Process improvement through performance measurement

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Process improvement through performance measurement: the balanced scorecard methodology

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Abstract

One of the hallmarks of leading-edge organisations – be they public or private – has been the successful application of performance measurement to gain insight into, and make judgements about, the organisation, and the effectiveness and efficiency of its programmes, processes, and people. The balanced scorecard (BSC) is a widely used management framework for the measurement of organisational performance. The BSC concept suggests that the state of processes of an organisation can be best assessed by taking a "balanced" view across a range of performance measures. This article seeks to offer an insight into the BSC, the key features of the concept and issues that must be addressed in its implementation as a process improvement technique. Further, it identifies the BSC methodology as a means of deploying strategic direction, communicating expectations, and measuring progress towards agreed objectives.

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The challenge of assessing performance

Literally, performance measurement (PM) is the process of quantifying past action (Neely, 1998). PM systems historically developed as a means of monitoring and maintaining organisational control, which is the process of ensuring that an organisation pursues strategies that lead to the achievement of overall goals and objectives (Nanni *et al.*, 1990). In attempting to change the focus of an organisation, Brignall (1992) suggests that PM is a key agent of change. Even when an organisation has attained such a focus, however, PM plays a vital role in maintaining attention on changing customer requirements and competitor actions. PM is a key factor in ensuring the successful implementation of an organisation's strategy (Fitzgerald *et al.*, 1993). Business and business unit performance needs to be measured in relation to the objectives identified in the planning process. Attention to PM in the context of modern business has been focused on by the admission that financial information that had traditionally been provided to organisations for control and management purposes was no longer adequate for fully effective PM to be achieved.

Dixon *et al.* (1990) suggest that inappropriate PM is a barrier to organisational development since measurement provides the link between strategies and actions. Inappropriate measures lead to actions incongruent with strategies, however well formulated and communicated. Appropriate measures should provide and strengthen this link, and both lead to attainment of strategic goals and impact on the goals and strategies needed to achieve them.

Need for a range of performance measures

The importance of PM in an organisation has been emphasised by many authors. Oakland (1993) suggests that measurement plays an important role in quality and productivity improvement to (cited in Sinclair and Zairi, 1995):

- ensure customer requirements have been met;
- provide standards for establishing comparisons;

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- provide visibility and provide a "scoreboard" for people to monitor their own performance levels;
- highlight quality problems and determine which areas require priority attention;
- give an indication of the costs of poor quality;
- justify the use of resources; and
- provide feedback for driving the improvement effort.

Why is there so much focus on business PM? It is impossible to answer this question definitely, but evidence suggests that there are seven main reasons, according to Neely (1998):
(1) the changing nature of work;
(2) increasing competition;
(3) specific improvements initiatives;
(4) national and international quality awards;
(5) changing external demands;
(6) the power of information technology; and
(7) changing organisational roles.

Despite the diversity of opinion, however, each of the reasons offered falls into one of four generic categories, according to Neely (1998):
(1) check position;
(2) communicate position;
(3) confirm priorities; and
(4) compel progress.

The need for information to stimulate appropriate action and organisational learning at the right level of the organisation and stage of the decision-making process emphasises the need for PM (Brignall and Ballantine, 1996). It was emphasised that in a competitive environment, management-by-exception may suffice so interactive systems may not be needed. In general, professional services face more volatile and uncertain external environments than mass services, and are therefore more likely to need interactive PM systems.

Criticism of traditional financial controls

Much of the criticism of traditional PM systems stems from their failure to measure and monitor multiple dimensions of performance, by concentrating almost exclusively on financial measures (Brignall and Ballantine, 1996). Smart companies are searching for ways to incorporate intangibles – such as quality management, customer retention, research and development and innovation – into their regular performance evaluation. Numerous authors discuss the problems with performance measures based on financial issues:

- they are rarely integrated with one another or aligned to the business processes (Lynch and Cross, 1991);
- measures are often poorly defined (Neely, 1998); and
- traditional performance measures which enterprises have used may not fit well with the new business environment and current competitive realities (Lee *et al.*, 1995).

