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Scoring strategic performance: a pragmatic constructivist approach to strategic performance measurement

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Abstract This paper analyses the characteristics of good strategic performance that contribute to the overall performance of a successful company. We apply a framework of pragmatic constructivism in order to analyse and measure strategic performance. We use the model for performance measurement based on pragmatic constructivism for the more specific topics of measuring, assessing and analysing strategic performance as opposed to operational performance. This paper analyses the characteristics of strategic performance that successfully enhance the overall performance of the company. The purpose is to outline a framework for strategic performance measurement that can be used to guide and measure strategic leadership. The framework focuses on the concepts of coherence and coherence tracing as the basic concepts for strategic performance and thus the task for strategic performance measurement.

Keywords Strategic performance · Coherence · Pro-active truth · Learning theory of truth

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1 Introduction

In recent years, strategic performance measurement systems such as the balanced scorecard and the performance pyramid have attracted a lot of attention. These systems primarily focus on the implementation of all the strategic objectives in the whole organisation. Additionally, they are meant to give feedback to top-management for learning and improvement purposes (Kaplan and Norton 1996: 19). However, the concepts and tools for analysing these additional aspects of strategic performance seem abstract and under-developed in these frameworks. They tend to focus on the attainment of strategic objectives at the operational level and hence to presuppose that the strategy that was formulated by top management is right. Thus, they cannot assist in improving the basic strategic goal setting.

The purpose of this paper is to develop a measurement tool for evaluating the strength and quality of the strategy. It describes a conceptual framework for strategic performance measurement that can be used as a tool for leadership and for leadership evaluation. The measurements are not only a means for assessing leadership performance but also an instrument for providing constructive feedback and enabling leadership to improve strategic performance practice.

To characterise the role and contribution of strategic performance, it is necessary to distinguish between strategic performance and other factors that influence organisational performance. The total company performance is mainly determined by two inter-related factors, one of which is strategic performance and the other is the operational performance. Good strategic performance improves total company performance. As the effects of the strategic performance and the operational performance may counteract each other, the total company performance is not therefore an adequate measure for strategic performance. Total company performance measures are obviously important, but they are insufficient indicators of the strategic performance. Adequate strategic leadership assessment and feedback must separate strategic performance from total company performance.

Measuring and assessing strategic performance with any degree of precision is only possible if we understand the necessary and sufficient conditions for successful strategic performance. To understand this, we need to understand the role of strategy; why must a company have a strategy? what is it? and how does it differ from operative practice? However, we do not intend to describe strategic practice as such. Any practice can be described in an infinite number of ways. Whether one of these is called 'good', 'best' or 'new strategic practice' is not essential to practice. What is essential, however, is how the strategic performance practice influences the overall company performance. A framework for strategic performance measurement must therefore determine the characteristics of successful strategic practice.

Our point of departure is the necessary and sufficient conditions of successful action in practice as outlined in pragmatic constructivism (Nørreklit et al. 2006, 2010). In order to differentiate between operational and strategic performance measures, the distinction between efficiency (i.e. the input–output relation) and effectiveness (i.e. the output-goal relation) measures is discussed and we relate these concepts to the notion of integration of pragmatic constructivism by means of the notion of coherence between operative units. While the performance of operative units is measured in efficiency, the coherence between them is a strategic issue measured in terms of effectiveness. Accordingly, the measurement of strategic performance is approached by means of the general model for performance measurement based on pragmatic constructivism (Nørreklit et al. 2007). In this paper, the model for performance measurement is applied to the area of strategic performance to uncover the characteristics of strategic performance. This enables it to improve the successes and achievements of the company.

Since the purpose of this paper is theoretical, namely adapting the pragmatic constructivist performance measurement framework to strategic performance, the methodology is model construction, i.e. of a theoretical and conceptual nature. We do, however, use the empirical case study of “Discovery” (Nørreklit and Nørreklit 2008) to illustrate how the model can be used to analyse strategic performance by identifying strategic problems and improving the strategic performance in order to benefit the overall company performance. We do not, however, construct the conceptual model based on the specific case because our framework is supposed to apply to any case. We adopt a general line of argument in the construction of the framework. It outlines the necessary and sufficient conditions for successful strategic performance. There is an inevitable holistic aspect in our procedure because the role of strategic performance must be determined. This involves setting it in the broader context of company performance as mentioned above. By creating the framework, we create a tool with which to raise relevant empirical questions and measurements and organise empirical as well as theoretical studies and arguments accordingly.

This paper provides a contribution to the general analysis of the conditions for success in practice by clarifying the role of strategic performance and then combining this with the framework for performance measurement. The paper contributes to the literature by suggesting a tool for evaluating the quality of the strategy. Issues of strategy implementation (see e.g. Kaplan and Norton 1996) and strategic cost management (Shank and Govindarajan 1992) are not touched upon in this paper. Our approach complements the balanced scorecard approach to strategic performance measurement (Kaplan and Norton 1996) by assuming that the strategy formulated by the top management is not necessarily right, i.e. it does not necessarily improve overall performance.

The paper is structured as follows. First, strategic performance is defined and developed from the view of pragmatic constructivism. Second, an operative framework for strategic performance measurement is introduced. Third, a case study is presented to illustrate the working of the framework. Finally, some reflections concerning future research are presented.

2 Strategic performance

2.1 Internal-external fit: the task of strategic performance

When defining strategic performance, we consider the notion of strategic fit that underlies most of the dominating strategic literature as a vital concept for company performance (Chandler 1962; Clarke 1987; Miles and Snow 1978; Heijltjes 1995). It states that strategy is concerned with creating a match between a company's external environment and its internal structures and resources. No matter whether the point of departure is the positioning of the company in the market (Porter 1980, 1985), an outside-in approach, or the developing of the company's competences and resources (Prahalad and Hamel 1990; Collis and Montgomery 1995, 1997), i.e. an inside out approach, the notion of strategic fit is a matter of importance. Therefore, we consider the purpose of the strategy and thus the goal towards which strategic performance should be measured to be a best possible fit between *external* business conditions (market demands, competitors, suppliers, institutions, regulations, etc.) and the organisation's *internal* capabilities and resources.

By "strategic profile of a company" we therefore mean the structural relations between a company's internal structure and its external environment. Fit is a quality of these relations, which enables the company to operate effectively in creating and meeting environmental expectations and achieve numerical results. Strategic fit is achieved through strategic, not operative performance. Without strategic fit operative performance creates little or no positive effect. The overall strategic task is therefore to develop the strategic profile that results in the best fit possible between the internal and external factors and hence high strategic performance. It is the strategic performance that moulds the strategic profile and thus ensures that the products and processes of the company fit the market and institutional conditions. The strategic performance of a given period is represented by the endeavours to improve the strategic profile, i.e. to improve the strategic fit of the company-environment relation. Strategic performance measurement addresses the quality and changes in the strategic profile to assess the effects of the strategic practice.

The strategic profile is subject to continuous change. Without any strategic performance the profile will become out-dated and the fit deteriorate. Strategic practice is necessary to improve the fit and counter its deterioration. Strategic performance has inherently a long-term or semi-long-term perspective. The results of strategic endeavours in one period show themselves in later periods. However, some changes in profile are due to unforeseeable environmental events. This is a risk factor. Many events are likely to happen at some point in time; and strategic performance must prepare for such eventualities.

From a leadership perspective, the internal-external relation is asymmetrical. Internal conditions are controlled directly; which external conditions are not. The market reacts to the endeavours of the company's behaviour as it pleases. The external conditions must nevertheless be influenced to create the fit with the internal conditions. Here the control of the internal conditions is also a tool to exert influence on the external conditions. Strategic work affects internal conditions not only to achieve the relevant output but also to influence external parties to demand the output. The strategic behaviour is concerned with understanding of the market's needs and demands and transforming this knowledge into a system of internal company operations. It influences the internal-external relations relatively indirectly through the one part of the relation of which it has some control, the internal part.

This has the consequence that strategic work must analyse and mould the internal conditions as a set of cooperating operational units (e.g. departments, profit centres etc.) that are subject to strategic leadership. Each of these units is supposed to operate according to principles for operational efficiency. The coordination between the units is controlled by the endeavour of creating effectiveness in the interplay between the units. The overall internal operational efficiency of the company is a function of the efficiency of its operational units and the effectiveness of their interplay.[1] Whether internal efficiency leads to success for the company depends on its overall effectiveness, i.e. the fit between internal and external conditions.

