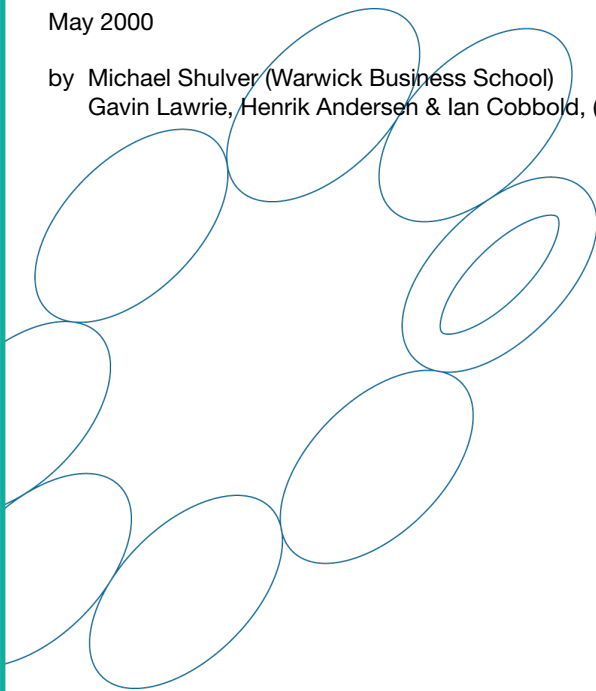


The soft side of the Balanced Scorecard: Developing strategically relevant measures of Intellectual Capital

2GC Working Paper

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Many firms have difficulty when trying to articulate strategy in the “softer” areas of business. Forging links between strategy and management behaviour is generally considered relatively easy in areas such as finance and operations. Traditional budgeting methods have (if sometimes by accident) helped senior managers specify targets for, and measures of, financial performance. Similarly, operational imperatives have resulted in a plethora of measures and targets for inventory management, quality management and so on. However, specifying behaviours, measures and targets in the convoluted domains of, for example intellectual capital and knowledge has proved difficult. Furthermore, this problem exists in a business environment where intangible assets and intellectual capital are seen as increasingly important sources of competitive advantage.

Almost any partial measure that monitors a specific area of interest can be used for management control purposes. However, for strategic control of an organisation i.e. driving the business, measures must be linked to the organisation’s strategy; that is, measures must be strategically relevant.

Consultants and academics working in the field of intellectual capital frequently advocate the route to strategic linkage via taxonomies. That is, firms are advised to select from categorised lists of “appropriate” measures. However, the danger inherent in this approach is that it invariably leads to the selection of generic measures that lack local relevance. This paper describes a process for the selection of relevant measures of intellectual capital. A key attribute of the process is its provision of an explicit method to link strategy to measure selection.

Intellectual Capital

The term intellectual capital (IC) describes organisational resources that may be used as a source of competitive advantage. The ability of an organisation to manage IC may therefore be a key success factor.

Much of the recent work on IC has been undertaken within the area of Knowledge Management. Over the last decade many useful tools have been developed aimed at:

- Mapping and communicating tacit and explicit knowledge
- Developing new knowledge
- Addressing underlying knowledge drivers
- Storing, retrieving and disseminating knowledge

The IC and knowledge management research has also examined approaches to the selection of IC measures. Most of this work refers to the general importance of linking IC measures with strategy to ensure their relevance to an organisation. However, specific guidance on the selection of IC measures that are linked to short and long-term strategic business plans is largely absent.

One result of this absence has been the development of formal taxonomies¹ for selection of IC measures, for example, the Skandia Navigator. Such tools promote the adoption of generic IC measures to accommodate comparison across industries. It is hoped that such comparisons will facilitate:

1. More accurate communication of the value of an organisation to investors by accounting more clearly for changes over time in both tangible and intangible assets, and assist the comparison of these against other similar organisations;
2. Assisting management in improving the external performance of an organisation through a better understanding of intangible asset values.

IC measurement is however, highly dependant on context and therefore, the specification and use of generic IC measures may be at best a waste of effort, and at worst risky and damaging. Managers need first to develop an understanding of cause-and-effect processes within an organisation, as this understanding is key to the effective selection of strategic objectives from which measures are derived. Managers also need to appreciate the complexity of the organisations' internal structures, relationships, and operational linkages as they can hinder the use of generic measures of organisational behaviour.