Further, a number of recent studies highlight the limitations of traditional financial accounting measures and the growing importance of non-financial data (Ernst & Young, 1998):

- Nearly 40 per cent of the market valuation of the average company was "missing from the balanced sheet" (Lev, 1996, cited in Ernst & Young, 1998). For high-technology firms, that percentage was over 50 per cent.
- Of all US controllers 64 per cent reported that their companies were actively experimenting with new ways of measuring, collecting and reporting non-financial data (Institute of Management Accounting, 1998, cited in Ernst & Young, 1998).
- Non-financial criteria constitute, on average, 35 per cent of the investor's decision. For 70 per cent of investors, at least 30 per cent of their decision is attributed to non-financial performance. These criteria are already being used as predictors of financial performance and already have an impact on share price.
- Sell-side research analysts use non-financial data when evaluating companies and making buy/sell decisions.
- The more non-financial measures analysts use, the more accurate are their earnings forecasts.
- The non-financial measures that matter to investors vary across industries, and, within peer groups, from organisation to organisation.
- If an organisation does not strategically manage key non-financial measures, its operating performance and the value of its securities will suffer.

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All of these efforts suggest a growing recognition of the limitations of relying on primarily financial indicators. In a world where relentless technological change and shortened assets are of profound importance, non-financial indicators are essential for characterising an organisation's future financial performance. Further evidence that a revolution in business PM is taking place is provided by the language used in annual reports as ten years ago little mention of non-financial performance would have been made in the chairman and chief executive's statements (Neely, 1998).

Not all non-financial criteria are created equal, according to the study carried out by Ernst & Young (1998). Measures of strategy execution, management credibility, innovation and market position, for example, proved to be far more useful than measures of customer complaints, employee training programmes or environmental and social policies (Table I).

Developing a comprehensive PM system incorporating non-financial measures has frustrated many managers. Drucker (1993) puts the ever-increasing measurement dilemma:

> ... a traditional measure is not adequate for business evaluation. A primary reason why traditional measures fail to meet new business needs is that most measures are lagging indicators. The emphasis of accounting measures has been on historical statements of financial performance. They are the result of management performance, not the cause of it.

In response to the dissatisfaction with traditional PM systems, a number of PM models have been developed in the recent past (Cross and Lynch, 1989; Fisher, 1992; Maskell, 1991; Eccles, 1991; Hronec, 1993; Sink and Tuttle; 1989, Kaydos; 1991). Although several approaches to designing and implementing a system to provide non-financial control have been proposed in the literature, the problem of integrating non-financial measures with financial measures effectively still remains an open question. This paper addresses this issue by means of the balanced scorecard (BSC) (Kaplan and Norton, 1996a).

Table I Which non-financial metrics are of most value?

Most valuable	Least valuable
Strategy execution	Compensation ratios
Management credibility	Use of employee teams
Quality of strategy	Process quality awards
Innovations	Social policies
Ability to attract talented people	Published investor materials
Market share	Quality of customer service organisation
Management experience	
Quality of executive compensation	Quality analyst guidance
Quality of major processes	Quality of investor relations
Research leadership	Number of customer complaints

Source: Ernst & Young (1998)

Performance management strategy

PM has been already described as a process of assessing progress towards achieving pre-determined goals, including information on the efficiency with which resources are transformed into goods and services, the quality of those outputs and outcomes, and the effectiveness of organisational operations in terms of their specific contributions to organisational objectives.

Performance management on the other hand describes the use of PM information to effect positive change in organisational cultures, systems and processes, by helping to set agreed performance goals, allocating and prioritising resources, informing managers to either confirm or change current policy or directions to meet those goals, and sharing results of performance in pursuing goals. According to PEA (1998), a leading-edge organisation seeks to create an efficient and effective performance management system to:

- translate organisational vision into clear measurable outcomes that define success, and that are shared throughout the organisation and with customers and stakeholders;
- provide a tool for assessing, managing and improving the overall health and success of business systems;
- continue to shift from perspective, audit- and compliance-based oversight to an ongoing, forward-looking strategic partnership;
- include measures of quality, cost, speed, customer service, and employee alignment, motivation, and skills to provide an in-depth, predictive performance management system; and
- replace existing assessment models with a consistent approach to performance management.

