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The Balanced Scorecard Approach to Integrating Sustainability Policies[1]

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Abstract

Indicators of sustainable development abound. There is, however, a pressing need for frameworks consistently organizing such indicators and applying them as a management tool for policy integration. In recent years the Balanced Scorecard (BSC) has been developed and implemented as an instrument of strategic management in many companies. The BSC goes beyond a system of indicators as it supports the development of a strategy as well as the consistent integration a variety of measures with respect to that strategy. Meanwhile, the BSC has been adapted for sustainability objectives of firms and for non-profit organizations.

The paper evaluates the potentials of the BSC to support the management of a society's sustainability strategy such as the Sustainability Strategy of the German Federal Government. Firstly, the BSC approach is briefly outlined and the challenges in the implementation of a sustainability policy are discussed with regard to the German Federal Government's Sustainability Strategy. It is shown that the BSC approach is applicable to support a society's sustainable development. Subsequently it is investigated which of the key elements of the BSC approach are present in the German Federal Government's Sustainability Strategy. It is concluded, that it incorporates many of these elements. However, as the Sustainability Strategy lacks a comprehensive assessment of cause-effect relations, the full potentials of the BSC approach to integrate the strategic objective – sustainability – into all policies and to initiate and support strategic learning, can not be fully exploited. It is therefore to be recommended that research is initiated for generating additional knowledge about cause-effect relations and trade-offs of sustainable development.

[1] This paper draws on a thesis by Rauh 2004 under supervison of the present author.

1. **Introduction**

Indicators of sustainable development can be constructed for different objectives (Kuik/Gilbert 1999, Endres/Radke 1998, SRU 1994, Blazejczak/Edler 2003a,b). Depending on the objectives, different properties may be desirable. A retrospective assessment of sustainability can be based on indicators of the state of the environment (as well as the available stocks of other assets). Forecasting if an economy will be sustainable in future requires to describe pressures on the environment as well as modelling inter-linkages between social, economic, and environmental variables based on causal relations derived, for example, from economic theory. Using indicators for managing a transition towards sustainability yields an additional requirement: systems of indicators must be constructed in a way which supports critical management processes such as communication, integration and learning.

In recent years the Balanced Scorecard (BSC) has been developed and implemented as an instrument of organizing indicators and a tool of strategic management in many companies (Kaplan/Norton 1996). The BSC not only extends the range of indicators to be used for steering business processes but also organizes these indicators in a systematic way. It even leads beyond a system of indicators as it supports the development of a business strategy as well as the consistent integration a variety of measures with respect to that strategy. While, the BSC approach has been adapted for the sustainable management of firms and for managing non-profit organizations, its potentials for managing a society's transition towards sustainability have not been fully explored yet.

The present paper aims at exploring the potentials of the BSC approach for supporting a society's sustainability strategy

- by providing rules for systematically organizing the indicators used for judging progress towards sustainability and
- by supporting critical management processes required in the transition to sustainability.

The paper will do so by looking at the Sustainability Strategy of the German Federal Government. The extend to which this strategy corresponds to the BSC approach will be pointed out and possible improvements will be recommended.

In the following section 2 the BSC approach is briefly reviewed. In section 3 the Sustainability Strategy of the German Federal Government is characterized. Section 4 discusses the implications of the BSC approach for organizing indicators of sustainable development and will reveal a major weakness of the Sustainability Strategy of the German Federal Government. Finally, section 5 will explore how the BSC approach can support the

management of a sustainability strategy; it will be argued that a number of elements which can be derived from the BSC approach are already present in the Federal Government's Sustainability Strategy, but that the potentials offered by the BSC approach are not fully exploited.

2. The Balanced Scorecard Approach

The Balanced Scorecard (BSC) approach, developed by Kaplan and Norton (1996), aims at linking the formulation of strategic objectives of enterprises with their implementation in different areas of business. It deduces from rather general visions precise objectives corresponding to specific indicators. By combining objectives of departments, projects or persons with budgeting procedures, providing feedback-loops, and integrating incentives, the BSC serves as a comprehensive management tool.