It seems to be likely, therefore, that generic IC measures will be useful to an organisation's managers more by accident rather than by design, since they will, by definition, inform managers only about generic causal relationships, that is, relationships quite probably bearing no resemblance to what is really going on inside their organisation. If managers do not investigate specific causality, even post hoc, then measurement effort on developing generic IC measures may be expended unnecessarily. If such measurement information is to be used for strategic control purposes, the risks to an organisation are that managers will focus on the achievement of irrelevant generic outcomes at the expense of more appropriate strategic issues.

For example, the improvement of quality performance is generally assumed to be "a good thing." However, a firm operating in new and high-growth market with demand outstripping the supply of its unique products might rightly concentrate on improving, for example, supply-chain performance rather than developing a TQM programme. Quality is always important, but given resource limitations and the inevitable trade-offs that result, the drive to ensure a dominant market position would, and should receive a higher priority than a quality programme.

IC has also figured in work on the development of strategic management tools and frameworks, particularly work on various "scorecard" frameworks. The ability of the models to link IC measures to strategy, and to then expose such links to the wider organisation is both a goal and a success criterion for the models. The frameworks focus on the use of measurement (including IC measurement) specifically to support effective delivery of strategic goals. The delivery is achieved by focusing management attention on measures of activities and processes specifically relevant to the organisation's strategic context.

Therefore, the choice of framework for developing IC measures for an organisation is dependent upon the expected use of the measures. One use could be external comparison, another, supporting internal management behaviour. It is important to make the distinction because the selection and use of IC measures that can support general comparisons across industries is self-evidently at odds with the selection and use of measures specifically relevant to an organisation's strategic context; Figure 1.

¹ Taxonomy used in this context refers to a series of categorised lists of measures.

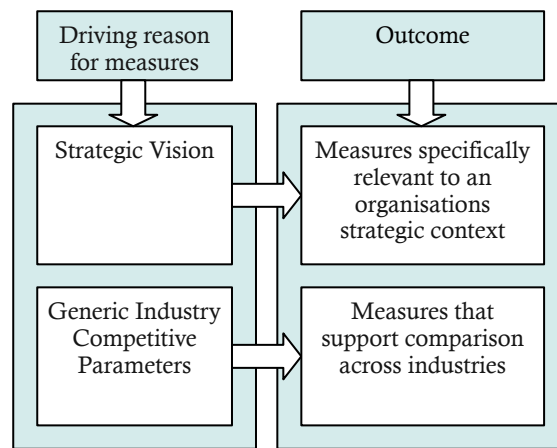


Figure 1 – Different uses of IC measures

These limitations are recognised in the literature relating to taxonomies for example; the authors of two popular IC measurement models designed to support industry wide comparison (IC-report and IC-Index) explicitly recognise this paradox.

So in practice, we can conclude that the use of particular IC measures is more likely to generate value if the measures direct management behaviour in ways that aid the achievement of strategic goals. Currently, IC measures arising from the application of methods seeking to facilitate cross industry comparison are probably unhelpful at a managerial level (for the reasons explained above); indeed, they may even lead managers to focus on the achievement of irrelevant generic outcomes at the expense of more appropriate strategic issues.

A fundamental argument of this paper is therefore that comparing measures beyond their immediate context makes little sense. This paper sympathises fully with the desire to enable comparison of intangible asset values. However, as suggested in a recent report by the International Financial and Management Accounting Committee, the goal of defining and agreeing on such measures in a useful way, is still a long way off. Further, even if such comparisons were possible, the paradox described above would remain a problem.

Process Models

In this article, therefore, we have focused on frameworks that emphasise and support the need for strategic relevance from an internal perspective. Both Roos’ “IC-Index,” and Kaplan and Norton’s “Balanced Scorecard” models focus on supporting the more effective application of internal resources possessed by or made available to an organisation. The main difference between them is in their theoretical basis:

- The IC Index model described by Roos, is a single-loop learning process². In this the underlying assumptions on which the index is based (measures and weightings) are not regularly reviewed and changed. This suggests a lack of flexibility in the model that could be problematic in the rapidly changing strategic environment.
- The Balanced Scorecard framework described by Kaplan & Norton is based on a “double-loop learning cycle”³ that calls for regular appraisal of strategic performance. The framework uses the information provided by the selected measures to drive changes

² A single-loop learning process refers to a simple feedback loop between outcome and behaviour

³ In this context, a double-loop feedback could be described as having both a simple feedback loop as before but in addition has a more sophisticated feedback mechanism in conjunction with the first. This feedback loop serves to analyse the outcome and process of the first loop.

in the measures themselves in the light of changing market and organisational conditions.

Given that the aim of this paper is to help organisations in the selection of strategically relevant IC measures, it is self-evident that an appropriate approach could be closely aligned to that proposed for Balanced Scorecard by Kaplan & Norton.