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Leading organisations agree on the need for a performance management system, which is a structured methodology for using PM information to help set agreed-upon performance goals, allocate and prioritise resources, inform managers to either confirm or change correct policy or programme direction to meet those goals, and report on the success in meeting those goals.

This paper identifies the BSC, developed by Kaplan and Norton (1996a), as a leader in PM and performance management in an attempt to identify an assessment methodology for organisational processes. As described in the preceding sections, this measurement model identifies critical success factors for improving organisational processes, and develops performance measures within its four perspectives. The BSC presented in this paper is a conceptual framework for translating an organisation's vision into a set of performance indicators distributed among four perspectives: financial, customer, internal business processes and learning and growth. Some indicators are maintained to measure the organisation's progress towards achieving its vision; other indicators are maintained to measure the long-term drivers of success, thus acting as a performance management system. Through the BSC, the organisation monitors both its current performance, and its efforts to improve processes, motivate and educate employees, and enhance information systems – that is its ability to learn and improve.

The successful implementation of the BSC in a number of transformation projects showed that it could also be a medium to communicate and align a new strategic approach and it has been successful because it is able to identify linkages between the four key areas that generate and perpetuate success (Hepworth, 1998). The impact of BSC measures considered in isolation would probably be minimal, as success is derived from comprehensive visibility of all key influences. This holistic approach has resulted in better performance, resulting from more informed management decision-making (Hoffecker and Goldenberg, 1994), and the BSC had evolved from an innovative measurement system into a proven management system.

The BSC methodology

In the literature it is frequently argued that performance measures should be derived from strategy; that is, they should be used to reinforce the importance of certain strategic objectives (Skinner, 1969). A strategic management system is therefore needed to find solutions to these questions and create an organisation that:

- is healthy, balanced, efficient and effective;
- provides service to its customers as well as its employees; and
- puts value on results.

BSC presents such a model for strategic PM and management for high performance organisations.

Kaplan and Norton's (1996a) BSC indicated the current round of thinking about expanding the organisational framework upon which such evaluative activities should be based. Evidence from Hackett Benchmarking Solutions, the US management consultancy, which surveyed 1,400 global businesses, shows that almost 50 per cent of companies apply some kind of BSC approach (Littlewood, 1999). Through BSC systems, organisations are gathering critical non-financial data to help pinpoint problems, improve processes and achieve organisational goals – in ways that can be understood and used by all levels of the corporation, from line managers to senior executives. The premise of the BSC is that the reliance of exclusively financial measures of performance is effectively like "trying to drive an organisation by looking in the rear-view mirror, rather than at the road ahead" (Consultancy Business Intelligence, 1999, cited in Ernst & Young, 1998).

Why a BSC?

Balance – a word that indicates the essence of a healthy organisation. Balance is necessary for efficient and effective movement, for the achievement of a rich sound, and for assisting in maximising potential. In the same way, PM systems must achieve a balance which supports progress against predetermined objectives, without suboptimisation.

Over the recent past, organisations have tried various methods to create an organisation that is healthy and sound. By requiring strategic planing and a linking of program activities/performance goals to an organisation's budget, decision-making and confidence in the organisational performance is expected to improve. Major changes are taking place in the way the businesses are managed. Resources are diminishing, regulations are being cut, and the traditional role of overseer redefined into a more positive role. This uncertainty, coupled with a continually changing environment, had forced managers to pursue new ways to meet future demands of the organisations. The answers need to be found to:

- how do we balance a world of fewer regulations with effective risk management?;
- how can this be accomplished with fewer and fewer resources?; and
- what tools can help to meet future challenges while enabling positive cultural change?