The BSC intends to be balanced with respect to indicators

- relating to strategic and operative objectives,
- serving internal and external information needs,
- referring to past and future successes, and
- describing quantitative as well as qualitative drivers of success.

Central to the BSC approach are the organization of goals, measures, and indicators into a number of *perspectives* and the linking of objectives through *cause-effect* relations. Traditionally, measuring performance of a firm was limited to financial indicators. The BSC extends this view by introducing – in addition to the financial perspective – an external customer, an internal process, and a future oriented learning and development perspective, thus striking the balance described above. There is a hierarchical ordering of the perspectives: the financial perspective still represents the focus of the other perspectives, while the learning perspectives forms the long-term basis for success in the other objectives. These specific perspectives are meant as a proposal to be modified according to the specific context.

The other essential ingredient of the BSC approach is the linkage of objectives within as well as among perspectives by identifying cause-effect relations. Observing the interdependencies among different objectives is a prerequisite for successfully implementing a strategy. Actually, the strategy is regarded as a set of hypotheses about causes and effects. Identifying cause-effect relations allows to forecast the success of a strategy early. It also avoids the danger of unduly focussing on subsidiary objectives. Following from the view that the cause-

effect relations are hypotheses about the functioning of the business, they have to be continuously evaluated and adjusted.

Beyond serving as a framework for consistently organizing sets of indicators the BSC is suited as the basis of a comprehensive management tool. Although primarily designed as an instrument of implementing a strategy it still supports *strategic planning* by identifying relevant objectives and causal relations. It also makes executives aware of conflicting objectives and initiates strategic learning. While strategic planning derives a general strategy from a vision, the *implementation* of a strategy requires the development of a progressively more concrete set of objectives and indicators broken down to the level of departments or fields of business. The BSC approach helps to integrate these with the overall strategy. The BSC approach also involves the choice of measures to reach these objectives and the linkage of these with the budgeting process. Thus financial and other resources of the firm are distributed according to its strategy. Finally, the BSC approach implies *strategic control*, the term "strategic" referring to the intention of generating a permanent learning process in order to refine the strategy. This requires that the hypotheses about cause-effect relations – i.e. the strategy itself – is revised in response to failures with respect to strategic objectives. Thus, the success of a company is not seen in reaching certain objectives; rather a process oriented notion of "success" is implied which aims at permanently transforming the company.

Many enterprises integrate environmental and social objectives into their strategies. Because of its flexibility the BSC approach can be modified for the sustainable management of a firm (Schaltegger/Dyllick 2002). By incorporating non-monetary and qualitative variables it seems particularly well suited for taking environmental and social objectives into account. Through its focus on causal links it is able to fully integrate these objectives into the overall strategy of the firm. Environmental and social objectives may either form an additional perspective of their own (sometimes referred to as the non-market perspective) or be subordinated under the four conventional perspectives. The latter procedure has the advantage of making obvious the influences of these factors on the more traditional objectives of the firm.

The BSC approach has also been modified for non-profit organizations, for example by focusing on the customer perspective while still recognizing the importance of finance and learning (Scherer/Alt 2002). Experiences show that because of its flexibility the BSC approach is well applicable to projects which are quite different from commercial firms.

3. The Sustainability Strategy of the German Federal Government

The sustainability strategy of the German Federal Government is compatible with the so called “three pillars”-notion of sustainability, comprising environmental, economic and social objectives (Bundesregierung 2002). It has adopted somewhat more specific strategic objectives, however: intergenerational justice, quality of life, social coherence, and international responsibility. Each of these objectives relates to the environment as well as the economy and society. For example, intergenerational justice requires to take into regard chances and risks of present decisions for future generations. This principle is to be applied to the preservation of the natural basis of life as well as to public debt and social security.

The four strategic objectives have been broken down into 21 more concrete aims. For example, intergenerational justice is understood to require, among others, to use scarce resources efficiently and to continually improve qualification. To improve the quality of life, mobility has to be organized in an environmentally sound way.

