Balanced Scorecard as Organizational Practice: A multi-perspective analysis

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ABSTRACT
Much academic attention has been directed towards management models, but there is limited research into the details of how these models are put to use in organizations. In this paper, we employ a multi-theoretical process perspective on the introduction of Balanced Scorecard in a Swedish healthcare organization. Through the application of actor-network theory, behavior setting theory and distributed cognition, we have identified a set of complementary observations and conclusions. First, we claim that a critical mass of actors is needed to support the change effort. We also emphasize the need for a problematization process in which critical voices are given room to influence the introduction. Further, we stress the importance of aligning the physical environment with organizational goals, and argue that well-designed feedback mechanisms may prevent undesired decoupling of managerial practice.

Keywords: Management models, change, process studies, multiple interpretations

INTRODUCTION
The practice of management models such as Balanced Scorecard has invaded working life. Research into the impact of management models on organizational performance is of great importance to the field of management studies. Much research is dedicated to examining linkages between various management models and organizational outcomes (Kaplan, 1992; Liker, 2004; Womack & Jones, 2003), while equally many critical voices claim that the models usually are applied in a ceremonial fashion and that their impact rarely goes beyond legitimacy (Brunsson, 1989; Meyer & Rowan, 1977). Still, we are convinced that these models have the potential to contribute to organizational improvement. But what are the mechanisms that lead to the fact that organizations make use of these methods?
As argued by Johnson et al. (2003), answering this question requires a process perspective on organizational practice. Such an approach takes into account the various social practices in which the particular management model is embedded. Despite the importance of this perspective, a recent review by Armenakis & Bedeian (1999) shows that few studies have a process perspective on organizational change. This is a major concern not only for practitioners but also for management researchers that strive to understand the central problems of designing, developing, establishing and even sometimes terminating management methods in particular organizational contexts (Van de Ven & Huber, 1990).

The purpose of the present paper is to develop an understanding of how a management model can be viewed as organizational practice. By taking this approach we aim to show that it is beneficial to shift away from viewing management models as absolute towards an epistemology of practice that emphasizes embeddedness in specific situations (cf. Schön 1983; Funck 2009). The main argument here is that management models can transform organizational practices, but they also become adjusted and eventually integrated as a part of these practices. This adjustment and integration process occurs in specific settings.

A PRACTICE PERSPECTIVE ON MANAGEMENT MODELS
Since practice is the only element that is available for us to observe (Bourdieu, 1990; Orlikowski, 2002; Chaiklin & Lave, 1993), research into the use of management models should be aimed at the implementation level (Hutchins, 1995a). Following Johnson et al. (2003), it is important to combine the detailed accounts from case studies with previous research and integrate various theoretical perspectives, and thereby orient the case study in a wider theoretical context. The study of organizational practice – here considered as taking a naturalistic molar approach for studying various work activities including management models – encompasses several conceptual frameworks that may be used, for example Situated Learning (Lave & Wenger, 1991), Activity Theory (Engeström, 1999), Distributed Cognition (Hutchins, 1995b), Cognitive Systems Control Theory (Hollnagel, 1993) and Behavior Setting Theory (Wicker, 1987).

As stated above, we seek to employ a process perspective on organizational change, which some would consider downplaying the organizational context.
Unlike studies which purport to shed light on key organizational phenomena, such as top teams, by reducing them to sets of demographics, the process studies have populated the arena of strategy development with human beings. All forces and activities driving or counteracting change emerge from human actions. (Johnson et al., 2003, p. 11)

In this quote, Johnson et al. (2003) bring our attention to the human emphasis that is common in process studies. However, much research has shown that the physical environment influences the actions of individuals, which is why we aim to include physical elements in our analysis.

In the main part of this article, we focus on analyzing the design, development and establishing of the Balanced Scorecard within a studied healthcare organization from an organizational practice point of view. The three chosen perspectives illuminate different aspects.

One of the core ideas of Actor-network theory (ANT) is the formation and maintenance of networks and the distribution and execution of power in the network. The key point of interest is how the entities in these networks together facilitate stabilization and fulfillment of action programs (Callon, 1986a; Latour, 1987). The purpose of a network is to enforce a particular action program, consisting of a desired course of action by actors that are enrolled in the network (Latour, 1992).

