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Third-generation balanced scorecard: evolution of an effective strategic control tool

Third-generation
balanced
scorecard

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Abstract The balanced scorecard is a performance management framework that became popular during the early 1990s. This paper describes changes to the definition of the framework that have occurred since then, recognising within these changes three distinct generations of balanced scorecard design. The paper relates these developments to literature concerning strategic management within organisations, observing that the changes made have improved the utility of the balanced scorecard as a strategic management tool. The paper concludes that the changes illustrate the importance of ideas of information symmetry in the understanding of strategic control processes within organisations. Suggestions of topics for further research are also made.

Introduction

The limitations of financial data as the basis for decision making in organisations has been recognised for a long time (e.g. Dearden, 1969), as has the utility of non-financial data in providing for improved decisions (e.g. Committee on Non-Financial Measures of Effectiveness, 1971). The issue is how an appropriate sub-set of all possible non-financial measures can be identified. As the Committee's report notes, "Conceivably, any information might be of use to someone at some future time" (Report of the Committee on Non-Financial Measures of Effectiveness, 1971, p. 198). The Committee asserted that the selection needs to be informed by the trade-off between the practicality and cost of collection, and the expected utility of the data collected: an observation developed later notably by Williamson (1975) and Rothschild and Stiglitz (1976).

During the 1980s, it began to be argued that an organisation's strategic policies could be used to inform and justify the choice of non-financial measures (Gupta and Govindarajan, 1984; Johnson and Kaplan, 1987; Dixon *et al.*, 1990). This observation was concurrent with an emerging awareness of the existence of formal control systems within organisations – particularly associated with the control of strategic activity (e.g. Green and Welsh, 1988).

One response to these various factors was the balanced scorecard: a simple if initially rather vague concept (Kaplan and Norton, 1992) that has become both well known and (in various forms) widely adopted (Rigby, 2001, 2003). Kaplan and Norton's presented balanced scorecard as an integrative device that would encourage and facilitate the use of non-financial information by senior managers of organisations, with the choice of non-financial measure being driven primarily by "strategic" considerations. They argued that when equipped with this better information, managers would be able to deliver improved strategic performance (Kaplan and Norton, 1992, 1993). The brevity and focus of the balanced scorecard was also presented as having value with respect to the need to efficiently and effectively communicate priorities within organisations (Kaplan and Norton, 1992). This was



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expected to directly enable improved performance by “workers” within the organisation. Both these observations have recently been tested and found to have some merit (Malina and Selto, 2001; Lipe and Salterio, 2000).

A definition for a balanced scorecard

An unpublished analysis carried out by the authors in 2001 of the types of questions asked about performance management in online discussion fora found “What is a balanced scorecard?” to be by far the most common. Intriguingly, in their writings Kaplan and Norton don’t provide a clear definition of what a balanced scorecard is, focusing instead on how one might be used, or how it relates to other organisational attributes. However, across their several documents a number of attributes can be deduced. Drawing from Kaplan and Norton’s publications prior to 1997 A substantial change in balanced scorecard thinking occurred during the mid- to late-1990s, that affects how balanced scorecards are described by various authors and will be described later in this paper, balanced scorecard has at least the following attributes:

- A mixture of financial and non-financial measures (Kaplan and Norton, 1992, 1993, 1996a, b).
- A limited number of measures (Kaplan and Norton, 1992), numbering between 15-20 (Kaplan and Norton, 1993) and 20-25 (Kaplan and Norton, 1996b).
- Measures clustered into four groups called perspectives (Kaplan and Norton, 1992, 1993, 1996a, b), originally called “financial”, “customer”, “internal process” and “innovation and learning”, but the last two are renamed “internal business process” and “learning and growth” in the 1996 documents.
- Measures chosen to relate to specific strategic goals – usually documented in tables with one or more measure associated with each goal (Kaplan and Norton, 1992, 1993, 1996a, b).
- Measures should be chosen in a way that gains the active endorsement of the senior managers of the organisation, reflecting both their privileged access to strategic information, and the importance of their endorsement and support of the strategic communications that may flow from the balanced scorecard once designed (Kaplan and Norton, 1992, 1993, 1996a, b).
- Some attempt to represent causality – though it is ambiguous in Kaplan and Norton’s work what they mean by this: as noted earlier the 1992 and 1993 papers illustrate links between the four perspectives but do not discuss these links in the text. The Kaplan and Norton (1996a) paper illustrates and discusses the need to show causal links between measures across the balanced scorecard perspectives in a fashion that anticipates second-generation balanced scorecard features. But the 1996 book also suggests that causality should be between “performance driver [lead]” measures and “outcome [lag]” measures (Kaplan and Norton, 1996b).

In this paper we will subsequently refer to balanced scorecards that conform to this design as “first-generation” balanced scorecards. Figure 1 shows a diagrammatic representation of Kaplan and Norton’s original balanced scorecard design, based on that which appears in their 1992 article (Kaplan and Norton, 1992).