The BSC is a management framework that measures the economic and operating performance of an organisation. "Short-termism" of traditional accounting principles can be counter productive; thus, the scorecard's emphasis on non-financial measures is a welcome development. The BSC makes a compelling case for the inclusion of non-financial measures in an organisation's overall measurement system. The power of the framework comes from a second "balance" that goes beyond an *ad hoc* collection of financial and non-financial measures. The scorecard has to tell the story of the organisation's strategy, and that story is told by means of a cause-and-effect model that ultimately links all the measures to shareholder value. Non-financial measures, such as customer retention, employee turnover, and number of new products developed, belong to the scorecard only to the extent that they reflect activities an organisation performs in order to execute its strategy, and thus, these measures serve as predictors of future financial performance.

Scorecard – record or process?

It is important that the scorecard be seen not only as a record of results achieved, and it is equally important that it be used to indicate the expected results. The scorecard in this way will serve as a way to communicate the business plan and thus the mission of the organisation. It further helps to focus on critical issues relating to the balance between the short and long run, and on the appropriate strategic direction for everyone's efforts (Olve *et al.*, 1999). Therefore, the perspective throughout this paper extends beyond creating a system of PM. It has been found out that scorecards have been used in different ways (Olve *et al.*, 1999), but all have a common feature: the scorecards have emerged in recent years at organisations which have perceived a need for parallel use of different kinds of metrics on their business in all phases of the planning and controlling process.

The BSC model of Kaplan and Norton

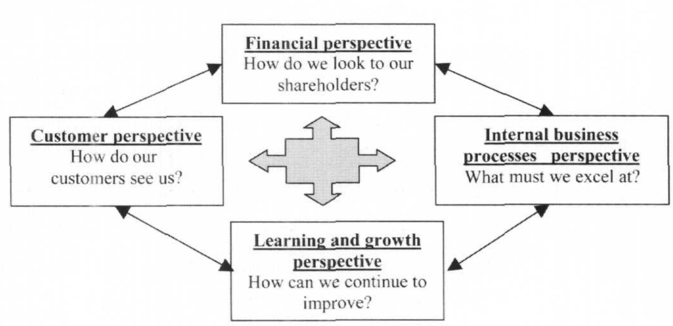
In viewing an organisation in four perspectives (Figure 1) the BSC is intended to link short-term operational control to the long-term vision and strategy of the business.

The BSC allows managers to look at the business from the four perspectives and provides the answers to the above basic questions, as illustrated in Figure 1.

Customer perspective

This perspective captures the ability of the organisation to provide quality goods and services, the effectiveness of their delivery, and overall customer service and satisfaction. Many organisations today have a mission focused on the customer and how an organisation is performing from its customers' perspective has become a priority for top management (Kaplan and Norton, 1992). The BSC demands that managers translate their general mission statement on customer service into specific measures that reflect the factors that really matter to customers. In a public organisation model, the principal driver of performance is different from that in the strictly commercial environment; namely customer and stakeholder interests take

Figure 1 The balanced scorecard



Source: Kaplan and Norton (1996a)

prominence over financial results. In general, public organisations have a different, perhaps greater, stewardship/fiduciary responsibility and focus than do private sector entities (PEA, 1998).

Internal business processes perspective

The business processes perspective is primarily an analysis of the organisation's internal processes. Internal business processes are the mechanisms through which performance expectations are achieved. Customer-based measures are important, but they must be translated into measures of what the organisation must do internally to meet its customers' expectations. This perspective focuses on the internal business results that lead to financial success and satisfied customers' expectations. Therefore, managers need to focus on those critical internal operations that enable them to satisfy customer needs (Kaplan and Norton, 1992). Key processes are monitored to ensure that outcomes will be satisfactory. Organisations should decide what processes and competencies they must excel at and specify measures for each. The measures should also link top management's judgement about key internal processes and competencies to the action taken by individuals that affect overall corporate objectives. This linkage ensures that employees at lower levels in the organisation have clear targets for actions, decisions, and improvement activities that will contribute to the organisation's overall mission.