Behavior setting theory has a given place in the ecological psychology tradition of situated learning (Chaiklin & Lave, 1993). The concept of behavior setting is based on the basic assumption of the interdependency of human behavior and the environing socio-physical context (Barker, 1968; Wicker, 1987). It refers to those settings in which people spend a part of their total everyday life and which are characterized as firmly localized activities in time and space, and a program to be performed recurrently by people and tools in a synomorphic relationship (Schoggen, 1989). Thus, a setting in our context may be viewed as a small-scale social system with people and physical objects, guided by a behavior setting program in which balanced scorecard is used. It is an active self-regulating system.

Distributed cognition places focus on cognitive events in a socio-technical system – outside the head of a single person. It emphasizes a distribution in space, between members of a social group
or between people and artifacts, as well as between internal and external structures. It also emphasizes distribution through time, i.e. how earlier events influence the present (Hollan et al., 2000; Hutchins, 1995b). The application of a management method thereby fits well into this framework, being a complex cognitive task, distributed among a number of people and artifacts.

Actor-network theory points to the developmental phases and the roles actors have in establishing a network of allies and action programs that aim to outmaneuver anti-programs in promoting the Balanced Scorecard. The scorecard then becomes adjusted, immersed and integrated into standing patterns of actions in specific settings. Behavior setting theory explains mechanisms behind the rituals and orderly recurring activities that follow from stabilization of the network. But this theory does not provide very much information about internal dynamics and team performance as the method is practiced. Through distributed cognition we shift focus from ritual to understand how the management model, as an artifact, contributes to changed activities resulting from shared cognitive processes.

These three perspectives provide a common ground for a holistic systems analysis of organizational practices, with respect to context, activity as well as relations between humans and artifacts.

**METHOD**

The propositions we raise are based on a study of the organizational practice surrounding Balanced Scorecard in a healthcare organization. By using three theoretical perspectives (Actor-network theory, Behavior setting theory and distributed cognition), we aim to show how they guide the analysis in different directions. The underlying research question guiding the analysis asks which mechanisms lead to the fact that organizations make use of a particular management method. Multiple interpretations of organizational phenomena have several potentials: first and perhaps most obvious, several alternative interpretations are available; second, the empirical material is better utilized; third, the multiple analysis also provides an understanding of the openness and multifaceted character of social reality; and finally, multiple interpretations encourage the reader to make her own analyses (Alvesson, 2002). Of course, a multi-interpretation approach also brings up problematic issues such as what theories should be used and why.
These issues will be further developed in subsequent sections of the paper.

The multiple interpretations of the phenomenon are based on empirical material from a case in Swedish healthcare. One of the first questions here is whether an inductive or deductive approach should be applied. The former approach is exemplified by Strauss and Corbin, who expressed the idea of grounded theory in proposing that it is “inductively derived from the study of the phenomenon it represents” (Strauss & Corbin, 1990, p. 23). Within this idea, activities of collecting and organizing data lead to defined and empirically grounded concepts and ideas. Theory-driven approaches to defining context, on the other hand, provide the researcher with an apparatus in which much has been developed in advance (Miles & Huberman, 1994). This approach could also serve to guide data collection since the theory provides the researcher with frames to use in the phase of collecting empirical material (Yin, 2008). In the present study, we have tried to balance these two approaches. Three domains are herein considered to be important for the analysis of performance measurement systems such as Balanced Scorecards (Bourne, Mills, Wilcox, Neely, & Platts, 2000; Elg & Kollberg, 2009). These domains are: (1) design and structure of the Balanced Scorecard; (2) development and implementation; and (3) utilization in everyday work. We argue that all three of these domains interact and that this influences the way the organizational practice of Balanced Scorecard will be shaped. In the present study we therefore find it important to open up the empirical material in terms of these three domains. This solves the problem of how much should be developed in advance and how much should be left for exploration during collection of empirical material and analysis.

The empirical part of the research project was conducted in 2003. A case study approach has been used since the purpose of the study was to understand the utilization of a specific management method in a specific organizational context. The selection of a suitable case was primarily based on what could be learnt in relation to the purpose (Stake, 1994). One central problem was to find an information-rich case that illuminates the practice of Balanced Scorecard (BSC) intensely (Miles & Huberman, 1994). Two criteria were used for selection. First, it should be evident that the case organization actively works with the BSC, including financial and non-financial measures, derived from a vision and strategy categorized into perspectives originating from the Balanced
Scorecard framework by Kaplan & Norton (1992). Also, due to grant requirements, the organization should belong to a county council in Sweden.

The unit of analysis was defined as a hierarchical organization consisting of county council, hospital administration, medical department and its various units. The use of the BSC was studied with respect to the management levels at each organizational level. These organizational levels can be considered as embedded cases within the case (Yin, 2008).