The lack of a clear definition from Kaplan and Norton has triggered several attempts by others to provide a definition (e.g. Mooraj *et al.*, 1999; Olve and Sjöstrand, 2002), which are consistent with the first-generation definition given above.

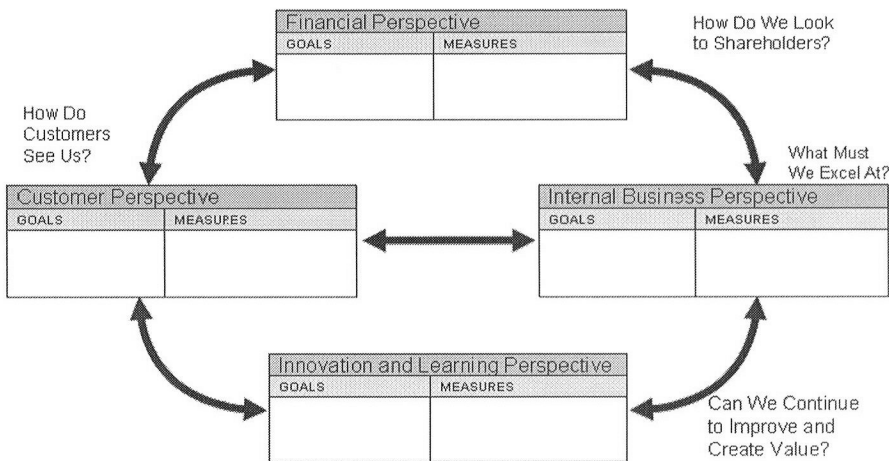


Figure 1.
First-generation balanced
scorecard

Where alternative definitions appeared, these usually suggested changes to the number and/or naming of the perspectives (e.g. Butler *et al.*, 1997; Elefalke, 2001; Brignall, 2002). In general, the literature endorses the utility of the approach (Epstein and Manzoni, 1997), but notes weaknesses in the initial design proposition, and recommends various improvements relating both to the design methods used and the underlying design concept (e.g. Eagleson and Waldersee, 2000; Kennerley and Neely, 2000).

The need for change

From the outset it was clear that the methods used to select measures to be included in the balanced scorecard would be critical to its subsequent success, both in terms of filtering (organisations typically had access to many more measures than were needed to populate the balanced scorecard) and clustering (deciding which measures should appear in which perspectives). In their first paper, Kaplan and Norton had said little about how this measure selection activity could be done, beyond general assertions about the design philosophy, e.g. "putting vision and strategy at the centre of the measurement system", "Companies should also attempt to identify and measure the company's core competencies ...", "In addition to measures of time, quality and performance and service, companies must remain sensitive to the cost of their products." (Kaplan and Norton, 1992). However, the design challenges presented by first-generation balanced scorecard design are severe – as evidenced by the authors' practical experience working in the field, and reported by practitioners in the literature (e.g. Butler *et al.*, 1997; Ahn, 2001; Irwin, 2002; Radnor and Lovell, 2003). Likewise, the adverse effects of poor measure selection on the usefulness and adoption rates of balanced scorecard have been noted by several authors (e.g. Lingle and Schieman, 1996; Schneiderman, 1999, Malina and Selto, 2001). Generalised approaches to first-generation balanced scorecard design were described in summary form in 1993 and in more detail in 1996 by Kaplan and Norton (Kaplan and Norton, 1993, 1996a). While these were helpful in setting out a wider project plan, they are light on the detail about how the design choices would actually be made. This in turn has triggered a number of "how to" books and articles that attempt to fill the gap (e.g. Bourne and

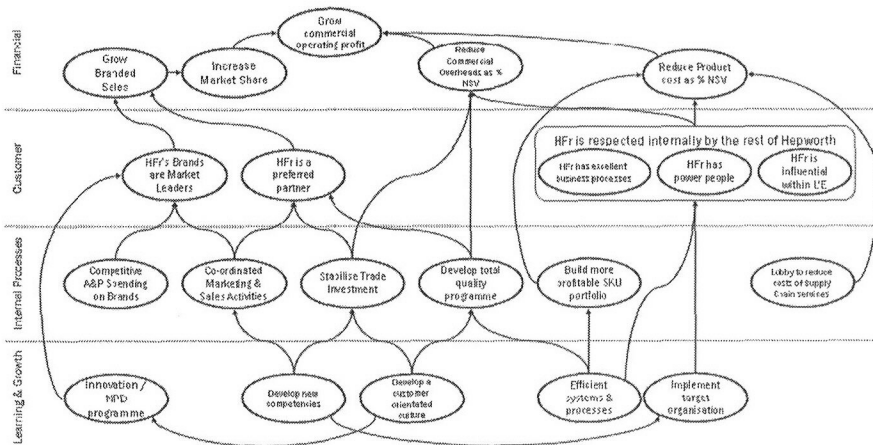
Bourne, 2000; Olve and Sjöstrand, 2002; Niven, 2002, Parmenter, 2002; Davig *et al.*, 2004) – but the fact that such instructional texts are still being published hints at a failure to find a solution. This, in the authors' view, is largely because definition of an effective design process was contingent upon changes being made to the design features of the balanced scorecard itself.