Operational performance is basically measured in terms of efficiency, i.e. input–output relations. Strategic performance is, accordingly, basically concerned with and thus measured by issues of effectiveness, i.e. output-goal relations. The purpose of strategic performance is to mould the internal chain of activities to improve the overall fit, i.e. its effectiveness. When using effectiveness as performance measure, one must distinguish between the goal and the purpose, which reflects the need and demand the output is to fulfil. The purpose of the output is to fulfil the need of the next operating unit in the chain. The performance is not primarily the realisation of the goal but the fulfilment of the need or demand. The goal is relevant for performance measurement only in so far as it is an adequate expression of the demand (purpose, need). The goal is not part of the performance but of the planning of the performance. Thus, an agent may be able to create a misleading performance measurement, if measurement concerns the realisation of the goal if he can influence the goal setting. The goal is only a relevant measure of effectiveness if it expresses the need or demand of the receiving unit., i.e. the goal relevant to effectiveness is not a function of planning as such but of the needs of the receiver of the output. The goal formulation must itself be part of performance evaluation. This presupposes that there is a performance measurement that does not depend on the defined goal. A unit may for many reasons aim at achieving goals that are not adequate expressions of the needs or demands that it aims to fulfil. Thus, in performance measurement a definition of effectiveness as the relation between output and need or function that the output is aimed at fulfilling is needed. Goal setting and goal implementation are means to achieve a performance, not the performance as such. The performance of a hospital department, for instance, is not x number of operations (goal), but the intended improvement of health (demand).

Goal setting is a planning instrument that aims at connecting output of one unit with the demand of the next unit.[2] Goal setting is a leadership instrument to influence the operating units in order to coordinate the output-need flow to enable effectiveness. Thus, there are two performance issues in goal setting: the ability to fulfil the goal (implementation); and the purpose of the goal, i.e. its ability to fulfil the need. The performing unit wants goals which it can implement efficiently, while the receiving unit wants goals that serve its needs so that it can function efficiently. In this way, the goal setting related to effectiveness is a process of mediation

[1] Thus there is a hierarchical relativity between efficiency and effectiveness in that efficiency on the higher level is a function of efficiency and effectiveness on a lower level. Activities on all levels can be analysed with respect to efficiency and effectiveness.

[2] Obviously, need and demand may differ. The demand is a recognised and formulated need. However, the best strategic performers often observe needs for products that have not been transformed into demand, because customers have not yet recognised the possibility of such products.

between operating units. The strategic work concerns not the goal setting between two units as such but with the whole system of goals connecting all the units involved to create a coherent whole.

The specific goals are based on operational planning. They are guided by the overall structure of the system of goals, which is the result of the strategic performance. This performance results in the formulation of a conceptual topos[3] which outlines the general structure of goals and endeavours that function as basis for the specific goal setting in operational planning. Thus strategic performance results in formulating a topos that creates a coherent goal setting that facilitates efficiency and effectiveness.

The internal-external fit is a relation between two systems of coherent relations: the internal coherence of the operational activity centres of the company; and the structural demand of its environment arising from relations of operational activities in the environment thereby constituting the market demand for its products. Thus, both the internal and the external conditions are themselves a set of operational units that interact based on how they cohere with each other. If they did not cohere, cooperation would become uneconomical. There is always in the market an economic incentive to improve coherence. Innovative strategic performers spot and initiate development of possible products or other services that can improve environmental coherence and which they can produce at an acceptable price. The market naturally absorbs products that improve its functioning, i.e. products or services that improve the coherence of its operating units. The market may or may not have recognised and formulated a demand for a certain type of product—if the product can improve coherence in the market, then the need and thus potential for it exists. If it is new type of product, the market may be unaware of its benefits and it is the task of the company to drive the creation of the demand. When, for instance, the personal computer was envisioned the market had little demand. However, the service that a personal computer could produce was obviously very much in demand. Therefore it had a great future. Thus, a company exists because it contributes to the functioning of the environment by improving the coherence in the life-world of people.

To delineate strategic performance a deeper understanding of coherence, what it is, what its dimensions are and how it relates to success is needed. Below, we consider the ontology and corresponding epistemology, which underpin the model for strategic performance measurement.

[3] We use the term topos (cf. topic) in order to characterize the concepts used by a unit or actor to direct and legitimize its activities. The communicated conceptual body of perspectives, arguments and concerns used to control the performance, is the operating *topos*—a term captured from rhetoric. For instance, the topos of a person is the expression of the mode of thinking by which he uses his understanding of his situation in the world to reach a conclusion on what to do and what not to do. For example, the President of the case company of Discovery (see below) states his personal strategic ideas in the following narrative that expresses his topos: "I want sales growth. Don't you see! I am a small man, but I want to make the firm big—as big as possible. But I don't want to go on a trip and come back without any money. I have to make a profit. Perhaps I want to make a good profit, and then sell when it stops. I think I want to be in the firm for the foreseeable future. I am a little scared of not continuing. I want my freedom, but you are not always free since you always have to relate to others. I want to keep on top, or else I will feel lonely. When you get older you get to be more of an advocate type".

2.2 Pragmatic constructivism as basis for strategic performance

Strategic performance measurement is problematic if it is based on a paradigm that is ontologically rooted in the mechanical realism and combined with a positivist epistemology that focuses on logically independent facts characterized by statistical correlation (Buzzell and Gale 1987; Kaplan and Norton 1996; Ittner and Larcker 2003). Such facts are historical records in the description of activities. Causality is therefore understood as a historical record of statistical correlation that can hopefully be generalised into future situations. Ontological realism *assumes* that the statistical correlation exists as causes that somehow 'push' the effect into existence. The evidence is limited to the historical correlations. This concept of causality looks for a decisive cause, and, if one cannot be found, for a combination of causes. It appears to have an almost metaphysical (religious) belief in an identifiable operating causal mechanism behind any and all of the historical correlations. However, such notion of causality does not provide an understanding of coherence. Indeed, it provides no understanding at all, it does not even consider understanding as something scientifically relevant. It correlates facts only. It disregards inherent relations that constitute coherence or incoherence and it provides no understanding of the nature of creative action as needed in strategic performance. Thus mechanical realism is prone to generate validity problems.

To avoid these problems we apply a framework for reality which defines that which is relevant, namely, the conditions for successful performance which redefines the effective causal factors leading to successful performance in a direction that is more in accordance with organisational reason and sense-making as tools in strategic leadership. Since the essence of a pragmatic approach is concerned with the fulfilment of expectations, i.e. success, we need to take a pragmatic approach that aims at defining and constructing a viable strategic profile and uses the statistical information as measurements and instruments for interpretation, i.e. a pragmatic constructivist approach is the choice of framework in this paper (Nørreklit et al. 2006, 2007, 2010).

Pragmatic constructivism reinterprets the concept of reality. Reality is a very different concept than the concept of the world. Traditionally, ontological realism perceives these two concepts in the same way although they obviously have very different logic. While reality operates with an alternative, i.e. that which is not real, there is no such alternative to world—the idea of a no-world has little meaning. Therefore these concepts must be interpreted as two distinctly different concepts. Thus, reality is not simply defined as the world or the things in the world that exist logically independent of human awareness. The concept of reality is pragmatically interpreted as concerned with an actor's ability to function due to sound (realistic) relationships to the world. Reality means that the relations between the actor and the world are reliable and trustworthy for the actor, while fiction and illusion express missing or faulty relations between the actor and the world leading to failure if they are used as basis for action.

There are four dimensions in the actor-world relation that must be integrated in order to lead to success in action. The necessary and sufficient condition for an action to be successful is that these four dimensions in the actor-world relation are integrated in the actor's perspective: facts, possibility, value and communication. Actions must be based on facts, not fictions. Possibilities must be integrated with the facts—otherwise they cannot be realised through action. Mere abstract or logical possibilities are insufficient. But if possibilities are factual then they can be realised given the factual conditions. Further, the values of the actor must lie within the horizon of the possibilities—otherwise the actor is not motivated to act regardless of whether he has the possibilities or not. Finally, communication works in coordinating activities if and only if it expresses such integration of facts, possibilities and values for the actors involved. It is the very integration of these dimensions that causes people to act and succeed. If one of these dimensions is not integrated in the basis of action then the endeavours fail. Any reductivist approach that focuses on one, two or three dimensions only is problematic as an instrument for decision-making and control because it tends to create instability. It represents a one-dimensional type of thinking that attempts to identify the one cause that is able to solve all the problems and is notoriously problematic. On the other hand; an approach that integrates all the dimensions will cause things to happen by themselves, i.e. if employees are aware of the facts, if the possibilities lie within the facts and if their values are within the range of the possibilities, then they act and succeed. All the concepts of facts, logic and possibility, value and communication are widely debated.