Interviews and documents were the major sources for data collection. Observation has been used in order to provide familiarity with the context. Fourteen interviews ranging from 1 to 1.5 hours were conducted. The interviewees were selected on the basis of their position in the organization and whether they had been working in the organization since the introduction of the BSC. The selected interviewees were: 1 head of centre; 1 county director of finance; 1 head of hospital; 1 hospital controller; 2 administrators; 2 heads of care units; 3 employees. Two persons were interviewed twice. All interviews were recorded and transcribed. The interview guide was semi-structured and included four main themes: (1) the interviewee’s professional background; (2) the design of the scorecard; (3) the implementation of the scorecard; and (4) the practical use of the scorecard.

The most important documents in the analysis have been the representations of the BSC used as artifacts. Other documents used were the annual reports of the county councils, measurement documents and budget plans.

During the analysis phase of the study the researcher needs to be alert to trends and consider the interviewees’ statements against what others have said (cf. Kvale 1996). The analysis of the material has been made according to a procedure for data reduction, data analysis and conclusion drawing made in five major steps:

1) development of codes from the empirical material and noting reflections in the margins of the transcripts;

2) sorting of the material through identification of how the respondents perceive the various aspects of using BSC in their
organization (here, coded phrases and variables were compared and eventually isolated);

3) clustering of affinities and relations between different phrases and variables leading to the subsequently presented observations central for the characteristics of the practice of BSC;

4) comparison and confrontation of the empirically condensed material with theoretical framework and previous empirical research in the area.

5) Interpretation of the case using the multi-theoretical perspective that was selected.

Our assessment is that all the managers interviewed have a positive attitude to the BSC. One criticism, made in management research, is that interviews can be viewed as moral storytelling (Alvesson & Sköldberg, 2009). The point made is that leading persons of an organization tend to represent themselves in a positive way, as being rational, creative, goal-oriented and transformative. From a critical point of view, it is important to deal with this issue. We have employed several tactics for this reason. First, the manager’s perspectives have been balanced by interviewing personnel that have no (or very few) incentives to promote Balanced Scorecard. Second, the interviewer asks questions that are related to extensiveness of usage (i.e. time, place, occurrence, importance). This makes it possible to identify and follow up on any inconsistencies. Third, the interviewer asks critical questions about the phenomena in order to test the respondent view.

Of course, there are risks with this procedure because we are likely to give an image that is not valid for the entire operation. Some caution in the claims must be exercised. However, we believe that the interviewees, despite their positive attitude, reveal a reflexive approach towards the method. In order to further ensure validity, the coding procedure has been made by two researchers, first independently and then discussed and agreed together. The results in terms of case description have also been validated through member checking.

We also would like to comment upon the relationships between Balanced Scorecard and the practice within which it is immersed. A key point is that we are not looking for cause-effect relations. In other words, we do not believe that it is possible in our study to isolate the
phenomenon of BSC and then measure the effect of its use. Since the scorecard is used in an organizational practice, it may be difficult to judge what is BSC and what are other activities related to the BSC. We do believe that the interviews can convey knowledge about how BSC shapes ideas and practices (and how they are being shaped), what aspects are used in the organizational context and for what reasons. We must, however, be cautious in interpreting the interviewees’ perceptions of the effects of the BSC because it may be the result of other phenomena.

CASE DESCRIPTION
In the following section we give a description of how Balanced Scorecard has been introduced, developed, adjusted and formed to specific organizational practices within the studied healthcare organization.

The scorecard is introduced
The process of introducing BSC started in 1996. The initiative was made by the manager of the medical clinic along with an operations developer. Contacts with outside actors were important during the initial phases. For example a network for BSC that was run by the County Council Association can be mentioned, and the head of the medical clinic's contacts with a development institute in Boston (www.IHI.org). The head of the medical clinic and the hospital administrator also went to executive training at the Stockholm School of Economics where BSC was presented.

The process was managed on several different levels and through a number of different activities. The development work at the medical clinic was managed in parallel with the work in the County Council and hospital administration.

An important characteristic of the introduction process is proceeding from practice, rather than letting the method take control. One administrator who has been involved in managing the introduction says:

We've done it as a rather simple method, just so it will work and so the method won't take over, but instead there should be twelve organizations that are running it and then we use the method as an aid.
Another aspect that has characterized the introduction is that there has not been a defined goal for the process from the beginning. This is a teleological process, in which the organization experiments in finding their way.