Second-generation balanced scorecard

The practical difficulties associated with the design of first-generation balanced scorecards are significant, in part because the definition of a balanced scorecard was initially vague as discussed above. But the difficulties also stemmed from the issues presented by the design questions posed by first-generation balanced scorecard – in particular the need to filter (i.e. choose a few specific measures to report), and cluster (i.e. decide how to group measures into “perspectives”). The attitudinal approach to measure selection proposed initially by Kaplan and Norton (e.g. “To succeed financially, how should we appear to our shareholders?”) was quickly recognised by Kaplan and Norton as weak, and quickly replaced by the concept of “strategic objectives” (Kaplan and Norton, 1993): short sentences which clarified the nature of the “goals” described in their 1992 paper. The innovation was to suggest that there should be a direct mapping between each of the several “strategic objectives” attached to each perspective and one or more performance measures. Although subtle, this extra step in the measure selection process transforms the design process from that initially proposed, since it helped particularly with the filtering issue – the strategic objective itself gave a justification for the selection of one measure over another out of the many possible candidates for inclusion in each perspective.

The second key innovation concerned causality. As noted above, early attempts to define causality were weak, and in the period between 1992 and 1996 work focused on finding ways to show causality between measures (e.g. Newing, 1995). Measure-based linkages provided a richer model of causality than before, but presented conceptual problems – for example, encouraging the use of various forms of analysis to validate measure selection based on numerical correlations between measures (indeed this is still the case, e.g. Brewer, 2002; Clinton *et al.*, 2002). Such methods may be efficient at selecting measures, but are difficult to integrate with the need for the balanced scorecard design to reflect the consensus views of the potential users of the device noted as a key characteristic above. Nonetheless, over time the idea of strategic linkage became an increasingly important element of balanced scorecard design methodology, and in the mid-1990s balanced scorecard documentation began to show graphically linkages between the strategic objectives themselves (rather than the measures) with causality linking across the perspectives toward key objectives relating to financial performance. This transition is neatly illustrated in two papers by Kaplan and Norton from 1996. One published at the start of the year illustrates and describes linkage as occurring between measures (Kaplan and Norton, 1996a), the second published in the autumn illustrates and describes of linkage as occurring between strategic objectives (Kaplan and Norton, 1996b). At the time, diagrams showing linkages between objectives were called “strategic linkage models” – more recently they have been called “strategy maps”. An example is shown in Figure 2.

The impact of these changes were characterised by Kaplan and Norton in 1996 as enabling the balanced scorecard to evolve from “an improved measurement system to a core management system” (Kaplan and Norton, 1996b). Maintaining the focus that balanced scorecard was intended to support the management of strategy



Note: Taken from 2GC Internal Documents

Figure 2.
Strategic linkage model
(taken from 2GC internal
documents)

implementation, Kaplan and Norton further described the use of this development of the balanced scorecard as the central element of “a strategic management system”.

Collectively the changes in design described here represent a materially different definition of what comprises a balanced scorecard compared to that described above as a first-generation balanced scorecard. In particular, we note two key enhancements to the definition given earlier:

- (1) Measures are chosen to relate to specific strategic objectives, the design aim being to identify about 20-25 strategic objectives each associated with one or more measures and assigned to one of four perspectives (Olve *et al.*, 1999; Kaplan and Norton, 2000).
- (2) An attempt is made to visually document the major causal relationships between strategic objectives, laying out the results in a “strategic linkage model” or “strategy map” diagram (Olve *et al.*, 1999; Kaplan and Norton, 2000).

We will refer to balanced scorecards that incorporate these developments as “second-generation balanced scorecards”.

The design elements that make up the second-generation balanced scorecard now represent “mainstream” thinking on balanced scorecard design – as evidenced by considerable consistency of definition across a range of practitioner and academic texts (Olve *et al.*, 1999; Niven, 2002).

As objectives began to appear in graphical representations of linkages, so they began to require short titles (to fit onto the diagrams). To compensate the idea of “objective descriptions” associated with strategic objectives emerged. These descriptions, which were simply longer paragraphs describing in more detail the “meaning” of the objective, are symptomatic of a significant increase in the volume of purely design related documentation associated with the design of balanced scorecards – objectives began to be assigned to owners, measures to objectives. Early software reporting systems began to enhance these elements of design information by linking it with measurement data, and using email and diary systems to enable speedy diagnosis and interventions in response to data observed: the ability



to store and work with these characteristics are now central to leading “balanced scorecard” software systems (e.g. Marr and Neely, 2001).