We shall now explicate how each of these dimensions defines relations in the actor-world perspective. Pragmatic constructivism is a form of realism that is concerned with the realism of all four dimensions. Each dimension expresses an actor-world relation that is realistic or not. The factual dimension is concerned with the relation of perception. *Facts* (Wittgenstein 1922) are based on a source that exists independently of the observing actor as assumed in realist ontology. There is a world (physical and biological) that exists independent of human consciousness. Sense perception may, however, be misleading. Thus, a thing does not *exist as a fact* until it is recognised and established as a fact, i.e. we have evidence that demonstrates that we are not mistaken.[4] There is nothing one can call 'facts' unless it has been recognised and established as facts. The factual is the opposite of, for instance, dreams, wishful thinking and deceptions, not because there are no fictions and dreams, but because what we dream and envision cannot be established as facts. The dream, the wish, the lie are in themselves an experienced reality, but what people dream, wish or lie about is not. There are all kinds of facts and fiction, imaginations, dreams, wishes, stories etc. But whether what is imagined, dreamed, wished or told is a fact is a different matter. The €100 bill in my wallet is real because I can find it there and use it, i.e. evidence for its existence is ready available. But the €1 million in my wallet is a dream because I cannot find it and show it to anyone. To establish successful strategic performance, we have to gain knowledge

[4] There is an almost endless discussion about facts. According to our point of view (Nørreklit et al. 2010), the early Wittgenstein (1922) makes the same mistake as the one ascribed to the mechanical realist: confusing reality and world. He ascribes facts to the world as if they exist totally independent. Contrary to things, facts do depend on human recognition and documentation. Their existence involves a human construct in addition to the matter in the world.

about relevant facts (e.g. market, organisational capacities and capabilities) and not be misled by fictions.

As regards the construction of possibilities they cannot be perceived as they have no appearance. They are cognitive constructs. Reflection and cognitive analysis are concerned with identifying the modalities, i.e. the possibilities and necessities. However, possibilities and facts must be integrated. Things in the real world are not simply ‘brute’ facts, they are loaded with possibilities. Real things imply a set of things that one can do and things that one cannot do. They imply possibilities and impossibilities (Nørreklit et al. 2010; Pierce 1878; Zinkernagel 1962; ultimately Aristotle’s theory of potentiality). All facts, all things and all elements we define are defined with relation to possibilities. Money involves possibilities to buy, cars involve possibilities to move, etc. If the possibilities that we are interested in realising are not given with the facts at hand, i.e. if they are not factual to the actor, then they cannot be the basis of action. A thing that does not influence possibilities for action in any way, not even in theory, is a no-thing. All factual matters have implications for action and fill the world with real possibilities and impossibilities. The particular market conditions, organisational resources and the capacities of a company have implications for its strategic possibilities.

Also, possibilities can be purely logical and speculative, i.e. out of reach und thus unreal. The actor needs real possibilities, i.e. possibilities that are factual. Factual possibilities are integrated with the facts within the reach of the actor’s control. However, if possibilities are factual, then they can be realised. Success is possible. If we have the money, then we can buy, if we have the car, then we can drive provided the necessary institutional conditions apply. However, although facts are rational cognitive constructs we accept the existence of possibilities—in a market for instance—that have not yet been discovered. When we apply concepts in thinking, we may discover new possibilities. These possibilities exist before they are discovered. They are nevertheless constructs, namely constructed logically as possibilities through the operating units with their operating topoi.[5]

Without real possibilities an actor has no future and is dead. This applies to any actor, also to organisations: e.g. a company with no further strategic possibilities will inevitably decline and go out of business. While the factual dimension is an observation-thing relation between the actor and the world, the dimension of possibility is a relation between the systematic reflection or thinking (logical analysis) of the actor and the potentialities of the facts.

Logical analysis and real possibility (and any other real modality) are an actor-world relation. Possibilities cannot be observed. Possibilities are logical constructs.

[5] This theoretical problem is an instance of a traditional philosophical issue in the discussion of realism-constructivism. For instance in relation to mathematics, there are mathematical discoveries made by great mathematicians. But, if mathematics is a human construct, then how is it possible to make mathematical discoveries? How can one discover things one has made? To ‘solve’ the puzzle compare this with the game of chess. Chess is a human construct in every respect. Nevertheless there are plenty of discoveries made in the game of chess. Thus, as soon as a coherent set of rules is constructed, logic implies consequences that are to be discovered. Thus, there is no contradiction between considering basic possibilities as rational cognitive constructs and the idea of discovering complex possibilities based on the constructed possibilities. The idea of discovery of possibilities does not necessitate reinstating a non-constructivist form of realism.

They have no appearance, neither shape nor colour. They can only be identified through cognition, i.e. through logical reflection and analysis. Cognitive logical[6] operations are used to reflect and recognise real possibilities. They are constructed out of factual observations by logical reflection. However, the possibilities are not speculative, they are real. A simple illustration, observation tells us a box is red. Logical negation outlines the possibilities, i.e. the box can have a different colour, for instance yellow or green. The negation operation, which is a fundamental logical operation, constructed real possibilities out of observed facts. Alternatively, there is one 100 € bill in my hand. Logical negation opens possibilities such as, I may spend it, I may multiply it and become rich etc. All our factual knowledge is loaded with real possibilities, which the actors constantly utilise to realise their visions. If what the actor aims at realising truly is a factual possibility that is known to him, then he succeeds. If it is not a factual possibility then he fails.

Reflection is used to identify new complex possibilities for moving from a given set of facts to a possible new set of facts, i.e. reflection is used in a company to move from the current strategic position to new strategic position. If a company cannot identify real strategic possibilities, then it cannot plan for the future. Real strategic performance is not only realising the possibilities that are embedded in the known facts. Possibilities are combined in advanced reflection, research, to create new advanced theoretical possibilities. To realise such possibilities requires not only creative logical reflection to identify them but also resources to realise them. For instance, technology emerges as integration of fact and possibilities into a phenomenon. Thus there are limits on the extent to which the real but theoretical possibilities can become realised. Some real possibilities are theoretical possibilities only because there are no actors that have the resources to realise them. It is the possibilities stemming from recognised facts that provide the basis for constructing the alternative strategic options available to a company. Thus, the integration of facts and logic creates possibilities that enable the actors/company to act and succeed in realising the possibilities. That is a necessary but not a sufficient condition for successful action to take place.

We now address the third dimension of value as a relation between actor and world. In order to act, people need motivation. These are the values. Values are necessary for people to connect to the world. Values provide their objectives and motivation, the very desire to act. Without values there is no action. It is the leaders' and employees' subjective values, their subjective preferences, feelings and likings that motivate them to act forcefully and consistently. The driving values are subjective. We are not born with them, and although similar, they develop differently from human to human. On the other hand there are the values of the world, the social values as defined by social norms. They only function to people, who can see in them a means to realise their subjective values. People strive to realise the social values through their work and their endeavours to be good citizens. If people no longer believe that the social values will ultimately realise their

[6] *Logic* (Descartes 1988; Hilbert 1996) is a rational element inherent in our ability to calculate and reason in a stringent, logical manner such as in mathematics and formal logic. However, logic also concerns reasoning through the use of concepts and the building of concepts including ones which are essential to our lives.

subjective values, they get stressed and ultimately become sick or feel betrayed and misused and their loyalty towards the system may come to an end.

The strategy of a company may include a wide range of social values such as profit maximising, environmental consciousness, social responsibility, technological innovation and global leader which enables it to succeed in the environment. These values function as drivers of the activities only if the employees see in them the realisation of their subjective values.

As it is the subjective values that make people act, they act only if their values seem to be within the range of their factual possibilities. Values must be integrated with the factual possibilities. A person always has many possibilities for action, but only when the subjective values are integrated in at least one of the possibilities will the person act. Accordingly, when their values and possibilities are integrated in the strategy of the company, then they will act—and succeed, provided the possibilities are real. The necessary and sufficient condition, i.e. the causal factor needed to make people act and succeed is integration of fact, logic/possibility and value.