We haven't really had anyone else to learn from either, because there hasn't been anyone to start with who's gone much farther in the process in public administration than what we had at that time. So we've had to teach ourselves and teach others at the same time (administrator).

The work was managed as a collaborative project among several clinics: women's clinic, medical clinic and orthopedics. Within the studied medical clinic, where the seeds for BSC were sown, the work started from the clinic manager having seen the methods in the USA. Work in the departments was initiated by formulating strategic goals and discussing what could be measured. The clinical director lectured outside the clinic on several occasions on Balanced Scorecard and study visits started being arranged. An administrator says:

More of the responsibility [was divided up] to the department managers and then leadership was decentralized and responsible chief physicians were also brought into the whole process. And there the role was gradually changed that finance was the departmental leadership's responsibility... So there we had the framework. There we had a perspective on Balanced Scorecard. We have the economic perspective there and we felt that we could actually build further on that. And in part these recurring meetings that she had at that time with the departmental leadership and then we would be able to build on a few other metrics.

Work has been done on BSC in the entire organization and the method has been given scope in discussions and forums during the process of implementation. A lot of time has been expended, and time has been an important factor in the process. One nursing unit manager says: “It took almost five or six years before I really got the hang of this, I think.”

Construction of the scorecard
Measurements of various types have been established in the organization long before BSC was introduced. According to the managers, the greatest difference with the development of BSC is that a completely
A new infrastructure for measurement has been created. The development and reporting of metrics has become a recurring process that is recognized. Furthermore, measures from different parts of the organization are gathered instead of being treated separately. The effect is that metrics can be changed and exchanged, without it being experienced as “yet another thing”; they still are part of the same scorecard.

Several managers emphasize that BSC provides a system view of the organization that did not exist before. This perspective can be problematic in relation to the natural scientific discipline that forms the historical basis for the entire health and nursing case organization. One of the interviewees says:

“...That discussion is not carried there [in management meetings]. But if you are a researcher, scientifically trained in vascular surgery, you know everything about it and develop your skills based on that. But that is very much limited to the field you are in, and not always so much related to the surrounding context.”

This quote indicates that the traditional, individual view of healthcare is in conflict with the holistic view that is brought about by BSC. It also highlights some difficulties in including clinical measurements as part of BSC. The doctors are not all on board.

The presentation of the scorecard is also of great significance. One important characteristic of the scorecard is that it should be easy to understand. In order to understand the main point, a person must actually know that the goals are red and the outcomes yellow (see Figure 1). This makes it fairly easy to assess the performance of the department in relation to goal fulfillment. This intuitive design is an important factor in making people think that BSC is a good presentation material. The fact that the scorecard is “colorful” and does not resemble other diagrams used in the organization makes the scorecard easily recognizable and understandable.
An obvious risk regarding visual presentation is that the scorecard may become muddled. If there is too much in the picture, it will be immediately perceived as messy rather than informative. It is therefore important to have as little as possible on the scorecard when it is presented, which leads to a discussion about the choice of metrics. This sometimes means that certain proposed metrics have to be excluded due to disagreement. However, metrics can be exchanged, depending on what is going on at a particular point in time. As a rule the metrics are reviewed once a year, but in special cases changes can be made at any time. This produces a constant dialogue among various actors in the medical clinic. In nursing care there are several measurements that would be of relevance, but are too difficult to measure. For example, medical results are not measured to any great extent. The aim of course is that as many patients as possible become as healthy as possible, but the problem is to formulate this in meaningful metrics. This has created problems with some of the professional staff that work with these kinds of measures.

The scorecard in action
The scorecard has a significant part in strategic planning at the leadership level (i.e. clinical direction), the administration level and county council level. Formally the scorecard functions as a framework for the development of multi-year plans, partial-year plans and budget as a part of strategy processes. The director of the medical clinic says:

I was part of the group at the county council level, because the secret there was how to bring about a multi-year plan that had metrics that we really followed, and it's perhaps only now that we are starting to get there.

At the clinic level a multi-year plan is created based on BSC metrics. Goals and metrics that are part of the scorecard are then revised annually. The managers consider the multi-year plan more or less as a political document, which puts pressure on the execution of set goals. However, sometimes the measures are so diffuse that it is hard to know exactly whether or not they can be fulfilled. Actions have been taken to reduce this ambiguity. With the introduction of BSC and the construction of a goal measurement system, this problem has been handled in a structured way.