Opportunities for further improvement

Second-generation balanced scorecards represent a substantial improvement compared to first-generation designs – mainly because the design addresses weaknesses in the first-generation definition, and allows for the use of less challenging design processes. Yet concerns persist about definitional weaknesses: whereas the focus of concern with the first-generation design related primarily to measure selection (“filtering”), with second-generation designs the focus of concern relates more to how measures are grouped (“clustering”). The standard layout for a strategic linkage model sets causality flowing across the four perspectives (i.e. the four standard “clusters” of measures proposed by Kaplan and Norton, 1992) from “learning and growth” through “internal business processes” and “customer” and ending up at “financial”. Complex arguments have been advanced suggesting that for many organisations this causal flow is inappropriate – either because it leaves out one or more important clusters (e.g. Kennerley and Neely, 2000; Brignall, 2002) or because the causality links cannot be justified (e.g. Nørreklit, 2000). The common thread among these concerns is the desire to increase confidence that the balanced scorecard accurately reflects the strategic objectives of the organisation, and that the linkages shown are meaningful. On a more practical level, organisations developing second-generation balanced scorecards found significant practical problems both with measure selection and target setting (e.g. Barney *et al.*, 2004), and with attempts to rationally “cascade” high-level balanced scorecards to lower levels of the organisation (e.g. Banker *et al.*, 2004).

Third-generation balanced scorecard

The third-generation balanced scorecard model is based on a refinement of second-generation design, with new features intended to give better functionality and more strategic relevance. The origin of the developments stem from the issues relating to the validation of strategic objective selection and target setting. These triggered the development in the late 1990s of a further design element – the “destination statement”. Destination statements were initially created towards the end of the design process by challenging the managers involved to imagine the impact on the organisation of the achievement of the strategic objectives chosen earlier in the design process. This integrative process helped identify inconsistencies in the profile of objectives chosen (in part addressing the type of issues raised by Kennerley and Neely, 2000; Brignall, 2002), and the final document was found to be useful in validating the targets chosen for some measures. The idea that it would be useful for an organisation to have access to a clear statement concerning what the organisation is trying to achieve was not new (Senge, 1990; Kotter, 1995): the innovation here was simply to realise that such a statement could act as a useful reference point for the target setting process.

It was quickly found that this “rolling forward” of the strategy was easier to conceptualise when associated with a particular future date (e.g. “in three years’ time”) – as typically not all the strategic objectives chosen operated over the same time-period. Because of its intended role as a target setting device, effort was put in to ensure that the statement quantified “how much” of key things would have been achieved by this time (e.g. headcount, revenues, customer satisfaction, quality levels, etc.). To help focus discussion about the consequences of the strategy, the statement

was broken in to several “categories”. Figure 3 shows an example extract from an early “destination statement”.

At a practical level it was quickly found that management teams were able to discuss, create, and relate to the “destination statement” easily and without reference to the selected objectives. Consequently, the design process was “reversed”, with the creation of the “destination statement” being the first design activity, rather than a final one. Further it was found that by working from destination statements, the selection of strategic objectives, and articulation of hypotheses of causality was also much easier, and consensus could be achieved within a management team more quickly (e.g. Shulver *et al.*, 2000; Cobbold and Lawrie, 2002; Lawrie *et al.*, 2004).

Having established the value of the destination statement as a component of the balanced scorecard as an aid to speedier and more effective design of second-generation balanced scorecard elements, two further benefits were identified:

- (1) In projects aimed at developing multiple balanced scorecards, the value of the destination statement to enable achievement of strategic alignment, without the enforcement of “common objectives” increased the ownership and utility of balanced scorecards within organisations (Guidoum, 2000; Shulver and Antarkar, 2001; Lawrie *et al.*, 2004). In addition to providing operational utility during the design of multiple balanced scorecards, this feature addresses a specific concern characterised by Banker *et al.* whereby the presence of “common objectives” can substantially reduce the utility of cascaded balanced scorecards (Lipe and Salterio, 2000; Banker *et al.*, 2004).
- (2) In public sector organisations in particular, the rigid definition of the four perspective labels that typifies balanced scorecard definitions can cause problems: the suggesting of alternative labels for application in the public sector is common (e.g. Elefalke, 2001; Irwin, 2002; Gumbus *et al.*, 2003). The original motivation for the four perspectives was to encourage consideration of non-financial aspects of performance during the selection of measures for the balanced scorecard. We have found that this can be done equally well by careful choice of “category” heading for use during the design of the destination statement: reducing the need for the standard four perspectives in the strategic linkage model. With the destination statement driving the selection of strategic objectives across the four (or more) categories we have seen public sector