A number of values are objectivised in the institutionalised system such as modern values of wealth, influence, recognition and fame or traditional values such as character, benevolence, courage and honesty. As institutionalised, these values are instrumental only. We need values that provide purpose in themselves and are not instrumental for some other purpose. Such values are subjective. They make life meaningful and good for people and the standard for this is the life experience of the people. What these values are depends on what people like, love and find loveable not as a means of gaining something else, but because it is as it is. Corporate values that fit the subjective values will, therefore, function as a means of selecting corporate strategies from the array of possibilities. Strategic narratives and topoi need to express such values with which actors can identify.

Finally, the dimension of communication is needed. Without *communication* (Wittgenstein 1953), only individual reality exists. Such disconnected "reality" is generally not possible because cooperation and thus communication and organisation are conditions for the individual to grow up and survive. Social reality and organised work are based on communication. Management and leadership function through communication. Thus there are two necessary complementary relations in the actor-world relation related to communication. A condition for a communication to function is that it must express an integration of facts, possibilities and values. If the controlling communication lacks one of these dimensions then it does not function as intended. A lot of communication is only one- or two-dimensional and not in control. However, each actor has his own perspectives on facts, possibilities and values. They have to be coordinated and combined with the facts, possibilities and values of the other actors though the communication. Therefore, overarching company topoi are needed to facilitate a network of mutual understanding that enables this cooperation. In this way a highly complex reality is constructed that enables realisation of possibilities that are unimaginable from a single actor perspective. The binding ideas used to organise the company are defined in the strategic topoi of the company.

If the topos used does integrate the facts, possibilities and values of the actors involved, then they work and succeed. Failure means insufficient integration with respect to one or several of the dimensions. Communication may have been weak, possibilities may be been analysed poorly, factual basis may have been insufficient or the values of the actors may not have been taken into account. *Social topoi* govern the construction of organisations and institutions. Leadership strategies are based on deliberate innovations in the operating topoi in order to redirect the endeavours of the operating units with a view to improve their coherence.

The idea of integration enables a deeper understanding of the notion of strategy, strategic coherence and the difference between strategic versus operational performance. The perception of these concepts from the perspective of pragmatic constructivism will be further explained below.

2.3 Coherence

In the view of pragmatic constructivism, a continuous development of coherence problems explains why a company needs strategy and hence the need for evaluating and measuring strategic performance. In particular, coherence problems arise because technological development enables immense increases of efficiency due to a highly focused integration allowing operation in specialized performance units. With the emergence of such units, the issue of coherence amongst units and thus strategic performance is unavoidable. It creates a situation where the operating topoi of the different units are subsets of the overarching strategic topoi of the company. Therefore, the need for strategic performance is an unavoidable consequence of increasing levels of integration and specialisation of operation. As long as we live in a stable world where systems of input and output are stable, coherence can be established via operative planning concerning fluctuations in quantitative correlations between the company's operative units. However, globalisation constantly challenges the existing structures of operating units, and innovation constantly necessitates re-defining the topoi of the operating units to re-establish coherence internally and externally. Strategic performance must constantly re-construct the pattern of coherence to re-establish the effectiveness by re-shaping the chain of operating units and aiming at solving new coherence issues in the market.

Without coherence, operational efficiency has little effect. Thus, strategic performance presupposes the existence of flexibility with respect to the operating units. Strategic performance also presupposes that operating units are able to reintegrate their operations in ways that improve coherence. The necessary flexibility is therefore part of the concerns of strategic performance itself. Such strategic performance is a much more complicated leadership task than adjusting the quantitative relations of existing units. The coherence between the operative units created by the overarching topos is necessitated by the different and basically inconsistent logics of the various topoi that control the operating units. The overarching topos cannot eliminate these logical inconsistencies. It creates coordinating goals, that can function in practice and it uses the tensions created by the inconsistencies to create energies for further development and change. Thus the coherence between operating units should not only be considered as an operative coordination but also as a developmental dynamics (Mattimoe and Seals 2011).

Coherence can be analysed at different organisational levels. At the work level, there is the coherence between specific chains of activities. Efficiency within operating organisational units is based on highly specialised forms of coherence in activities. The coherence between the operating units are results of a junction of overall operational planning and strategic performance to create the internal-external fit, which is the top level of coherence when seen from a company perspective. The coherence between the different functions within the company connects the integrated units such as production, sales, R&D, i.e. functional departments, profit centres and divisions which are all integrated around their individual topoi and the issue of coherence is therefore the ability to create an overarching business topos that links these sub-topoi coherently. Society is itself a structure of high complexity that functions through endless relations of coherence, constantly driven by coherency problems to be solved by companies and other activity centres. The company has to find its place in the complex network relations of coherency.

Coherence presupposes the integration of facts, possibilities and values in topoi in use if it is to be successful. The society provides a general integrating language and identifying topoi relating to its economy, ideology, culture and belief systems within which the companies create their respective topoi. Company topoi and social topoi must cohere or the company cannot function within the society in question. The coherence between units—in the market as well as within the company—concerns all dimensions. The connecting topoi must integrate the facts, possibilities, and values from both the producing and the receiving unit. Coherency does not mean that the facts, possibilities and values of the interacting parties must be identical but that they must complement each other. This enables for instance cross-cultural coherency in globalisation. Coherency in cross-cultural interaction does not mean having the same factual basis, the same possibilities and logic and the same values. It means that they complement each other.

Within the operative units, integration is the condition for the activities to be performed and for succeeding in creating output. Here the integration is controlled by specialised, professional topoi. In coordination between the operating units the output of one unit is to be coherent with the demand of another unit. The demand itself integrates the dimensions. The factual issue is the quantities of the demand, the possibility is the quality of the demand, whether it is able to (has the possibility to) do the things needed by the recipient. The value is whether the recipient actually likes and wants to use the product. Finally, communication is concerned with the recipient's ability to explain and understand the product. Failure of coherence may simply be an issue of misunderstanding, because the units speak different languages, for instance, production may describe the product in a technical topos that differs from the topoi used by sales staff and customers. Lack of coherence creates chaos and things become unpredictable because the activities have conflicting consequences and therefore destroy each other. In a short-term perspective, strategic activities can accept certain incoherencies in present operations in order to create new structures that display higher degrees of coherency. Accordingly, strategy must maintain and improve coherence over a long-term perspective.

When perceived from the view of pragmatic constructivism, the strategy is concerned with developing an overarching integrated topos that is able to create coherence by bridging the specialised topoi of the co-operating units. Strategy is constantly involved in structuring the system of cooperating units in order to improve coherence. In order to reach the goal of strategic performance, i.e. to establish overall coherence between all operating units terminating in an overarching coherence between company and its environment, strategic leadership aims at creating strategic coherency between operating units through the creation of strings of output-demand relationships. The need for integration of multi-dimensional topoi implies that the establishment and measurement of strategic coherence between operating units are matters of high dynamics and complexity. However, pragmatic constructivism provides a basis for an operational framework for strategic performance measurement that involves a model of pro-active truth and learning theory of truth. The framework is described in the following section.

3 Strategic performance measurement

The aim of strategic performance measurement is to create instruments that within a short period of time, can indicate the long-term effects of strategic performance. The task is to measure, i.e. to estimate and interpret the likely impact of the changes in the strategic profile. The idea of any measurement is to create a tool that provides some degree of precision in the assessment of the performance. Risk factors, such as unpredictable events and longitudinal developments, undermine the possibility of precision and thus challenge the task of measuring the quality of strategic performance. In principle, we can only measure historical and real-time performance issues, but not future issues. However, issues of the future can be subjugated to estimation and qualitative evaluation. Thus, the preparations, planning and other endeavours to cope with the future can be estimated and evaluated qualitatively. Consequently, the endeavours of strategic performance can be estimated and evaluated qualitatively and hence measured.

Strategic accountability presupposes the ability of management to formulate a realistic strategy and thus presupposes a system to monitor and analyse the strategic profile and its potentials and challenges. Thus, strategic performance measurement that is applied to drive strategic performance involves an ex-ante evaluation of whether the intended strategy will be able to succeed and an ex post reflection on whether the strategy has been a success. Such function of strategic performance measurement presupposes that the strategy is formulated. The ongoing feedback created by the monitoring system forms the basis of strategic managerial learning.