Balanced Scorecard Frameworks

A concern with the Kaplan and Norton Balanced Scorecard approach is the way in which the underlying strategic objectives are evolved. Kaplan & Norton propose that the organisation's strategy is first analysed by a small group comprising key personnel supported by consultants. Their analysis is used then to drive the selection of objectives on behalf of the organisation's management team. So external agents lacking intimate connection with either the firm or its strategy are the articulators of strategy. While such agents may be able to mechanistically articulate strategic goals and vision, their understanding of such goals and vision is unlikely to coincide with that of those within the firm.

A further concern with the Kaplan & Norton framework is its method of linking strategic goals to the measures ultimately selected. In the development approach described in their book (Kaplan and Norton, 1996), measures are selected through a process of strategic articulation that requires first the selection of key "strategic objectives" across the four Balanced Scorecard perspectives. This selection process involves the choice of strategic objectives in a way that is decoupled from any consideration of the causality between them. Cause and effect links are only considered "post-hoc," however, the key to linking strategy with performance measures is found in the development of assumptions relating to the prior understanding of cause-and-effect relationships.

From the above arguments there would therefore appear to be scope to improve on the Balanced Scorecard design process proposed by Kaplan & Norton both to accommodate the requirement for accurate articulation of strategy, while still satisfying the primary requirement to develop appropriate measures of IC. Such an improved design process is the subject of the remainder of this paper.

Development Process

The process here proposed is based upon one developed by a multinational firm as part of a major programme to introduce the Balanced Scorecard as a strategic management framework for the whole business. The need to repeat the Balanced Scorecard process many times throughout the organisation, working with a wide range of operational and commercial units of varying sizes, and operating in organisational and market spaces of varying maturity required the development of a simple, repeatable, generally applicable process. It also required the development of a common design structure, to allow communication concerning Balanced Scorecards as a class of objects within the organisation. A variety of approaches were tried, including ones based closely on that proposed by Kaplan and Norton. The process described here was developed largely as a result of evolution within the firm as the project progressed.

The process is based around a core set of principles:

- The process must involve directly those who will eventually make use of the measures developed to manage the entity for which the Balanced Scorecard is being designed. Typically, this was “the Board” or some analogue. Therefore, relevant representatives of those who are going to use the information produced by the measurement system must undertake the development of a scorecard.
- The articulation of the strategic objectives, and the development of measures associated with these must be done directly by the group, primarily done “live” during extended workshop sessions. (These first two principles differentiate the process here described from Kaplan and Norton’s process wherein such design work is carried out remotely by consultants.)
- The Balanced Scorecards developed must conform to standard design criteria set out in a common “reference” design developed by the organisation.

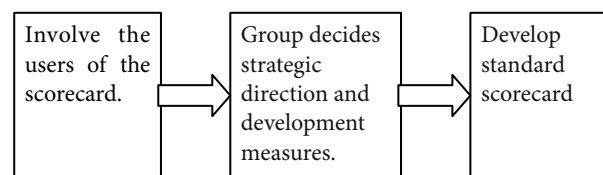


Figure 2 – Principles for a repeatable Balanced Scorecard process

The reference design

The standard design criteria for the organisation’s Balanced Scorecard require it to include the following elements:

- **Vision Statement:** The design must include a formal statement of vision, in which the management group describe how the organisational unit is expected to be five years later, should the unit achieve reasonable success in implementing its plans. The statement describes in concrete detail elements such as size, revenues, structure etc. and also qualitatively describes other elements such as working conditions, management style and market position. The group themselves decide the choice of elements within the vision. In this respect, the vision sets out long-term targets and success criteria for the unit, as well as acting as a focus for identifying the key strategic activities that need to be concluded if the vision is to be achieved.
- **Strategic Linkage Model:** This model is a graphical representation of the entity’s proposed strategic objectives, spread across the four Balanced Scorecard perspectives, linked by arrows showing the primary cause and effect relationships. Once again, the group themselves decide the selection of the objectives and causal linkages. However, there is a limit to the allowed complexity – normally no more than 24 objectives in total are permitted. Each objective is indicated by a short descriptive title. (Here also is a key point of differentiation from Kaplan and Norton’s design process in that this process forces prior consideration of causality.)
- **Strategic objective descriptions:** These brief descriptive statements state more fully each of the objectives selected for the Strategic Linkage Model.

