (see, for example, Kaplan and Norton, 1992; Otley, 2001). Some of the innovations included activity-based costing; activity-based cost management, economic value added; and the BSC (Otley, 2001).

The increasing emphasis on the non-financial performance measures has been widely discussed in the growing body of accounting literature (see, for example, Amir and Lev, 1996; Ittner, Larcker and Rajan, 1997; Ittner and Larcker 1998a, 1998b; Banker, Potter and Srinivasan, 2000). Specifically, this is with regards to the predictive ability and the value relevance of the non-financial performance measures. The following is a review of the main studies related to this phenomenon.

Amir and Lev (1996) examined the value-relevance of non-financial information in the wireless communication industries. Their primary motivation centered on the fast-changing, technology-based industries, where investment activities in intangibles such as R&D, customer-base creation, franchise and brand development is very substantial. Such investments are either immediately expensed in financial reports or arbitrarily amortized. Consequently, while significant market values are created in these industries by production and investment activities, the key financial variables, such as earnings and book values, are often negative or excessively depressed and appear unrelated to market values.

In their study, Amir and Lev (1996) employed earnings, book values, and cash flows to represent financial information, while POPS (i.e., an abbreviation for 'Population Size' in the cellular trade (Amir and Lev, 1996, p. 21)) as a growth proxy and market penetration embodied the non-financial indicators. They found that financial information alone is largely irrelevant for the valuation of cellular companies. However, when combined with non-financial information, and after adjustments are made for the excessive expensing of intangibles, some of these variables do contribute to the explanation of stock prices. They concluded that their finding demonstrates the complementarity between financial and non- financial information, although the value-relevance of non-financial information in the cellular industry overwhelms that of traditional financial indicators.

Ittner et al. (1997) examined factors that influenced the choice of performance measures in annual bonus contracts. They argued that organisational strategy, quality strategy, regulation, financial performance, exogenous noise in financial performance measures, and the influence of a CEO over the board of directors are the most important factors that impact on the choice of performance measures in annual bonus contracts. Using cross-sectional latent variable regression analysis of data from 317 firms for the year 1993-1994 in the Lexis/Nexis database, Ittner et al. (1997) found that firms pursuing an innovation-orientated prospector strategy tend to place relatively greater weight on non-financial performance in their annual bonus contracts. Similarly, firms following a quality-orientated strategy place relatively more weight on non-financial performance.

Furthermore, they found evidence that regulation has an impact on the choice of performance measures, where regulated firms place relatively greater weight on non-financial performance than other firms. Ittner et al. (1997) also established that the noise4 of financial performance influenced the choice of performance measures. Specifically, the greater the noise in financial performance, the more weight placed by the firms on non-financial performance. However, they were unable to provide any evidence to support claims that powerful CEOs use their influence over the board of directors to encourage the use of non-financial performance measures in annual bonus contracts.

In a further study Ittner and Larcker (1998b), using customer and business-unit data, found modest support for claims that customer satisfaction measures are leading indicators of customer purchase behaviour (retention, revenue, and revenue growth), growth in the number of customers and accounting performance (business-unit revenue, profit margins, and return on sales). They also found some evidence that firm-level customer

satisfaction measures can be economically relevant to the stock market but are not completely reflected in contemporaneous accounting book value.

Banker et al. (2000) investigated the relationship between non-financial measures and financial performance and the performance impacts of incorporating non-financial measures in incentives contracts. To answer their research questions, they analysed time-series data for 72 months from 18 hotels managed by a hospitality firm in the United States of America. In their study, Banker et al. (2000) used consumer satisfaction as the non-financial performance measure, while employing operating profit and its various components to proxy financial performance measures. Their result suggests that at the research site, non-financial measures of customer satisfaction help predict future financial performance.

Additionally, the association between financial and non-financial performance may be a result of repeat purchase as opposed to increase price premiums charged to customers. This finding is consistent with the evidence obtained by Ittner and Larcker (1998b) who found customer satisfaction measures to be leading indicators of consumer growth. Nevertheless, Banker et al. (2000) did not find evidence that supported the assertion that increased customer satisfaction is associated with increased operating costs, although it is possible that expenditures on capital investments may have increased to support a customer-satisfaction strategy.

On the issue of the performance impact of incorporating non-financial measures in incentives contracts, Banker et al. (2000) discovered that the change to incentive plans had a significant positive effect on revenues after controlling for inflation and competitors' performance. Based on this result, Banker et al. (2000) concluded that both non-financial and financial performance improved following the implementation of an incentive plan that included non-financial performance measures.

A study by Said, HassabElnaby and Wier (2003) investigated the performance consequences of the implementation of non-financial performance measures. Using panel data (derived from Lexis/Nexis database), covering the period 1993-1998, they compared the performance of a sample of firms that used both financial and non-financial measures (1,441 firm-year observations) to a matched sample of firms that based their performance measurement solely on financial measures (1,441 firm-year observations). The intention of Said et al. (2003) was to examine the implications of non-financial performance measures included in compensation contracts on current and future performance. Their empirical evidence suggests that non-financial measures are significantly associated with future accounting-based and market-based returns, and with contemporaneous data, the same result held for market-based return but not accounting-based returns. These results are consistent with previous studies that show non-financial performance measures are associated with subsequent firm economic performance (Banker et al., 2000).