To be able to measure progress, indicators have been proposed for the 21 aims. Some of the indicators can be expressed quantitatively, others are qualitative indicators. An environmentally sound mobility would be measured against the objective to double the rail freight traffic until 2015 compared to 1997 and an unspecified improvement of traffic safety, besides other indicators.

At the level of indicators relations between different objective become more clearly visible. Air quality, for example, is improved if emissions of greenhouse gases are lowered, and land use is reduced if areas used for traffic are limited. On the other hand, conflicts exist between different objectives, of which the German Government is aware (Bundesregierung 2000: 66): it points to the obvious conflict between public expenditure (for child care and R&D) and the aim of reducing government debt, or between economic growth and greenhouse gas emissions. The latter trade-off can be mitigated through increases of energy efficiency or structural changes.

The Federal Government has defined a number of priorities for a sustainable development of the German society for which catalogs of concrete measures have been elaborated. For three of the priority fields of activity – efficient energy use and climate protection, environmentally sound mobility, and food safety – pilot projects have been defined to demonstrate the feasibility of sustainability in practice.

As it regards sustainability as a permanent process of searching and learning, the federal government recognizes that the participation of all groups of society is a necessary

prerequisite for the success of its sustainability strategy. For its development it has therefore organized a discussion among enterprises, unions, science, environmental organizations and other groups. The strategy will also be regularly controlled and revised as necessary. A first progress report has been published recently (Bundesregierung 2004). It reports on the 21 indicators, takes stock of achievements with respect to 4 priority fields of activity, and elaborates further priorities.

4. Organizing Sustainability Indicators with the Balanced Scorecard Approach

It is quite obvious that several of the key concepts of a BSC are present in the sustainability strategy of the German Federal Government. There are four strategic objectives in the sustainability strategy which could be regarded as perspectives of a BSC. However, none of these objectives - intergenerational justice, quality of life, social coherence, and international responsibility - suits to form the top of a hierarchy as the financial perspective does in the original BSC approach. As a consequence, conflicts between the strategic objectives may not become easily visible. To solve this problem, the environmental perspective could be regarded as representing the dominant strategic objectives of the sustainability strategy. This does not correspond to the principle of equivalence of the three perspectives, however. This principle is well justified by the motivation to make the sustainability strategy acceptable for all groups of society (DIW, WI, WZB 2000). The same objection applies to the proposition to choose intergenerational justice as the priority perspective. Alternatively an additional perspective “overall sustainability” may be introduced. It is not clear, however, how this perspective could be broken down into a number of verifiable goals which could then be linked to the four strategic objectives. A way out of this problem may be to use the three dimensions of sustainability – the environmental, economic and social dimension – as perspectives and subordinate them to the overall sustainability perspective. In this way, opposite contributions arising in these dimensions would become visible. This allows to identify elements of a sustainability strategy which minimize conflicts with respect to the three dimensions of sustainability (Blazejczak, Edler 2004a,b). The problem remains how to attribute the four strategic objectives of the sustainability strategy (or the 21 indicators) to the three dimensions of sustainability. Corresponding to the learning and growth perspective of the original BSC, a future oriented innovation and development perspective could be added which supports the environmental, economic and social perspectives.

The second element central to the BSC approach is the identification of causal relations between different objectives and indicators across the perspectives of the BSC, including leads, lags and feedback loops. The cause-effect relations are understood to be hypotheses to be revised if suggested by evidence. However, a thorough and comprehensive analysis of such relations is yet to be undertaken for the sustainability strategy. The vagueness of the strategic objectives and the multitude of programs and initiatives that are subsumed under the sustainability strategy of the Federal Government which result in a very high degree of complexity may make it difficult to identify clear chains of causality. As a first step, cause-effect relations may be constructed separately for the priority fields of action. Integrated assessment models could be one of the tools for formalising such relations. They need to be supplemented by other instruments such as methods of multi-criteria analysis in order to integrate non-quantitative aims and indicators.