Below, we describe the key dimensions for constructing a valid strategic performance measurement system that involves the formulation of strategic planning narrative, methods of tracing change in strategic coherence, a proactive and learning theory of truth, and a measurement platform.

3.1 Strategic planning narrative

In order to measure, one needs to formulate and observe strategic performance. The strategic profile may be the silent result of an emerging intuitive strategic performance, or it may be the result of an intended and formulated strategic performance according to a plan (Mintzberg 1987, 1994, 2005). It may also be the result of an intended strategy that has not been formulated or at least not formulated outside a closed leadership group. There may even be a difference between the formulated strategy and the intended strategy—the formulated strategy may for instance be a strategy to misguide competitors or authorities so that they do not become aware of the real strategy. However, whether strategy formulation takes place or not, whether strategic behaviour is direct or indirect, implicit or explicit, there is a strategic profile which is the result of strategic performance for which leadership is responsible and which needs to be measured and accounted for. Trends in the changes in the strategic profile must be observed. If strategic performance is indirect and not formulated, the feedback provided by strategic performance measurement cannot address specific aspects in strategic planning but it may, of course, initiate that such planning be developed.

To organise the strategic process consciously, leaders have to formulate a narrative of the strategy for their staff to know what to do and what to expect. If the strategy is formulated it may generate a plan preparing and controlling the future decisions to which it applies. Strategy in this case involves (1) formulating a strategic plan, (2) implementing and monitoring the achievement of the strategic plan, and (3) reflecting, learning and revising the strategic plan (Asch 1992; Simons 1995; Bonn and Christodoulou 1996). All this can be differentiated from other operational aspects of planning. Strategic planning falls within the remit of the leaders of the company in which the strategic plan materialises as a *narrative telling* spun around issues related to developing an overarching integrated topos to bridge the specialised topoi of the co-operating units. Based on the strategic narrative a system of goals connecting the operating units can be formulated. The strategic planning process connects a set of goals that can or should be formulated and monitored to form a control mechanism of the strategic planning. Measurement can indicate the achieved degree of the targeted coherence. If the strategic goals are too narrow or vague then they are unable to create a reliable mechanism to monitor the strategic performance.

The first and basic evaluation of strategic performance concerns the quality and implementation of the narrative itself. This evaluation assesses the understanding and acceptance and evaluation of the narrative by the different unit leaders involved. A unit leader may for instance experience a narrative as fiction, irrelevant, impossible to implement or as a poor interpretation of the possibilities and values of the company. A new strategy may be destructive for the efficiency of a unit and the degree and duration of such effects must be taken in consideration. The narrative may be biased because it is based on input from a few dominating leaders disregarding other leaders whose units are of equal importance. For the narrative to function, it should be subject to an open discourse in which the concerns of the various units can be taken into account. This can be uncovered in an analysis of the formulation and acceptance of the strategic narrative by the unit leaders. Further, the strategic narrative must reflect trends in the various environments, e.g. technological development, market demands, etc. This can also be analysed by having a qualified analyst interview the strategic leadership. An overall evaluation of the credibility of the strategic narrative is whether it reflects and integrates the factual possibilities and values concerned.

3.2 Tracing changes in strategic coherence

The next step in strategic performance measurement is to create indicators with which to measure the coherence. This should measure overall coherence as well as the coherence between the units connected directly by output-demand relations. Since the cooperating units create a chain of coherent links it is possible to trace problems indicated at one place to other places in the chain where they may originate. To obtain such traceability in the implementation of the linking goals, qualitative and quantitative performance measures can be applied to shed light on the achievement of the various aspects of the strategic goals outlined. The narrative plays a crucial role in reasoning and justifying the choice of targets and measures when identifying targets and performance measures. Sometimes arguments based on intuitive interpretation of meaning are used to substantiate how combinations of performance measures are causally linked to the strategic goal and hence, if monitored, they reveal the degree of strategic goal achievement. The linkages between the basic building blocks and the narrative in formulating and implementing a strategic plan are outlined below.

The strategic situation and profile of the company are the result of all the activities in the company from its very beginning until the time of measurement. Efficiency of operational performance in a given unit is the responsibility of the leadership of the unit; the strategic performance is on a higher level and the responsibility of general management. Its task is to position and structure the company and coordinate the various units, i.e. to create a company that operates effectively because it is coherent internally and externally. In this way the general management makes all activities contribute to the general coherence and thereby strengthen the strategic profile.

Thus, efficient operational measures concern the performance of operational managers, while measures concerning the performance of strategic coherence concern the strategic performance of the general management. Managerial strategic performance measurement reflects the changes in the strategic situation, i.e. the changes in the strategic coherence that take place over a certain period of time. However, contrary to operational improvements the effects of strategic improvements usually take a long time before they can be seen in the total company performance. Strategic performance aims at installing an overarching topos that on the one hand facilitates sufficient coherence amongst the operative units to operate competitively in the market and on the other hand to use the tensions amongst the different logics of the various operative topoi to generate an incentive for strategic change, i.e. change in the overarching topos as well as strategically significant transformations in operative topoi. Strategic measurement therefore needs indicators that can be used to directly express changes in coherency and therefore anticipate long term effects on total company performance. Such monitoring of coherency changes can be used to adjust the strategic behaviour and thereby improve the on-coming total company performance.

Good strategic performance creates a high degree of internal-external fit by establishing coherence between efficient operating units. At any point in time one may install a measurement of any output-goal-link between operating units. This establishes a measurement system that allows the leadership to monitor changes in the degree of coherence and thus guide strategic endeavours aiming at on-going incremental improvements in the internal relations. The effects of new strategic goals on the operational efficiency of the units have to be taken into account. Therefore it is vital to create a performance evaluation system that is based on analyses of some or all the various links of coherence in the system. Coherency goals can be formulated for each of these links and measurements of goal fulfilment may be used as drivers for on-going improvement of strategic performance by constantly incentivising coherence improvements. Also, analyses of the coherence in the system of links can be used to identify problems and causes by *tracing coherence* problems, i.e. tracing the signs of incoherence in one operating unit back to their causes in other parts of the system. If one does not trace the problems to their origins they cannot be eliminated. Thus, a system of coherency tracing is a fundamental tool to improve strategic coherence. The analysis of such causal chains enables the formulation of the goals and measurements that drive a solution to the coherency problems and thus improve overall strategic coherence.

3.3 Pro-active truth and learning theory of truth

Measuring strategic performance may seem as impossible as comparing apples and oranges due to the long time horizon for the results of strategic performance improvements to show and because of the fact that the meaning of measurements may change during the strategic process as the changes in the relevant variables ex ante may not be the same as those relevant ex post. From a mechanical realism perspective, such problems cannot be solved, only rejected, because its notion of truth operates in a static setting in order to maintain the ability to compare over time (ceteris paribus).

On the other hand our pragmatic notion of truth has some features that can address this problem. The continuous change of conditions may be trivial when measurements are concerned with operational efficiency, because here one can presuppose stable fundamental conditions. In practice the correspondence theory of truth that is characteristic of mechanical realism can cope with such changes. However, in a strategic context, where the changing of conditions is an essential part of performance a different approach is needed. Here, the difference between the correspondence theory of truth characteristic of mechanical realism and the pragmatic constructivist notion of truth (Nørreklit et al. 2007, 2010) is important.

Pragmatically, the meaning of a proposition is the expectations about the consequences of action which it creates in the listener. Pragmatic truth consequently means that the proposition is true if the operations that implement the expectations do succeed. For instance: apples are healthy if eating apples makes fewer people sick. A problem with this pragmatic concept of truth is that one can only know the truth after events have proven whether the expectations were met. Since it is absurd to wait for ex-post testing of all statements and especially of strategic statements, a concept of preliminary truth, pro-active truth similar to the correspondence notion of truth, is needed to provide a basis for action. Thus, in order to apply the pragmatic notion of truth one needs an idea of truth based on the present. This is *pro-active* *truth*. This pro-active truth is then subject to a continuous process of improvement which identifies and diminishes the difference between the pragmatic truth as the outcome and with pro-active truth.