<p>•Financial & Market Characteristics</p> <ul style="list-style-type: none"> - Heworth retail sales have achieved a total UAE markets share of 46% and 7% markets share in N.E. - Since 1998 Retail sales revenue have grown 23% to AED 1.4bn in total, equal to 7% annual compound growth - The Abu Dhabi Area has protected its position against “intruders” from potential competitors by increasing the number of stations within its area - An increase in sales promotions and marketing spend (total of AED 5 m in 2003 from AED 1.2m in 1999) have also been an important driver of revenue growth - Smart card sales have increased from 2% to 25% of total retail sales since 1999 and replaced cost pos <p>•Activities & Processes</p> <ul style="list-style-type: none"> - A formalised evaluation and acquisition process recently introduced in 2002/2003 has allowed Heworth to complete the addition of 44 and re-imaging of 30 sites effectively - An efficient and timely process for the completion of new and re-imaged sites is delivering the projects on time – project delivery is based on SLA between Retail Sales and project management department - Ongoing evaluation of the cost ratio/delivery ratio of existing gas stations - Implements Smart Card system in place - Up-to-date market analysis is used to update forecasts and develop new services in line with changes in the marketplace and customer habits sourced internally/externally 	<p>•External Relationships</p> <ul style="list-style-type: none"> - Transaction times at the filling stations are competitive and customers are satisfied with the service they receive - Customers respond well to Heworth’s promotions - Heworth is perceived to value customer complaints and suggestions - Landowners prefer Heworth to be a business partner (e.g. in Northern Emirates owners prefer to enter into management contracts with Heworth) - Local authorities are positive to Heworth’s site requirements - Customers prefer Heworth’s re-imaged stations to old ones and to those of competitors. In respect of Self Service stations have been reduced <p>•Organisation & Culture</p> <ul style="list-style-type: none"> - A dedicated sales and marketing team responsible for selling Heworth Smart cards is in place - A separate management team are responsible for the continued development of C-Stores - Retail Sales is a separate business unit with Heworth Distribution and manpower is reviewed accordingly - Back internal training capabilities have been achieved through train the trainer initiatives and training manuals - Retail sales departments responsible for their own filling stations staff training
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Note: Partial example taken from 2GC Internal Documents

Figure 3.
Destination statement
(partial example taken
from 2GC internal
documents)



managers happy to simply choose “activity” and “outcome” objectives, linked with simple causality. With just two perspectives, debate about “missing” perspectives is eliminated – the issue is simply whether the right activities are represented, and whether the correct consequent outcomes from these activities also are shown. Such “two perspective” strategic linkage models featured strongly in a recently documented project for a major UK government agency – which also included the creation of a complex cascade of strategically aligned balanced scorecards, achieved efficiently using third-generation balanced scorecard methods (Lawrie *et al.*, 2004).

We will refer to balanced scorecards that incorporate destination statements and optionally two perspective strategic linkage models as “third-generation balanced scorecards”. The primary enhancements over a second-generation balanced scorecard are:

- *Destination statement.* A description, ideally including quantitative detail, of what the organisation (or part of organisation managed by the balanced scorecard users) is likely to look like at an agreed future date (Guidoum, 2000; Shulver and Antarkar, 2001; Cobbold and Lawrie, 2002; Lawrie *et al.*, 2004; Barney *et al.*, 2004). Typically the destination statement is sub-divided into descriptive categories that serve a similar purpose (but may have different labels) to the “perspectives” in first- and second-generation balanced scorecards.
- *Strategic linkage model with “activity” and “outcome” perspectives.* A simplification of a second-generation balanced scorecard strategic linkage model – with a single “outcome” perspective replacing the financial and customer perspectives, and a single “activity” perspective replacing the learning and growth and internal business process perspectives (Lawrie *et al.*, 2004; Barney *et al.*, 2004).

Academic thinking supporting the development of balanced scorecard

From the outset, it has been clear that the primary focus of balanced scorecard is to be a control tool for managers (Kaplan and Norton, 1992). But there are different types of control exercised by managers: Kaplan and Norton appear from the outset to associate the balanced scorecard with what Muralidharan (1997) calls “strategic control” rather than “management control” (see also Bungay and Goold, 1991). In practice, considerable academic and practical attention has focused on the application of balanced scorecard for management control purposes (Neely *et al.*, 1994; Lingle and Schieman, 1996; Frigo, 2000). This in part may be linked to the prevalence of simple first-generation balanced scorecard models being used as the basis for academic contributions (e.g. Kennerley and Neely, 2000).

The transition from first-generation to second-generation balanced scorecard designs coincided with a reinforcement of the positioning of balanced scorecard as a tool to support strategic control. The concurrent development of practical approaches to balanced scorecard design focused on forming a consensus within a management team is clearly consistent with thinking on leadership articulated over many years (e.g. Thomson, 1967; Kotter, 1995; Katzenbach, 1997). As noted previously the use of simple causal models to support the articulation of strategic priority objectives was consistent with work on organisational change and learning being promoted by Burke and others (Burke and Litwin, 1992; Kotter, 1995; Senge *et al.*, 1999; Argyris, 1976).