5. Managing Sustainability with the Balanced Scorecard Approach

The BSC approach can effectively support the process of leading society towards sustainability. The sustainability strategy – as every strategy – has to be continuously developed, implemented, and controlled. This implies

- (re)formulating the strategy,
- forming a consensus with respect to the strategy,
- communicating the strategy,
- launching strategic initiatives,
- adjusting the aims of particular groups and the objectives of the strategy,
- linking strategic objectives with medium and short term aims,
- providing resources for the implementation of the strategy,
- periodically review the strategy,
- organize feedback and learning.

The BSC supports the management processes which are necessary to cope with these challenges.

Although not primarily designed for *developing* strategies, the BSC can still support the (re)development of the sustainability strategy. By breaking down the overall strategy into a number of strategic objectives, aims and measures its feasibility can be assessed. Even more so, the identification of cause-effect-chains may point to possible problems concerning the

internal consistency of the strategy. Also, points of departure for improved performance can thus be identified. The systematic assessment of the relations between the different perspectives and aims of the strategy will also facilitate changes and adjustments which may be the result of control and feedback.

The particular strength of the BSC approach lies in its capability to consistently coordinate the *implementation* of a strategy. In this process the general strategic objectives have to be broken down to more specific aims of particular organizational units. Only for the federal government itself a strict deduction of specific aims seems feasible. For other groups of society the BSC of the Federal Government rather provides a framework for the formulation of their own strategies. In any case, measures have to be elaborated in order to achieve the specific aims, responsible organizations or persons have to be assigned, and indicators have to be developed for measuring the degree to which the specific aims are being met. To promote the attainment of the specific aims incentives can be created or legal standards be set. The BSC approach - by establishing a framework which guides the definition of specific aims – initiates a broad communication to which voluntary agreements seem to fit particularly well. In addition, support of the sustainability strategy is mobilized through communication.

Regular *controls* of the strategy are essential. Through these controls the degree to which the objectives are met is to be assessed. In addition, the assumptions on which the strategy is based are to be evaluated and the strategy is to be revised if necessary. In the progress report of its sustainability strategy the federal government evaluates the indicators to access the degree to which progress has been made with respect to the corresponding objectives. This assessment is limited to the status-quo, however. Because no comprehensive set of hypotheses about cause-effect relations has been elaborated, the reasons for positive or negative developments can hardly be detected. Neither can drivers of success be identified nor can interdependencies between objectives which may be responsible for failures be recognized. This deficiency also works as an obstacle to strategic learning about the validity of the sustainability strategy. This becomes obvious when the progress report (Bundesregierung 2004: 9) argues that no progress can be expected yet for most of the indicators; without explicit hypotheses about lags between drivers and indicators this statement lacks substance.

6. Conclusions

The BSC approach offers a number of elements which are well suited for developing and implementing a society's sustainability strategy. In particular, taking up these elements will

- create transparency of strategic objectives, thus reducing room for differing interpretations,
- link – frequently short term oriented - sectoral aims and measures to strategic objectives, providing an instrument of policy integration,
- help to organize indicators in a systematic way, making them an instrument of forecasting and steering,
- initiate strategy learning through control and revision of the strategy.

The Sustainability strategy of the German Federal Government incorporates many of the key elements of the BSC approach. It has

- defined strategic objectives and organized them into a number of perspectives,
- broken down strategic objectives into specific aims and measures,
- initiated a broad process of communication,
- provided mechanisms of control.

One major weakness of the Sustainability Strategy has become obvious, however: It lacks a thorough and comprehensive assessment of cause-effect relations. This turns out to be an obstacle in several respects. Without this element it is difficult to

- detect possible inconsistencies,
- identify drivers of success,
- provide links for the strategies of other groups of society,
- extend assessment beyond a description of the status-quo,
- develop strategy learning.

It is therefore to be recommended that research is initiated for generating additional knowledge about cause-effect relations and trade-offs of sustainable development.

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