Innovation and learning perspective

Customer and internal business process measures identify the parameters that the organisation considers most important for competitive success. The targets for success keep changing and intense competition requires that organisations make continual improvements to their existing products and processes and have the ability to introduce entirely new processes with expansion capabilities (Kaplan and Norton, 1992). This perspective looks at such issues, which includes the ability of employees, the quality of information systems, and the effects of organisational alignment in supporting accomplishment of organisational goals. Processes will only succeed if adequately skilled and motivated employees, supplied with accurately and timely information, are driving them. This perspective also takes on increased importance in organisations that are undergoing radical changes. In order to meet changing requirements and customer expectations, employees may be asked to take on dramatically new responsibilities, and may require skills, capabilities, technologies, and organisational designs that were not available before. Learning growth issues enables the organisation to ensure its capacity for long-term renewal, a prerequisite for survival in the long run. In this perspective, the organisation should consider not only what it must do to maintain and develop the know-how required for understanding and satisfying customer needs, but also how it can sustain the necessary efficiency and productivity of the processes which is presently created for the customer.

Financial perspective

Financial performance measures indicate whether the organisation's strategy, implementation, and execution are contributing to bottom-line improvement. It shows the results of the strategic choices made in the other perspectives. By making fundamental improvements in their operations, the financial numbers will take care of themselves, according to Kaplan and Norton (1992). In the public arena, the "financial" perspective differs from that of the traditional private sector. Private sector financial objectives generally represent clear long-range targets for profit-seeking organisations, operating in a purely commercial environment (PEA, 1998). Financial considerations for public organisations should be measured by how effectively and efficiently they meet the needs of their constituencies. Therefore, in the government, the financial perspective emphasises cost efficiency, i.e. ability to deliver maximum value to the customer.

A continuous process centred on the scorecard combines the above four perspectives; in it the role of the scorecard is to highlight what should be the focal points of the organisation's efforts. Kaplan and Norton (1996b) describe the process as a cycle (Figure 2). The vision is made explicit and is shared and communicated in terms of goals and incentives (Olve *et al.*, 1999). These are used to focus the work, allocate resources, and set targets.

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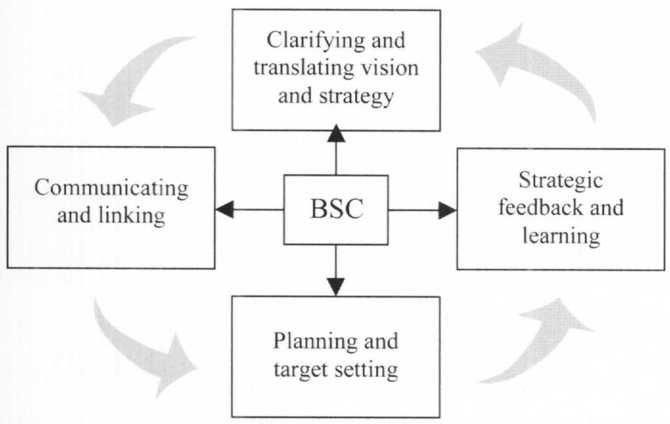
Figure 2 The BSC: a system for strategic implementation



Source: Kaplan and Norton (1996b)

The learning process

The primary function of the scorecard is to control organisational operations. It furnishes a language for describing expectations and performance, thus laying the foundation for discussion how each individual can contribute to fulfilling the organisation's vision (Olve *et al.*, 1999). Thus, the scorecard provides a basis for determining the appropriate efforts in the overall balance and for communicating such efforts through management control. In this way, the use of BSC facilitates leaning. The learning process places special emphasis on how different measures are interrelated. At both individual and organisational levels, a better understanding of the relationship between what is being done and how well the organisation succeeds will be developed. Of course it is crucial how the BSC could actually be used. What is needed is an appropriate incentive structure and practical arrangements for handling the information generated, so that it becomes attractive and feasible to develop a set of good practices. These issues are discussed in a subsequent section of this paper.

From vision to action plan

The BSC provides a valuable tool for enabling employees to understand the organisation's status, a must if the organisation is to achieve the dynamism it needs to be competitive in the long run. An overview of how the scorecard is developed is illustrated in Figure 3:

(1) *The vision*: vision addresses the organisation's desired future situation. This ensures that the performance measures developed in each perspective support accomplishment of the organisation's strategic objectives.