The transition from second-generation to third-generation balanced scorecard designs, although in terms of design elements less significant than the earlier transition, represents a significant change in the approach to balanced scorecard design activity. The adoption of third-generation balanced scorecard designs has been particularly helpful in supporting the development of multiple balanced scorecards within complex organisations (Guidoum, 2000; Lawrie *et al.*, 2004). In addition to the reasons cited above, it is our view that this utility stems from its ability to accommodate effectively the issue of information asymmetry. Oliver Williamson (1975) writing on transaction cost economics in the 1970s articulates clearly the issue of communication bandwidth limiting the ability of one party to “know” what another party knows. Williamson focused on what he called “information impactedness” as it applied to contractual forms used in the insurance industry, but others have made similar observations about information asymmetries elsewhere (e.g. Rothschild and Stiglitz, 1976; Mintzberg, 1990). These observations suggest that the projection of a centrally developed strategy into components of an organisation can become problematic. We can see the obverse of this issue in the problems raised concerning the negative effect of “common objectives” in systems of multiple balanced scorecards (Lipe and Salterio, 2000; Banker *et al.*, 2004). It is argued that the common objectives distract the attention of those evaluating balanced scorecard data from remaining objectives – in part because the evaluator “knows more” about the common objectives. In addressing this issue, it is not sufficient to eliminate “common” objectives – as this simply runs the risk of none of the objectives being evaluated effectively, rather than just a few. What is required is a mechanism to efficiently communicate more of the local context and issues that caused the strategic objectives to be selected: we have found that the destination statement facilitates this communication (Lawrie *et al.*, 2004).

Corporate performance management software systems have been presented by some as a solution to part of this problem by making it economic for large volumes of detailed information about activities and performance of the organisation to be collated and assessed centrally: a key feature of such offerings is the ability to “drill down” into information recursively to get to the root cause of performance anomalies (Marr and Neely, 2001). However, the information asymmetry viewpoint challenges the utility of such activity, as the software provides at best only a partial solution to the asymmetry problem: you may have more data, but not necessarily any more information about the local context that is necessary to make this data useful. Similarly “more complex” alternatives to balanced scorecard (e.g. Kennerley and Neely, 2000) do not openly address the informational issues presented by this increase in complexity. Shulver *et al.* (2000) have shown that one development of third-generation balanced scorecards has been to support alternative management models that tolerate or accommodate the information asymmetry issue through facilitation of the concise articulation and communications of key data, and through facilitating the identification communication criticalities in an organisation’s hierarchy.

Across its three generations, the balanced scorecard has evolved to be a strategic management tool that involves a wide range of managers in the strategic management process, provides boundaries of control, but is not prescriptive or stifling and most importantly removes the separation between formulation and implementation of strategy.

Conclusions

During the dozen years since the advent of balanced scorecard, changes have been made to the definition of what constitutes a balanced scorecard. These changes have enabled related changes to be made to the design processes used to create the device within organisations. This evolution of balanced scorecard can be largely attributed innovation driven by empirical evidence of weaknesses in the devices created, rather than in the original idea. Early balanced scorecards failed because they were very difficult to design well, in part because the characteristics of an effective balanced scorecard were not well characterised. The need to have a design process that made measure selection more relevant and part of the collective view of the management team drove the major changes from the original concept that can be seen in two subsequent generations of balanced scorecard. However, while empirical developments were the mainstay of the evolution of balanced scorecard, certain aspects of the evolution rationale can be paralleled to pre-existing academic philosophies relating to organisational management and strategic thinking.

The alignment between developments in balanced scorecard principles and the theoretical aspects of control and management process are a positive indication that the more modern ideas about balanced scorecard design processes and structure are indeed "better" than the original device described by Kaplan and Norton. Modern balanced scorecard designs are more likely to have a beneficial consequence for the organisation adopting the tool. However, while more recent balanced scorecard designs are substantial improvements on original ideas, there is still room for improvement. Potential areas for further refinement and possible topics for future research into the field are as follows:

- More refinement is needed in matching understanding of how management behaviour can be influenced by performance measurement data to better facilitate management interventions. Theories of strategic control methods and practice currently are developed separately from theories relating to performance management: there would be value in looking at how insights from these two schools of thought could be brought together.
- An examination into the ways of reconciling performance reporting with performance management. It is often the case that an organisation's performance management system's data need to have complete "coverage" of the business, for example metrics on health and safety, operations, finance, human resources, markets etc.(Eagleson and Waldersee, 2000; Kennerley and Neely, 2000). However, in the practical environment this can reduce the relevance to the local unit developing the metrics and diminish ownership of the management system.
- A deepening of the understanding about the factors that inhibit the adoption of advanced performance management systems in large/complex organisations (i.e. the ones who potentially could get most benefit): currently, the characteristics of organisations that successfully implement performance management are not well known.

References

- Ahn, H. (2001), "Applying the balanced scorecard concept: an experience report", *Long Range Planning*, Vol. 34 No. 4, pp. 441-61.
- Argyris, C. (1976), "Single-loop and double-loop models in research on decision making", *Administrative Science Quarterly*, Vol. 21 No. 3, p. 363.