- **Performance measures and targets:** For each objective, one or two measures are chosen on the basis of their ability to monitor progress towards desired outcomes. Choice of measures is normally driven by the need to obtain information quickly and cheaply, and to use sources that update fairly frequently (typically four times a year or more). Targets are set partly in reference to contents of the vision statement.
- **Implementation plans:** These are a set of short-term actions that if delivered will ensure that the Scorecard becomes a core element of strategic management activity within the entity. Typically, this includes setting a timetable for the management group to meet to review the Balanced Scorecard information.

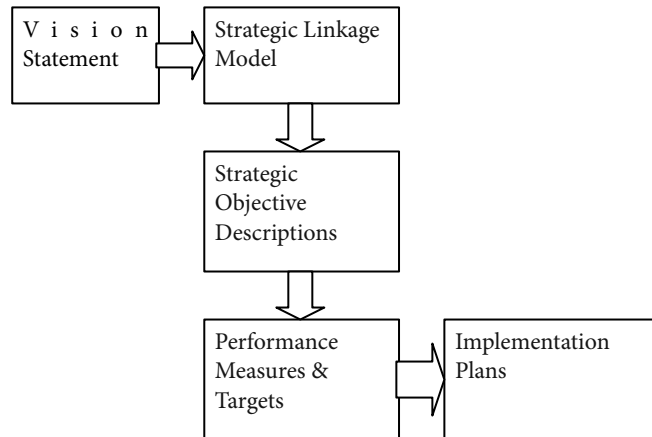


Figure 3 – The design criteria

Case Study

The organisation considered in this study is a manufacturing and retailing business operating across multiple national F.M.C.G. markets (fast moving consumer goods), mainly in Europe. The following case material is derived from a Balanced Scorecard developed for the organisation’s Technical Services Department (TSD).

The TSD is accountable for all central product development and basic research activities, in addition to management of quality systems and “crisis” response policies. In line with the design guidelines, the unit’s management team designed the Balanced Scorecard using a process facilitated by an external consultant. The vision described in detail the department’s expected structure and size five years hence. Since the wider organisation had been going through major organisational change (triggered in part as a result of an earlier Balanced Scorecard development exercise), this visioning activity was difficult, time consuming, and undertaken totally during a series of workshop sessions. The activity triggered substantial discussion within the group about the nature both of the department’s role in the future organisation, and how the managerial task faced by the group would change over time. The group informed their deliberations in part through reference to the vision statements already prepared by other units within the organisation.

The group decided to structure the vision statement as blocks of sentences collected into categories: Financial, Relationships, Processes, Organisation, People and Culture. For example, the Relationship category contained the sentence:

- “Customers believe that “Technical” gives value for money through successful delivery of projects to agreed time, budget, and service standards, and the provision of solutions that create competitive advantage.”

The group then moved on to develop its Strategic Linkage Model. This model comprised the set of primary strategic objectives the group believed described the future development of their strategic management agenda. The group settled on twenty objectives spread over the four Kaplan & Norton Balanced Scorecard perspectives (Financial, Customer, Internal Processes, Learning & Growth). These objectives were linked to show the primary cause-and-effect hypotheses of the group.

For example, the Internal Process objective “Excellence in Project Delivery” was linked to the Customer objective “Technical deliver commercially relevant solutions,” as the group thought improving the management of development projects was to be a key route to improving its reputation with its customer groups. Thirty-two such causal links were represented across the complete diagram, an average of 1.5 per objective, a ratio typical of such designs generally within the organisation.

It was only when the objectives and their causal linkages had been agreed that the group turned to selecting measures. In total thirty-three measures were selected, an average of just over 1.5 per objective. Where more than one measure was selected for an objective, rules were set out that indicated how the multiple measures were to be combined to give a single composite measure showing the overall status of the objective. Of the thirty-three measures, only four were financial. The group had thus selected twenty-nine IC measures (88% of the total) to help guide its strategic management activities. Examples of the types of IC measures selected are shown in Table 1.

The final stages in the development process revolved around the development of a set of actions that would lead to the continued use of the Balanced Scorecard by the group. One part of this stage was to assign subsets of strategic objectives to “owners.” The owners were members of the group who would take responsibility for ensuring that at the planned Balanced Scorecard review meeting the measures associated with their objectives were updated. Another action taken was to agree a regular series of management team meetings specifically allocated to reviewing the Balanced Scorecard design, with a view to adjusting its design in the light of organisation or other changes that lead to changes in strategy.