Analysis and reality checking of the intended strategy can result in measurement statements that are pro-actively true. These statements create a set of expectations. If these expectations are realised in action, then the statement is pragmatically true. Pragmatic truth can only be judged ex-post as success or failure becomes apparent. The difference between pro-active truth and pragmatic truth—if there is any—is termed the *truth gap*. The truth gap between what we expected to do and what we did includes two dimensions, strategy setting and strategy execution. The deviation between what we should have done and what we did is the strategic execution gap. The deviation between what we expected to do and what we should have done is the strategic setting gap. The truth gap is to be kept small and insignificant. If it is large, information which is only pro-actively true is misleading to the users.

To enhance information reliability the truth gap must be monitored. It is likely to grow unless the apparatus creating pro-active truth is improved on an on-going basis. Increases in the truth gap must be traced to their origins in neglected coherency issues, new influences, and previously unobserved data. Thus, truth gap monitoring becomes a basis for a continuous learning and improvement process. Without this learning, proactive truth is likely to lose reliability. Especially in the dynamic situations of modern business, success requires not only the measurement of existing strategic performance but also the use of the learning process to devise and implement new strategies. Overall it forms the basis for focused strategic reflection. The coherence measurements suggested function as drivers not only because they can be used to motivate, but also because they function as learning devices since real time monitoring of the truth gap makes it possible to pinpoint the activities that actually reduce the truth gap.

There is no way to directly compare the coherence system ex post and ex ante when strategic changes are made that involve the change of topoi and therefore result in a change in the meaning system of performance measurement. Only aspects of the overall coherence can be compared directly. Nevertheless, the pragmatic approach of measuring fulfilment of expressed expectations is still possible. The human mind and its way of meaning construction appear to be very well suited to solve precisely this problem, i.e. that we look towards and expect a future different from where we are now. It appears that we do have a sufficiently usable conceptual time bridge as long as it makes sense to consider the question whether our expectations were fulfilled or not. It does not matter whether our topoi undergo changes in this period or not.

3.4 Constructing the strategic platform of integration scorecards

Strategic performance measurement is special. First, it is concerned with measuring coherence-change and the validity of overarching topoi and, as a consequence, with the creation and enactment of value-loaded factual possibilities. Conversely, measuring operational efficiency concerns well-defined technical performances. Second, strategic performance aims at creating success in the long run by changing the controlling overarching topoi whereby it affects the meaning of the measurements themselves. Measurements and decision-making systems normally presuppose stable and well-defined conditions. Strategically, however, the systems are essentially subject to change and not stable. Finally, creating and enacting overarching topoi has special problems. The operational units use specialised topoi that are professionally integrated and precise to enable a high degree of efficiency. To strategically connect units that are driven by different specialised topoi and therefore very different conceptual logic is a complex cognitive process that involves the development of overarching topoi that are understood and accepted by all interacting units. To motivate and drive the implementation of overarching topoi we suggest the implementation of real time measurements of the coherence issues that are to be solved by the overarching topos. Real time measurements of strategic performance is to function as a strategic performance driver that, by itself, motivates learning in the cooperating units on how to implement the strategic topos.

Strategic performance measurement needs to provide information about the following: (1) strategic performance related to the different organisational units and the flows between them; (2) the creation of new possibilities concerning the long term survival of the company; (3) measurements concerning the adequacy of the actual position of the company in the environment so that it can realise the existing possibilities; and (4) the strategic coherence between the operational functional units of the company, the market and institutional environment. Ex-ante and ex-post measurements to estimate the overall performance are not absolutely necessary. However, measurements can be installed as real time information systems that enable the managers to estimate how they are performing strategically during the process. The measurement system thus becomes a learning device and motivator for the strategic process. This constitutes a measurement of the implementation of the strategic idea in the company, i.e. the internal coherence of the functions of the company activities. When one considers the continued existence of the firm, coherence control at the strategic level needs to include the present situation in which present functions must be coherent, as well as future situations in which the main functions of strategic focus at that time have to be coherent.

The evaluation of the strategic performance should involve a thorough observation of the phenomena involved. Quantitative measurements of special selected variables cannot be understood without a broader phenomenological grounding (Husserl 1913; Heidegger 1927). Especially the problem of changing conditions necessitates that quantitative measures are embedded in a phenomenological grounding that enables relevant adjustments of the measurements in question.

We suggest that a strategic balance sheet, i.e. a balance for strategic performance be constructed. The various observations and measurements are used to construct an epistemic platform that functions as the instrument for strategic measurement as well as strategic learning. The platform consists of a group of scorecards—coherence or integration scorecards—one for each of the coherence relations that are essential for the overall chain of company performance. Each scorecard analyses the degree of coherence between units in the performance chain. In case of coherence problems, the card breaks down the information with respect to the dimensions that must be integrated for the relation to be coherent in order to clarify the type of problem. Is the problem caused by insufficient information a clash of values? or a lack of factual possibilities? The platform contains a top-level integration scorecard that reflects the change in the strategic profile of the company, i.e. changes in the internal-external fit. For each of the links between internal units an integration scorecard is constructed to reflect the changes in coherence between the units. If operational problems in a unit are caused or influenced by the output it receives from a previous unit or by the demand it meets from a subsequent unit, then these problems must be registered in the integration scorecard as a coherence problem. Each scorecard contains qualitative data concerning the strategic narrative as it is perceived in the units and quantitative measurements related to the strategic coherency goals connecting the units involved.

The set of integration scorecards creates an overview of the situation and change of strategic profile and it makes it possible to trace the problems to their various sources in two aspects: the place where the problem originates and the un-integrated dimension(s) that cause(s) strategic action not to function. Thus it provides a basis for an assessment of strategic performance that enables the formulation of precise goals to drive the improvement of the strategic profile.

In order to promote strategic learning, the strategic balance sheet should be used to analyse the truth gap, i.e. the gap between ex ante expectations, i.e. the pro-active truth, and the ex-post achievements, i.e. the pragmatic truth. A large gap implies poor strategic performance in the sense that strategic plans are not realised. This analysis is therefore motivated by the drive to reduce this gap, which means that the ability to control the strategic situation through strategic behaviour improves. Thus, part of the strategic performance is to ensure strategic control, which includes the reliability of the measurements used in the integration scorecards and thus the very goal setting that interprets the strategic narrative.

4 The case discovery

To illustrate the main points in performance measurement we choose a decade old anonymised case study of a company, Discovery (Nørreklit and Nørreklit 2008) in the information technology industry. Discovery is chosen for several reasons. First of all, being in a complicated situation where it endeavours to create basic changes in strategic profile, the strategic issue is central to Discovery. Thus, its situation and endeavours are very illustrative. It is a relatively significant case in that Discovery at the time of study was one of USA's 200 most rapidly growing companies. The case was developed by Nørreklit and Nørreklit (2008) and included multiple detailed interviews with all managers of the company. An outline of the case has been published.

4.1 Company background

Discovery was a very fast growing privately held small company in the USA. It was an entrepreneurial company providing microcomputer boards and systems to the OEM marketplace. Discovery employed approximately 90 people. In the market of boards there are two big competitors (80 % of the market) and ten small competitors (20% of the market). Discovery was one of the ten. Expansion has outstripped the microcomputer industry average with revenue growth of approximately 70 % (range from 30 to 140 %) per year for the previous 5 years. However, as RONA has been very moderate, between 0 and 10 %, the financial position of the firm is weak. The strengths of Discovery's products and services were high quality, quickness and low prices. Previously, Discovery had a lot of non-standard orders which were produced to special customer needs, so the customers paid in advance. Consequently, the company could expand by more than 100 % a year, have a low profit and not have to take on additional bank loans. The general entrepreneurial philosophy of management was centred around ideas of strong growth driven by managerial effectiveness using techniques such as short reaction time, 'collect early-pay late' because 'cash is equity', don't waste time. i.e. don't work with non-creative people, use learning and dialogue to create relations with important people and keep up with competition. However, as sales growth last year went down the company faced serious cash flow problems.

4.2 Change in strategic narrative and goals

Recently the strategic narrative of Discovery has changed the firm from being a customer-oriented firm to being a market-oriented firm. The intention is to move from selling customised products to standardised products. The goal of this change was to increase orders in the contract market, i.e. in industry, hospital, military, research, and development areas. Also, it endeavoured to expand and strengthen the Sales and Marketing function with a view to becoming more aggressive in the market place. The point of changing from project to market-based sales was to increase growth to profit by economies of scale and utilisation of surplus capacity. The production plant was new with a large surplus capacity, i.e. with the same equipment and a few more people they could have produced five times as much as they actually do. The general philosophy of growth led to the acquisition of the new plant, which then called for an extraordinary growth in sales. The Engineering Department has traditionally been assigned two strategic tasks, to develop new products to ensure the creation of future possibilities and to adjust products sold to specific needs of the customer. New product development has been driven by innovation and engineering-orientation but in this period it changes so as to become more oriented towards market demands. It is strategically important for Discovery to keep up with technological development. Also, it is important to have completed the development of new products at the right time due to their short life-cycles. The company recently ended up in a crisis because the development of a new product was delayed. The strategic challenges and coherency problems are explained in the following.