- Banker, R.D., Chang, H. and Pizzini, M.J. (2004), "The balanced scorecard: judgmental effects of performance measures linked to strategy", *Accounting Review*, Vol. 79 No. 1, p. 1.
- Barney, W., Radnor, Z., Johnston, R. and Mahon, W. (2004), "The design of a strategic management system in a public sector organisation", *Proceedings of the 4th International Conference on Performance Measurement and Management (PMA 2004)*, Edinburgh, July.
- Bourne, M. and Bourne, P. (2000), *Understanding the Balanced Scorecard in a Week*, Hodder & Stoughton, London.
- Brewer, P. (2002), "Putting strategy into the balanced scorecard", *Strategic Finance*, Vol. 83 No. 7.
- Brignall, S. (2002), "The unbalanced scorecard: a social and environmental critique", *Proceedings of the 3rd International Conference on Performance Measurement and Management (PMA 2002)*, Boston, MA, July.
- Bungay, S. and Goold, M. (1991), "Creating a strategic control system", *International Journal of Strategic Management*, Vol. 24 No. 3, p. 32.
- Burke, W.W. and Litwin, G.H. (1992), "A causal model of organizational performance and change", *Journal of Management*, Vol. 18 No. 3, p. 523.
- Butler, A., Letza, S.R. and Neale, B. (1997), "Linking the balanced scorecard to strategy", *International Journal of Strategic Management*, Vol. 30 No. 2.
- Clinton, D., Webber, S.A. and Hassel, J.M. (2002), "Implementing the balanced scorecard using the analytic hierarchy process", *Management Accounting Quarterly*, Vol. 3 No. 3, p. 1.
- Cobbold, I.C. and Lawrie, G.J.G. (2002), "The development of the balanced scorecard as a strategic management tool", *Proceedings of the 3rd International Conference on Performance Measurement and Management (PMA 2002)*, Boston, MA, July.
- Committee on Non-Financial Measures of Effectiveness (1971), "Report", *Accounting Review*, Vol. 46 No. 4, Supplement, p. 165.
- Davig, W., Elbert, N. and Brown, S. (2004), "Implementing a strategic planning model for small manufacturing firms: an adaptation of the balanced scorecard", *SAM Advanced Management Journal*, Vol. 69 No. 1, p. 18.
- Dearden, J. (1969), "The case against ROI control", *Harvard Business Review*, Vol. 47 No. 3, p. 124.
- Dixon, J.R., Nanni, A.J. and Vollman, T.E. (1990), *The New Performance Challenge: Measuring Manufacturing for World Class Competition*, Dow Jones-Irwin, Homewood, IL.
- Eagleson, G.K. and Waldersee, R. (2000), "Monitoring the strategically important: assessing and improving strategic tracking systems", *Proceedings of the 2nd International Conference on Performance Measurement and Management (PMA 2000)*, Cambridge, July.
- Elefalke, K. (2001), "The balanced scorecard of the Swedish police service: 7,000 officers in total quality management project", *Total Quality Management*, Vol. 12 No. 7/8, pp. 958-66.
- Epstein, M.J. and Manzoni, J.F. (1997), "The balanced scorecard and *tableau de bord*: a global perspective on translating strategy into action", INSEAD working paper, 97/63/AC/SM.
- Friego, M. (2000), "Current trends in performance measurement systems", *Proceedings of the 2nd International Conference on Performance Measurement and Management (PMA 2000)*, Cambridge, July.
- Green, S.G. and Welsh, M.A. (1988), "Cybernetics and dependence: reframing the control concept", *Academy of Management Review*, Vol. 13 No. 2, p. 287.
- Guidoum, M. (2000), "Strategy formulation and balanced scorecard implementation: ADNOC distribution case study", *Proceedings of the 9th ADIPEC*, Abu Dhabi.