Objective	Measures
“Use training to drive behaviour change.”	Proportion of key role holders (managers above level 3 and other key staff) meeting requirement defined in agreed HR profiles.
“Make technical information more widely available.”	% New projects using database search facilities during first two months of project.
“Effective use and transfer of knowledge.”	% of NPD projects resulting in actual product launches: measure 1 based on numbers of projects, measure 2 based on share of total NPD budget.
“Develop and provide technical training outside department.”	Comparison of pre- and post- training competencies assessed via questionnaires.
“A preferred partner for innovation.”	Number of technical confidentiality agreements signed with 3 rd parties during previous quarter.

Table 1

At the conclusion of the process (that took a little over three months) the management team had developed a comprehensive set of strategically aligned performance measures, within a framework of strategy articulation that facilitated both the selection of the measures and their subsequent interpretation. The highly interactive and participative approach used had ensured a very high degree of “ownership” of the measures by the group, and had ensured that the strategic vision upon which the whole design was based was well understood and supported by the whole team. That the group concluded by selecting a very large majority of their measures from the class that would usually be called “intellectual capital measures” is an interesting endorsement both of this process as a useful mechanism for their selection, and by the proponents of IC measures as being critical to the management of businesses.

Discussion

As was argued earlier, one of the key success factors for implementing IC measurement systems is relevance. Such relevance being achieved by linking the selected IC measures to strategy. The case study clearly demonstrates that the process proposed in this paper is effective at achieving relevance via strategic linkage. First, creating a detailed vision statement did in fact result in a “shared vision” backed by the whole group, and the existence of this vision facilitated the selection of strategic objectives and so IC measures. Second, developing strategic objectives in a way that effectively highlighted the areas where the unit needed to focus to achieve its vision (80% of the objectives related to intangible factors). Third, the basis of measure selection allowed for the pragmatic choice of available measures, which although not necessarily “complete” were nonetheless effective indicators of general levels of progress toward achieving an objective. What was important was whether the measure selected would reliably alert management to issues that needed to be considered. Having identified a need to probe further, additional information could be sought before action was taken.

Conclusions

The business management literature overflows with suggestions for “relevant” knowledge and IC measures. The view is that if these are measured they will benefit from greater management attention, and so support value creation by the organisation. However, this is as far as the consensus carries.

Generalised approaches to development of IC measures necessarily usually rely on the use of an abstract model. This paper proposes one based on Balanced Scorecard thinking that differs from the “static” IC models proposed previously. The sole purpose of the measurement model proposed here is to improve the organisation’s ability to make informed decisions on the actions needed to implement its strategy, while at the same time evaluating the relevance of the strategy on an ongoing basis.

We have therefore demonstrated that there is a clear need for a process model that supports the development of IC measures that are immediately consistent with the strategy of the organisation. Conversely, we have demonstrated that the application of a generic set of measures as advocated in the content-only models, because of the inherent paradox associated with them, may be doomed to failure.

Finally, a further benefit of the proposed approach is that it promotes the creation of an operational environment that is conducive to ongoing review of both the strategic objectives and the IC measures chosen to track progress.

About 2GC

2GC is a research led consultancy expert in addressing the strategic control and performance measurement issues faced by organisations in today's era of rapid change and intense competition. Central to much of 2GC's work is the application of the widely acknowledged Balanced Scorecard approach to strategic implementation, strategy management and performance measurement.

References

Argyris, C. (1977). "Double Loop Learning in Organizations", Harvard Business Review, 55 (5), pp 115 - 125

Argyris, C. (1991). "Teaching Smart People How to Learn", Harvard Business Review, May – June, pp 99 – 109

Bontis, N., Dragonetti N.C., Jacobsen K., Roos G. (1999). "The Knowledge Toolbox: A review of the Tools Available to Measure and Manage Intangible Resources", European Management Journal, Vol. 4 pp 391 – 402

Brooking, A. (1996). "Intellectual Capital: Core Asset for the Third Millennium Enterprise", International Thomson Business Press, London

Burke, W.W. and Litwin, G. A. (1992). "A Causal Model of Organisational Performance and Change, Journal of Management, 18 #3

Darling, M. S. (1996). "Building the Knowledge Organization", Business Quarterly, Winter 96, pp. 61-66

Davenport, T. H. and Prusak, L. (1998). "Working Knowledge: How Organizations Manage What They Know", Boston (Massachusetts): Harvard Business School Press

Drew, S. (1999). "Building knowledge management into strategy: Making sense of a new perspective", Long Range Planning, Vol.32, No.1, pp.130-136

Drucker, P. F. (1955). "The Practice of Management", William Heinemann Ltd.

Drucker, P. F. (1994). "The Age of Social Transformation", The Atlantic Monthly; Volume 274, No. 5, November, pp 53-80.