Directives have been explicit regarding expectations that the scorecard should be used at the department level, but have been limited in other respects. The idea from the clinic management has been to create a balance between common and department-specific metrics. In practice this means that certain metrics are common to the departments, while in other areas they can choose their own goals and metrics. The goals specific to the department must of course be in line with the over-arching goals, but in other respects the departments have considerable freedom. The common metrics are there in part to create a kind of minimum level and in part to increase the possibility of making comparisons. The fixed metrics are distributed across all perspectives, but on the finance side there are few departments that have created their own metrics.

The scorecard is also used as the primary instrument in formal reporting. Not only goals and metrics are reported, but the scorecard is also filled out with comments and explanations. There may be some specific reason for deviations in measurement or in goal fulfillment. The clinic manager describes this way of reporting as a way to find out whether the departments are on the right path and whether they take their organization seriously. The measurement values in themselves can
sometimes be of less interest. The transition to reporting through BSC has also reduced the size of the reports.

Before the introduction of BSC, reporting was dispersed; finance and personnel issues were reported separately. Today they are all combined in one document. Even at the end of the fiscal year the results for the clinic are reported in the form of a BSC. The same applies to reporting of budget, multi-year plans and partial-year reports. Using BSC as a formal reporting instrument has thus become a natural part of managerial work.

**Effects of the scorecard**

Apart from reporting, the BSC provides a structure and a set of terms that are familiar and recurring across organizational levels. Agendas are often made based on the four perspectives in the scorecard. This facilitates communication at meetings and information sessions. It also simplifies meeting preparation, because everyone knows what will be brought up. This stability creates recognition that has a positive effect on participants.

For executive personnel the scorecard has been experienced as a positive aid in the leadership process. This applies perhaps above all to the nursing unit managers. At the administration level BSC is considered a simple planning instrument for their units that can be a support for an inexperienced leader or perhaps someone who is not a natural leader. At the unit level, the measurements provide an important basis for decision-making. As expressed by one manager:

> You have facts to go on. You may of course have a feeling about something, a person has feelings about everything, but your feelings are not always correct.

BSC has also entailed various communication-related benefits in the management process. Previously the departments have not really shown what they have done. Many measurements and good work efforts were made without any real feedback. With BSC a distinct channel for feedback has been created, which means that the results can be related directly to a work effort to a greater extent. This is something that in turn is seen to have a good effect on motivation among the staff.

**ANALYSIS**
In the following section we apply our chosen theoretical perspectives to the case description above. As stated above, we aim to understand management models as outcomes of organizational practice with respect to (1) context, (2) activity and (3) relations between humans and artifacts. In order to reach this ambition, we have chosen three theoretical perspectives that address all of these aspects: Actor-network theory, Behavior setting theory and distributed cognition. We have no ambition to give full accounts of the chosen theories, but emphasize some core features of each theory that will provide understanding of central points that we aim to highlight.

THE ACTOR-NETWORK OF BALANCED SCORECARD

Engaging in a project such as implementation of a management concept could be seen as an attempt to enforce an action program (cf. Hanseth & Monteiro, 1997). In the initial stages of this kind of change, one will usually find power struggles between contesting networks and their associated action programs and anti-programs.

In the case at hand, the network starts out on a quite modest scale, with a few individuals that come together to discuss the potential application of BSC. The manager of the clinic, M, first encounters the method in a leadership course at Stockholm School of Economics. Together with his superiors, M discusses the applicability and adaptation of BSC in the county council of Jonkoping. These individuals form an embryonic network that is mainly concerned with understanding and assessing the applicability of the method in their organization. Since not much attention is given to this method outside of this small network, there is no one to challenge their work, and the development of BSC is allowed to take place “below the radar”.

Through the formal legitimacy that comes with the managerial position, M has the opportunity to introduce BSC in the clinic. Since the method is new to most personnel, there is no apparent resistance to the change and no one expresses a need to challenge the application of the method. If, however, such a challenge were to arise, it would have to tackle not only the BSC method, but also the entire network, as shown in Figure 2 (cf. Latour 1987).
The enthusiasm of the clinic manager together with a large investment of time and the massive attention paid to the method in various discussions has given the method legitimacy and provided a basis for enabling its central position.

At this stage, however, interests and inscriptions are not entirely aligned with the respective action program, which enables further translation of the action program. Within ANT, translation is a term with multiple meanings, covering both social and physical displacement, i.e. displacement of both interests and meaning (Callon, 1986b; Latour, 1987). This also applies to situations when a message or interest is transferred to or inscribed (Latour & Woolgar, 1986) in a different “medium”, for instance when the BSC method is represented by the spider chart.