Said et al. (2003) also found evidence that the use of non-financial measures is significantly associated with an innovation-orientated strategy, adoption of strategic quality initiatives, length of product development, industry regulation and the level of financial distress. This discovery supports the results provided by Ittner et al. (1997) who examined the factors that influence the choice of performance measures in annual bonus contracts. Furthermore, Said et al. (2003) found evidence that the relationship between the use of non-financial measures and future and current firm performance depends on the match between use of non-financial measures and the firm's characteristics.

In line with previous studies that investigated non-financial performance measures (Ittner et al., 1997; Banker et al., 2000; Said et al., 2003), HassabElnaby, Said and Wier (2005) empirically examined firms' decisions to retain the use of non-financial performance measures as part of the compensation contracts following the initial implementation. Based on the sample of 91 firms examined in Said et al. (2003) that used non-financial performance measures during the period 1993-1998, HassabElnaby et al. (2005) found that firms performed significantly better when they retained their non-financial measures. The evidence shows the importance of performance as a motivation to retain the non-financial measures in compensation contracts. HassabElnaby et al. (2005) also found evidence consistent with prior research (Ittner et al., 1997; Said et al., 2003) that indicates the significance of considering the match between firm characteristics and the use of non-financial measures. Moreover, HassabElnaby et al. (2005) found that prior performance is time variant with respect to the decision to retain non-financial performance measures while firm characteristics are time invariant.

The discussion above illustrates that there is a growing body of literature devoted to potential benefits of non-financial performance measures. However, Ittner and Larcker (2003) found that only a few companies realize these benefits. They found that most companies fail to identify, analyse, and act on the right non-financial measures, where little attempt is made to identify areas of non-financial performance that might advance their chosen strategy. Additionally, these companies have not demonstrated a cause-and-effect link between improvement in those non-financial areas and the financial areas.

Ittner and Larcker (2003) argue that these companies often fail to establish the links partly due to laziness or thoughtlessness. Consequently, this lack of cause-and-effect link between non-financial and financial measures increases the possibility of self-serving managers being able to choose and manipulate measures for their own objectives, particularly to procure bonuses. Furthermore, Ittner and Larcker (2003) identified a number of mistakes that companies made when attempting to measure non-financial performance. Those mistakes were: 1) not linking measures to strategy; 2) not validating the links; 3) not setting the right performance targets; and 4) incorrect measurement.

Hence, the continued shortfalls of companies in identifying and implementing strategies optimally to exploit their advantages (financial and non-financial) gave rise to innovations of management control and performance measurement systems to overcome this (Ittner and Larcker, 2003).

As Otley (2001) identified, some of the innovations include activity-based costing (ABC); activity-based budgeting (ABB); activity-based cost management (ABCM); activity-based management (ABM) and economic value added (EVA).

The ABC was devised by Kaplan in 1983 (Innes and Mitchell, 1998) as a 'more accurate method of product costing'. It was considered a technical improvement to traditional accounting techniques; however, its major contribution was that it provided a platform for other measures to build from (Otley, 2001). Otley goes on to add that the advantages of implementing the ABC were due to its ability to develop better methods of overhead cost management and business practice improvement, rather than being able to provide a better knowledge of product costs. This can be seen with the development of the ABCM and ABM which were derived from the ABC.

The EVA approach is another recently popular approach (mid-1990s). It was developed by the Stern Stewart Corporation as an overall measure of financial performance, focusing on assisting the manager to deliver shareholder value. It does this by avoiding some of the performance measurement problems recently experienced with other financial performance measures (Otley, 1999).

Of all the proposed managerial control and performance measurement systems, however, it is the BSC which has proved to be the most significant development in management accounting, resulting in its world-wide adoption (Malina and Selto, 2001).

What is the Balanced Scorecard?

According to its creators (Kaplan and Norton, 1992), the BSC**5** has been offered as a superior combination of non-financial and financial measures developed to meet the shortcomings of traditional management control and performance measurement systems.