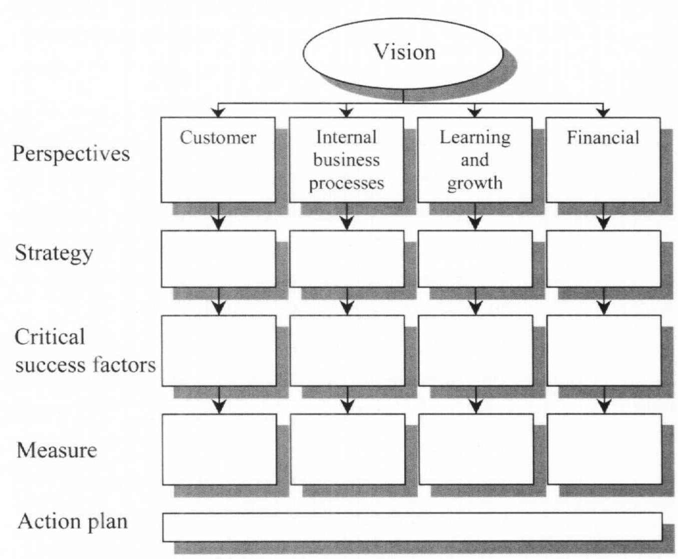
(2) *Strategy*: derived from the organisation's vision, strategy is at the heart of the process. The strategy determines what is to be measured often referred to as the "critical success factors". The model makes it easier to decompose the vision into specific, reality-based strategies which people in the organisation feel that they can understand and work with.

(3) *Critical success factors (CSFs)*: CSFs are used to determine progress towards achieving the strategic aims.

(4) *Develop and identify measures and cause-and-effect relationships*: the key to success with the BSC concept is the appropriateness and quality of the measures and whether they are used to enable management to follow the organisation's systematic efforts to exploit the CSFs considered most critical for goal achievement. Therefore, the measures must focus on the outcomes necessary to achieve the organisational vision and the objectives of the strategic plan. The great challenge is to find clear cause-and-effect relationships and to create a balance among the different measures in the selected objectives, which includes:
   - measures are proposed; and
   - feasibility of taking measurement is studied.

(5) *Action plan*: in completing the scorecard, action plan describes the specifications

Figure 3 Comprehensive view of the BSC development process



Source: Kaplan and Norton (1993)

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and steps to be taken in order to achieve the above measurement levels. Goals must be set for every measure used. An organisation needs both short and long term goals so that it can check its course continually and take the necessary corrective action in time. The action plan includes both the people responsible and a schedule for interim and final reporting.

Pathway to success

Even though several hundred global businesses have now adopted the scorecard approach, as always amongst committed advocates there are differing interpretations as to its deployment and use. The fundamental reality of business today, however, remains as the need to be able to implement business strategy quickly. Even more so in difficult external economic times, organisations need to be able to adjust their strategy. However, for most organisations, strategy is still something new, which has little immediate impact. The reason for this is that deciding on the direction is not the prime problem. The issue comes in communicating that direction to the operational managers and employees who can, through their day to day actions, make it happen. This is where the BSC is such a powerful approach, and why it is so much more than just a measurement system: it is a process for managing business. There are business processes for sales, marketing and production and now through the BSC, a process for management is available, which has the following fundamental components (PEA, 1998):

- management can build and align around an architecture for change;
- the change architecture is cascaded through the organisation, which is then mobilised for action; and
- a feedback and learning system is built, which allows strategy development and implementation to become a continuous process.

The concept of the BSC is no guarantee of a successful strategy and vision, but the great strength of the concept lies in the very process of building the scorecard, a process which is an effective way to express the organisation's strategy and vision in tangible terms and to gather support for it throughout the organisation (Olve *et al.*, 1999). According to Olve *et al.* (1999), an organisation can take several steps to encourage support for BSC improvement efforts within its organisation towards process improvement:

- *Make a communication at all levels*: senior management leadership is vital throughout the PM and process improvement process. Management should have frequent formal and informal meetings with employees and managers to show support for improvement efforts and implementation initiatives.
- *Develop organisational goals*: goals need to be specified and published to provide focus and direction to the organisation. To be meaningful, they must include measurable objectives along with realistic timetables for their achievement.
- *Offer training in improvement techniques*: training should be provided to appropriate personnel to help them properly make process improvements.
- *Establish a reward and recognition system to foster performance improvements*: organisations should try to tie any reward and recognition system to performance improvement as measured by the organisational BSC.
- *Breakdown organisational barriers*: the official uses of the BSC need to be spelled out to all employees in order to overcome unfounded fears about the perceived adverse effects of PM and process improvement. Stakeholders must be shown that a corporate effort towards performance improvement is the most appropriate course of action – that supporting the BSC is in their best interest.
- *Co-ordinate responsibilities*: implementation of the improvement process through PM should be a collaborative effort.
- *Demonstrate a clear need for improvement*: if demonstrating a genuine need to improve the organisation is not possible, failure is a vital reality.
- *Make a realistic initial attempt at implementation*: perfection will not be achieved in the first instance, therefore initial attempts are required to make progress in the process.
- *Integrate the scorecard into the organisation*: incorporating PM and improvement into the existing management structure, rather than treating is as a separate system, will

greatly increase the BSC's long-term viability.

- *Change the corporate culture*: to achieve long-term success it is imperative that the organisational culture evolves to the point where it cultivates performance improvement as a continuous effort. Viewing performance improvement as a one-time event is a recipe for failure.
- *Institutionalise the process*: creating, leveraging, sharing, enhancing managing and documenting BSC knowledge will provide critical "corporate continuity" in this continuous process.

Renaissance Worldwide's (1998) view is that an effective BSC is more than a limited set of measures gathered into four perspectives. A good BSC should tell the story of the organisational strategy and Renaissance Worldwide describes how the following three criteria help to determine the performance measures which tell the story of the organisational strategy:

(1) *Cause-and-effect relationships*: every measure selected for the BSC should be part of a chain of cause-and-effect relationships that represent the strategy.
(2) *Performance drivers*: a good BSC should have a mix of lead and lag indicators. Lag indicators are measures which are common to most organisations while lead indicators as drivers of performance tend to be unique as they reflect what is different about the strategy within the organisation.
(3) *Linked to financial measures*: whilst goals are frequently strategic, they must translate into measures that ultimately link to financial indicators within the scorecard.

Why do BSCs fail?

Schneiderman (1999) identifies the following as reasons for the failure of the BSC concept in certain circumstances:

- incorrectly identifying non-financial measures as primary drivers for future stakeholder satisfaction;
- poorly defined metrics;
- improvement goals arbitrarily negotiated rather than being based on stakeholder requirements;
- non-existence of a deployment system that breaks high-level goals down to the sub-process level where actual improvement activities reside;
- not using systematic state of the art improvement methods; and
- breaking the cause-and-effect relationships, i.e. non-existence of links between non-financial and expected financial results.

The key approach to overcome the above is to implement a systematic and structured improvement process to underpin the measurement system.

Summary

This paper has refined and extended the normative PM system design proposals of Kaplan and Norton (1992; 1996a; 1996b). Such a PM system is part of an attempt to give management a more strategic, outward-looking focus, incorporating non-financial, competitor-centred and customer-focused information into the search for a sustainable competitive advantage in services provision.

The BSC has been applied successfully across many diverse industries and within the public sector in the USA (Hepworth, 1998). These were all reported in a positive manner as no failures of the concept were identified. It was emphasised that the application of the BSC is far from simple and requires a comprehensive understanding of the principles involved and significant commitment towards accepting the new philosophy and implementing the necessary change.

The body of evidence supports the theory that the BSC offers a medium to deliver strategic vision while providing an evaluation system. There is no doubt that the concept has delivered a totally new and radical approach to business process management. The BSC's PM capability has been considered from a number of unique but valid perspectives including a comprehensive overview which considers all key aspects of the concept (Olve *et al.*, 1999).

The BSC is not an end in itself, it exists only to show the way to future action. This requires interpretation of the results and the identification of what is good, what is bad, and what needs changing.

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