4.3 Strategic challenges and coherency problems

4.3.1 Problems of market demands

In Discovery, the rapid growth is seen as proof of high sales efficiency although there is on-going internal criticism directed against the engineering department and a lack of profit and equity growth that indicated that the external strategic performance is not optimal. The company and its products did not fit the demands of the environment adequately. This appears to be a consequence of a lack in coherence between sales, engineering and production that has resulted from the fact that a major part of sales activity has continued the traditional project-based sales, which means that the Engineering Department has had problems in adapting boards fast enough. This has been interpreted as an operational problem within the Engineering Department by the other managers including the top manager, although, in fact it was caused by and can be traced to a strategic problem in the Sales Department as they have continued and even increased project-based sales in order to fulfil the demands for growth. Management of Sales and Marketing has not been able to reorganise sales and marketing successfully in accordance with the new strategy. The problem is especially accentuated in relation to the strategic goal of reducing delivery time from one week to 24–48 h. Both the Engineering and the Production Departments has been blamed for not reaching this goal and were considered to have efficiency problems, although realistically a delivery time of 5–6 days appeared to be very fast for products that are specially adapted to the wishes of the customer in the Engineering Department.

4.3.2 Sales and marketing

The President and the Director of Marketing make up the dominating phalanx in the company. The policy of the President and the Director of Sales and Marketing is to be aggressive in the market and to take all the orders they can get without losing money, i.e., all orders with a price above variable production costs. Their aim is never to lose an order based on price. The system of sales and marketing in Discovery may in itself incorporate an efficient ability to create growth and market share as demanded by the strategy. However, the sales strategy is not coherent with the system of production, with the Engineering Department, nor with the financial calculus for the product to be profitable, although all these functions need to form a coherent system.

4.3.3 Manufacturing and logistics

The company strategy was only partly coherent with the topos of the production manager. The production manager subscribed to standard products and sales growth. The company's change of strategy from being driven by product innovation to being driven by the market did, however, create coherency problems in relation to production. With the existing equipment the new production plant could produce five times as much as it actually did. With respect to delivery time the chain of coherence was clearly broken. The production plant could deliver within 1 week, but the Sales Department wanted the orders delivered at once. Thus, the Sales Department promised delivery in 1 day, while the Production Department could only deliver in 6 days. The President supported the Sales Manager and considered a delivery time of 6 days unsatisfactory for the customers. In order to solve this problem, production produced ahead for inventory, based on their own expectation estimates. This did, however, increase the problem of necessary adaption in the Engineering Department, because their expectations as to what was in demand was not totally reliable.

4.3.4 Engineering

Furthermore, the strategy was not really coherent with the topos of the Engineering Department. According to the new strategy the requirement of the Engineering Department had changed from being innovation and engineering-oriented to being solution-oriented towards customer and market needs. The demands for new products were pushed by the Marketing Department. Engineering was constantly pushed to modify the products according to demands for technological change from the Marketing Department. But at the same time, however, the Engineering Department experienced many problems due to unexpected demands on line with the old strategy, which frustrated the department in their endeavours to realise the new strategy. The customer-driven strategy involved a need for a new operative logic in the Engineering Department to make it coherent with the intended new strategy of the company. The capabilities of the employees could not just be switched overnight. Adjusting to customer needs required a certain "delivery" time.

4.3.5 Finance and accounting

The strategy also clashed with the topos of the accountant who felt that the company was in a constant condition of chaos and that his job was like firefighting. However, this clash seemed not to be related to the recent change in market strategy but was more to the general entrepreneurial underpinning of the company in which growth and cash-flow were given priority at the expense of profit and development of equity. This brings us finally to the basic lack of strategic coherence between the financial objectives and the increase in sales. The President is driven by possibilities of growth: "I want sales growth. Don't you see! I am a small man, but I want to make the firm big, as big as possible. But I don't want to go on a trip and come back without any money. I have to make a profit." However, the President's strategic topos of financial independence and corporate growth lacked factual possibility. The two financial objectives of rapid growth and independence were incoherent. Discovery had grown at a rate of at least 100 % annually for three of the six years of the case analysis, but the company had only earned a maximum 10 % profit margin in these years. This meant that sales growth would decrease the equity/debt ratio, which is incoherent with the objective of self-sustaining growth (Donaldson 1984, pp. 59–78). The result was that Discovery was in a weak financial situation as demonstrated by the fact that the equity (through earnings retention) of Discovery had not developed in proportion to its activities, thus making the company dependent upon venture capital support. The two goals of Discovery, i.e. to grow quickly and to be independent, clearly were not coherent. Rapid growth called for capital infusion. With low profits Discovery's debt capital therefore had grown. Discovery was thus increasingly dependent upon continuous success and it became very sensitive to changes in the environment. The strategic topos of the President was communicated within the company, but not to the bank. However, as the company lives in an institutional environment where companies are evaluated on accounting profit, the strategic topos was not coherent with the topos of the financial institutional environment. The conflict in topos was indicated by the following statement of the President: “The manager of Sales and Marketing and I try to make a cash flow system. The bank is looking at the profit, but that is not important, what really is important is the cash flow.” In sum, insufficient strategic coherence was displayed by the sales and marketing strategy as it could not be made coherent with the institutional environment. The organisation of society is based on an economic logic which implies that private sector organisations must be evaluated by financial measurements.

4.4 A strategic balance sheet

In Discovery, no strategic balance sheet along the lines decreased earlier had actually been installed. However, so far the case illustrates that Discovery existed in a very dynamic and competitive market that was extremely challenging for the company. Discovery responded by bold strategic endeavours almost defying the impossible. Its bold strategic behaviour was undoubtedly part of its success. However, although the new strategic narrative aimed at changing the strategic profile for the better, it was entangled in coherence problems, which can be seen theoretically, as well as in practice, through its effect on the operating units as perceived by the unit managers. The case has clearly illustrated the importance of a valid tracing of coherence problems. Also, it was obvious that an unbiased strategic communication that adequately reflects the concerns of all the unit managers involved was non-existent yet obviously needed in order to create realistic strategic goals to improve coherence. To monitor and control such improvement and assess the narrative behind the goals, the company needed more specific information reflecting integration issues concerning the relations of coherence. To understand the strategic problems and enable strategic control an epistemic platform containing the coherency integration scorecards should have been constructed. Thus, the strategic reflections must be rooted in phenomenologically grounded narratives on the actual performance of the firm combined with some strategic performance measures.

Discovery’s strategic model of being aggressive in the market and moving away from focusing on engineering products should have been reflected in an integration scorecard for the changes in strategic profile. The strategy suggests strategic goals such as rapid growth in the sales of customised products; increase in market share; more competitive products and services; aggressive sales pricing; increase in the experienced ability of fulfilling customer demands; shorter manufacturing and engineering delivery time; increase in the use of manufacturing capacity; changes in the work tasks of the engineering department from engineering products to standardised customer products; increase in managers’ and employees’ commitment; understanding and acceptance of the strategy; decrease in the level of experienced problems and conflicts; decrease in engineering and administrative costs per output unit; and sustainable cash flows and profit. All these goals could provide indicators to be included in the coherency integration scorecards for monitoring the strategic implementation process. Real-time indicators would have helped to determine the development in strategic performance.

More specifically, if the values of the market were able to create a demand sufficiently strong to satisfy Discovery's need for growth then the strategy may have worked. There was, however, no actual documentation of such demand. Although the relevant market developed rapidly, there was no indication that Discovery was in a position to capture a sufficient share. As long Discovery's products were not in specific demand, they may have been outmatched by strong competitors. This problem was directly caused by the change in strategic profile caused by quitting one market segment that specially demanded Discovery's products to the broader market that did not do so. Thus, the new strategic profile may not have reflected the market values adequately in relation to Discovery, and indicators should have been introduced to clarify this situation.