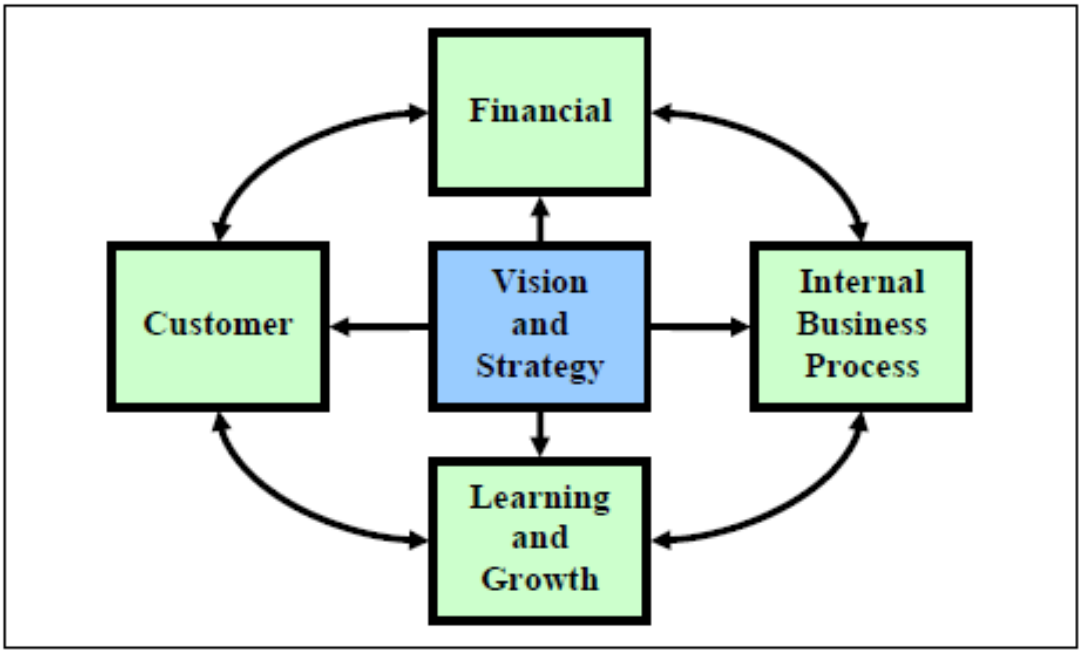
The BSC incorporates the financial performance measures with the non-financial performance measures in areas such as customers, internal processes and learning and growth. Consequently, the BSC includes measures of financial performance, customer relations, internal business processes and organisational learning and growth. The combination of financial and non-financial measures of the BSC was developed to link short-term operational control to the long-term vision and strategy of the business (Kaplan and Norton, 1992, 1996a, 2001).

The BSC, therefore, explicitly adopts a multi-dimensional framework by combining financial and non-financial performance measures (Otley, 1999). Hence, the BSC allows a more structured approach to performance management while also avoiding some of the concerns associated with the more traditional control methods.

The BSC allows for the evaluation of managerial performance as well as the individual unit or division. In fact, Kaplan and Norton (1993, 2001) argue that one of the most important strengths of the BSC is that each unit in the organisation develops its own specific or unique6 measures that capture the unit's strategy, beside common measures that are employed for all units (Kaplan and Norton, 1993, 2001). Therefore, there are financial and non-financial measures in all four perspectives (i.e., financial, customers, internal process, and learning and growth) that should be used to evaluate managerial/unit performance. Some of the specific measures chosen for each individual business unit in the organisation will likely differ from those from other units because in diversified organisations, individual business units may face different competitive pressures, operate in different product markets, and may therefore require different divisional strategies (Kaplan and Norton, 1993). Consequently, business units may develop customized scorecards to fit their unique situations within the context of the overall organisational strategy (Kaplan and Norton, 2001). Hence, even though business units

within a company may have several BSC measures in financial measures, the non-financial measures represent what individual units must accomplish in order to succeed (Kaplan and Norton, 1996b).
The four critical perspectives that can be translated to conceptualise the organisation's vision and strategy (financial, customer, internal business process, and learning and growth) is illustrated in Figure 1 .

Figure 1: The balanced scorecard: A framework to translate a strategy into operational terms



Source: Kaplan and Norton (1996a, p. 76)

CONCLUSION

In this paper the limitations of traditional performance measurement systems have been examined. These limitations led to the development of several new concepts of performance measurement systems that incorporated financial and non-financial performance measures to overcome the limitations. One of the new systems is the BSC.
Organizations are heavily investing in enterprise-wide information systems and performance scorecards intended to improve strategic decision making ((IMA), 1996). However, there is a need for better evidence that using these technologies systematically improves organizational performance (Ittner and Larcker, 1998).
However, recent research suggests the use of the BSC has its own difficulties including one referred to as common-measure bias (Lipe and Salterio, 2000); accordingly the benefits of the BSC cannot be fully exploited.
Implementing the BSC is not an easy task. Prior studies that examined BSC implementation identified mistakes or difficulties in the development and implementation of it. For example, companies do not build good communication and commitment prior to the implementation of the BSC (Letza, 1996); company philosophy had not been incorporated into the BSC (Letza, 1996); at times, the BSC measures the wrong thing right (Ittner and Larcker, 2003); while its implementation can result in conflict between managers (Ittner and Larcker, 2003). Another mistake that can be identified from prior research is the existence of the common-measure bias phenomenon in the BSC. This phenomenon was found to be due to human cognitive limitation that has been identified from psychology theory (Slovic and MacPhillamy, 1974; Lipe and Salterio, 2000).

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