- Gumbus, A., Belthouse, D.E. and Lyons, B.A. (2003), "Three year journey to organizational and financial health using the balanced scorecard: a case study at a Yale New Haven Health System Hospital", *Journal of Business & Economic Studies*, Vol. 9 No. 2, p. 54.
- Gupta, A.K. and Govindarajan, V. (1984), "Build, hold, harvest: converting strategic intentions into reality", *Journal of Business Strategy*, Vol. 4 No. 3, p. 34.
- Irwin, D. (2002), "Strategy mapping in the public sector", *International Journal of Strategic Management*, Vol. 35 No. 6, pp. 563-672.
- Johnson, H.T. and Kaplan, R.S. (1987), *Relevance Lost: The Rise and Fall of Management Accounting*, Harvard Business School Press, Boston, MA.
- Kaplan, R.S. and Norton, D.P. (1992), "The balanced scorecard – measures that drive performance", *Harvard Business Review*, Vol. 70, January/February.
- Kaplan, R.S. and Norton, D.P. (1993), "Putting the balanced scorecard to work", *Harvard Business Review*, September/October.
- Kaplan, R.S. and Norton, D.P. (1996a), "Linking the balanced scorecard to strategy", *California Management Review*, Vol. 39 No. 1.
- Kaplan, R.S. and Norton, D.P. (1996b), *Translating Strategy into Action*, HBS Press, Boston, MA.
- Kaplan, R.S. and Norton, D.P. (2000), *The Strategy Focussed Organisation*, HBS Press, Boston, MA.
- Katzenbach, J.R. (1997), "The myth of the top management team", *Harvard Business Review*, Vol. 75 No. 6, p. 83.
- Kennerley, M. and Neely, A.D. (2000), "Performance measurement frameworks – a review", *Proceedings of the 2nd International Conference on Performance Measurement and Management (PMA 2000)*, Cambridge, July.
- Kotter, J. (1995), "Leading change", *Harvard Business Review*, March/April.
- Lawrie, G., Cobbold, I. and Marshall, J. (2004), "Corporate performance management system in a devolved UK governmental organisation: a case study", *International Journal of Productivity and Performance Management*, Vol. 53 No. 4, pp. 353-70.
- Lingle, J.H. and Schieman, W.A. (1996), "From balanced scorecard to strategic gauges: is measurement worth it?", *Management Review*, Vol. 85.
- Lipe, M.G. and Salterio, S.E. (2000), "The balanced scorecard: judgmental effects of common and unique performance measures", *Accounting Review*, Vol. 75 No. 3, p. 283.
- Malina, M.A. and Selto, F.H. (2001), "Communicating and controlling strategy: an empirical study of the effectiveness of the balanced scorecard", *Journal of Management Accounting Research*, Vol. 13, p. 47.
- Marr, B. and Neely, A. (2001), *Balanced Scorecard Software Report*, Gartner, Inc. and Cranfield School of Management, Stamford, CT.
- Mintzberg, H. (1990), "The design school: reconsidering the basic premises of strategic management", *Strategic Management Journal*, Vol. 11, pp. 171-95.
- Mooraj, S., Oyon, D. and Hostettler, D. (1999), "The balanced scorecard: a necessary good or an unnecessary evil?", *European Management Journal*, Vol. 17 No. 5.
- Muralidharan, R. (1997), "Strategic control for fast-moving markets: updating the strategy and monitoring the performance", *Long Range Planning*, Vol. 30 No. 1, pp. 64-73.
- Neely, A.D., Mills, D., Platt, K., Gregory, M. and Richards, H. (1994), "Realizing strategy through measurement", *International Journal of Operations & Production Management*, Vol. 14 No. 3, p. 140.
- Newing, R. (1995), "Wake up to the balanced scorecard!", *Management Accounting*, Vol. 73 No. 3.

- Niven, P.R. (2002), *Balanced Scorecard Step by Step: Maximizing Performance and Maintaining Results*, Wiley, New York, NY.
- Nørreklit, H. (2000), "The balance on the balanced scorecard – a critical analysis of some of its assumptions", *Management Accounting Research*, Vol. 11 No. 1, p. 65.
- Olve, N. and Sjöstrand, A. (2002), *The Balanced Scorecard*, Capstone Publishing, Oxford.
- Olve, N., Roy, J. and Wetter, M. (1999), *Performance Drivers: A Practical Guide to Using the Balanced Scorecard*, Wiley, Chichester (English translation, first published in Swedish in 1997).
- Parmenter, D. (2002), "Implementing a balanced scorecard in 16 weeks", *Chartered Accountants Journal*, Vol. 81 No. 3, p. 19.
- Radnor, Z. and Lovell, W. (2003), "Defining, justifying and implementing the balanced scorecard in the National Health Service", *International Journal of Medical Marketing*, Vol. 3 No. 3, pp. 174-88.
- Rigby, D.K. (2001), "Management tools and techniques: a survey", *California Management Review*, Vol. 43 No. 2.
- Rigby, D.K. (2003), "Management tools survey 2003: usage up as companies strive to make headway in tough times", *Strategy & Leadership*, Vol. 31 No. 5.
- Rothschild, M. and Stiglitz, J. (1976), "Equilibrium in competitive insurance markets: an essay on the economics of imperfect information", *Quarterly Journal of Economics*, Vol. 95, pp. 629-49.
- Schneiderman, A.M. (1999), "Why balanced scorecards fail", *Journal of Strategic Performance Measurement*, January (special edition 6).
- Senge, P. (1990), *The Fifth Discipline*, Doubleday Currency, Garden City, NY.
- Senge, P., Roberts, C., Ross, R., Smith, B., Roth, G. and Kleiner, A. (1999), *The Dance of Change: The Challenges of Sustaining Momentum in Learning Organizations*, Nicholas Brealey, London.
- Shulver, M. and Antarkar, N. (2001), "The balanced scorecard as a communication protocol for managing across intra-organizational borders", *Proceedings of the 12th Annual Conference of the Production and Operations Management Society*, Orlando, FL.
- Shulver, M., Lawrie, G. and Andersen, H. (2000), "A process for developing strategically relevant measures of intellectual capital", *Proceedings of the 2nd International Conference on Performance Measurement and Management (PMA 2000)*, Cambridge, July.
- Thomson, J.D. (1967), *Organizations in Action*, McGraw-Hill, New York, NY.
- Williamson, O.E. (1975), *Markets and Hierarchies: Analysis and Antitrust Implications*, Free Press, New York, NY.