The coherency relation shifts between Sales and Marketing and the market was expected to be adequate since the sales manager was central in the formulation of the new strategic narrative. However, if the new strategy had been defined by measurable goals in terms of sales orders related to the new versus the old strategy, the observations of factual action would have disclosed that the Sales Department continued and even increased sales according to the old strategy in order to reach the growth target. Apparently, the sales people continued to sell customised products. Thus, it would be obviously beneficial to have a real time measurement that could have motivated the sales people to change their behaviour. Clearly, the pressure for rapid growth had had the effect that sales people did not give up previous sales methods but instead used them even more aggressively rather than focusing on the new and probably more difficult task of finding ways to penetrate the mass market with which they are were not familiar. The demand for growth had resulted in strategically very poor sales practices. The use of total sales figures as a performance measurement hid this fact and the resulting problems were blamed on the engineering people, thereby making the true problem invisible and unsolvable. The poor strategic behaviour of the sales people needed to be understood more precisely. Their behaviour may, for instance, have been the result of the general demand for growth rather than the demand for capturing a new or greater share of a market. The immediate reason behind this was the large plant with its huge surplus capacity. It creates a need for strong growth. Thus, there were simple ways of creating indicators that monitored the degree to which sales realised the new strategy. Such indicators would also have functioned as a motivator promoting the new strategy and it would eventually have helped document whether the new strategy was realistic. Discovery needed to find out whether the new strategy was unrealistic in the sense that it operated with possibilities that were simply not factual because it could not compete with the other companies in the market, or whether the problem was due to the fact that the values and/or topoi characteristics of its existing sales and marketing force were simply out of touch with the values and topoi of the market. Analysis of the values and communication disclosing this should have been part of this integrated scorecard.

The new strategic narrative basically matches the values and logic that control the Production Department in so far as the goal of standardised mass production was concerned. The incoherence between the capacity of the production plant and the actual sales turnover was so big that it may be unrealistic to overcome this incoherence in the short run. This was a complicated problem. However, real time measurement of the surplus capacity was not a problem.

Furthermore, the target of delivery time of 1–2 days was detrimental to the production flow. The delivery target necessitated production for inventory. However, since the prognosis from the sales department was not reliable, problems were created in manufacturing. On top of that as the sales orders did not match the new strategy, the products often needed special adjustment in the Engineering Department. In sum, the target of delivery time was not realistic. Coherence measurements concerning production/sales relation could reveal these problems. Also, measurements concerning products that were sent to the Engineering Department to get special modifications could have disclosed problems in implementing the strategy. One strategic goal would have been that no or very few products should have been sent to engineering. In reality, it appeared that an increased number of products were sent to engineering for modification. Thus the problems in engineering would not only have been documented but also traceable given a strategic balance sheet containing integration scorecards.

By changing over to standard products, the engineering people could have focused on developing new products instead of using a substantial amount of time to adjust products to specific projects. It seemed easy to create strategic variables to measure coherence by counting the number of orders that needed adjustment. This number should have declined according to the strategy. However, that had not happened. On the contrary, the effect of the new strategy was that the Engineering Department had become overloaded with demands for product adjustments. Engineering was therefore unable to perform properly on the strategically important task of creating new products for the market. This departmental problem was traceable mainly to Sales. When analysing the strategic balance sheet it would have been natural to start the tracing with the Engineering Department where problems were most visible and problematised by the other managers.

Regarding the integration between Finance and Accounting and Sales and Marketing, there seemed to be a clash in topoi. The economic and entrepreneurial philosophy of the firm had forced the company to a growth that created several areas of incoherence and it lacked the resources to overcome these. The coherence problems had developed to a level where the company needed to change its sales and marketing strategy. However the transition process was costly and the company had not built up enough slack resources to adjust the rest of the company to the new strategy.

The strategic awareness of the unavoidable coherence issues could have been improved by introducing measurements of the overall strategic performance regarding the fit between the company and the various markets that it targeted. Also the financial statement revealed a strategic problem due to the lack of equity. This implied that there was insufficient financial robustness to handle the key coherence issues involved in strategic change. Furthermore, the accountant was desperate because everything was about securing cash flow but without securing sufficient growth in equity. He also faced a chaotic situation due to many substantial operational problems. The new strategy made this chaotic situation even more complicated because it demanded both a lot of extra capital and new routines and procedures.

Overall, we can conclude that the new plant was part of the underlying strategic endeavor to create growth. The new plant installed a new operative production topos, which then created major incoherencies and tensions amongst the various operative units. Theses tensions stimulated the recent changes in overarching strategic topos. However the new strategic performance was not properly implemented since sales continued its old practices thereby creating additional coherency problems especially for engineering. A strategic performance measurement system, as described above, based on coherency goals controlling interplay between the units would have created the incentives to implement the strategy rather than reaching performance goals in a counter strategic way.

Finally, it is important to point to the necessity of installing a learning process to continuously improve the reliability and relevance of the measurements and so make decisions based on the measurements more reliable. By regularly comparing ex ante measurements, i.e. the pro-active truth, with ex post measurements, i.e. the pragmatic truth, a truth gap of a certain time period would be disclosed. By analysing and explaining the truth gap and creating hypotheses as to why it existed and why it increased or decreased compared to previous measures, it is possible to adjust the measures in the attempt to reduce or even eliminate the truth gap in future measurements. A truth gap means that there was an element of slack in the strategic control system. This slack may have been due to measurement errors or to inadequate strategic performance. Without ensuring reliability of the measurement system one could not fully trust the measurement.

5 Conclusion

This paper has outlined and illustrated a conceptual basis for the construction of strategic performance measurement. Such measurement should be constructive in the sense of supporting and guiding improvements in the setting and implementation of strategy as well as simply providing feedback (e.g. on the truth "gap") on the levels of strategic performance achieved and changes therein. We argue that these measurements should focus on issues of strategic coherence in relation to goal pursuit and achievement. Identifying the extent to which coherence has been attained and ensuring that it is maintained and incrementally improved in the long term is taken as the prime aim of strategic management. To achieve this, the strategy adopted should also be valid and the measurement system adopted should support the validity of the means by which coherence is pursued. The achievement of validity in this sense requires strategic performance measurement to be based on a carefully constructed knowledge base or epistemic platform specific to the internal and external circumstances of each organisation. The generation of this intelligence base and its use for promoting strategic coherence must involve the integration of facts, logic/possibilities, values and communication within and across the sub-units of the organisation and at the interfaces between the organisation and its environment.

Through the conceptual framework outlined in the paper a pragmatic normative base is provided for strategic performance measurement. Part of its distinction lies in its avoidance of the overall performance of the organisation as a focal point for the assessment of strategic performance. Instead, it has a focus purely on the leadership's setting and implementation of strategy. As a result, the strategic performance measurement system will highlight poor aspects of strategy even if the organisation is performing well. It can thus avoid the continuance of poor strategies justified through positive overall company performance. Through its on-going identification of strategic shortcomings this approach is also designed to support strategic learning and improvement.

This framework paves the way for several avenues of future experimentation and research with qualitative and quantitative methods. The strategic balance sheet is based on organisationally designed, customised systems as opposed to the adoption of "off-the-shelf models". Studies and experiments are called for concerning the implementation of strategic narratives to systems of coherence goals that in turn define measurable variables to make up a strategic balance sheet of integrated scorecards. As the intended learning process requires a qualified approach to data acquisition, one way to proceed would be through experimentation with conceptual qualitative methods such as grounded theory (Strauss and Corbin 1998) whereby integrated scorecards and discourse analysis could be performed to analyse the degree to which the narrative is transported into the operating environments. The process of defining the key variables of coherence, of validity and of the truth "gap" provides methodological challenges as they may be novel to many organisations. Basic measurements should be in quantitative form to enable objective judgments of the direction of change and thus to enable strategic control.

The paper used the case of "Discovery" to outline and illustrate the functioning of such a framework in a situation of strategic change. The framework functioned as a meta-narrative that immediately shed light on the story of the case. Our check of the intended strategy suggested that the strategy suffered from a number of coherence problems, due to biased perceptions. We outlined a strategic balance sheet for strategic performance measurement to provide a basis for the monitoring of strategic implementation and evaluating strategic coherence. Thereby, we also indicated the basics for a learning process on developing valid strategic ideas and assumptions, i.e. the process is supposed to enhance the managers' abilities to judge whether their strategic expectations actually can be fulfilled.

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