Artifacts, such as the spider chart, contribute to the creation and stabilization of networks, supporting and enforcing certain types of behavior (Latour, 1992; Hanseth & Monteiro, 1997), and the stronger support an actor can mobilize from other actors (human or non-human), the stronger the action program (Callon & Latour, 1981; Latour, 1987).
Although some individuals express skepticism about BSC, their doubts are not enough to prevent the method from receiving a central position in the managerial work within the clinic. The main critics of BSC are clinical personnel, because of the limited focus on clinical results in the BSC. This alternative agenda can be viewed as an *anti-program* (Akrich & Latour, 1992; Latour, 1986). However, this is a network without any obvious principal actor, and without any significant resources.

The main network has a “head start” in knowledge, which means that any potential adversary would first have to dig into the details of the Scorecard and understand its foundation, and then disentangle the links between the actors already enrolled in the network. Without a fundamental understanding of the Scorecard, it is difficult to find the motivation to take on this task. The BSC action program therefore goes unchallenged, and is allowed to advance its position.

The BSC method becomes the framework for planning and budgeting processes, it sets the agenda for management meetings, the reporting structure for unit results follows the BSC logic, and feedback from management is given through presentation of a BSC. The network has now grown to include people, instructions, routines, external networks, reports and other structures and alliances, all of which support the action program. Interests and inscriptions are now aligned to the extent that the action program is assimilated into practice and taken for granted by enrolled actors.

The assembly of disorderly and unreliable allies is thus slowly turned into something that closely resembles an organized whole. When such cohesion is obtained we at last have a black box. (Latour, 1987, pp. 130-131)

By now, the network has increased in both size and strength, and the few critical voices that have existed in the past have now been muffled by the power of the network. Since the BSC sets the agenda for managerial meetings, the clinical perspective is not only excluded from the measurement/reporting process/structure, but also from most managerial discussions.

At this point, the network is punctualized (Callon & Law, 1997), and the course of action proposed by the action program is taken for granted by the enrolled actors and also becomes a black box. In these cases, the
user/receiver is left with no viable alternative other than adhering to the action program inscribed in the black box. This reduces the possibility for further translations and causes the network to stabilize.

Opening a black box thus becomes a daunting task for anyone that aspires to do so. As a result of this, the critical voices are kept well outside the core of the network, and the ambition of including the clinical perspective becomes an increasingly peripheral idea. Including a new perspective in the BSC would require nestling one’s way into the network and convincing other actors to cooperate in reopening the black box, alternatively constructing a strong anti-program that would be able to open the black box by force. Either way, these approaches would require a substantial investment of time and resources, indicating that the position of the BSC will go unchallenged for some time.

However, the network and its corresponding action programs, regardless of their strength, are still vulnerable. Networks and action programs need constant maintenance. If too many components of the network are challenged, weakened or removed from the network, or if an anti-program is allowed to take control, the network may fall apart.

Eventually, the spider chart becomes the very representation of the whole method and the action program as such. Paradoxically, it has a much weaker position compared to the overall network, with no apparent defense mechanisms. It is seemingly easy to challenge. In the process of stabilizing the network, it plays an important role as it is easily transferred from one context to another without changing its structure (being an “immutable mobile” in ANT terminology). However, if the validity of the spider chart were to be questioned, it would lose its credibility and its central role in the management meetings. This would cause the network to falter and the setting to deteriorate, thereby changing the conditions for the meetings.

**Behavior Settings of BSC Practice**

A behavior setting is a concept that has been developed and explored within the research tradition known as ecological psychology, nowadays termed classical ecological psychology. This research was initiated by Barker (1968), who argues for a research discipline in psychology that takes into consideration the ecological environment.

…that is concerned with both the psychological environment (the life-space in Kurt Lewin’s terms; the world as a particular
person perceives and is otherwise affected by it) and with the ecological environment (the objective, preperceptual context of behavior; the real-life settings within which people behave (Barker, 1968; cited in Westlander 1999, p.16).

As opposed to mainstream psychology, mostly interested in inter-individual differences, ecological psychology emerged out of the interest to study intra-individual variation depending on different social settings (Schoggen, 1989).

The main interest of ecological psychology is to study the relation between human behavior and the environment in real-life settings, both natural and socio-cultural, (Wicker, 1979; Schoggen, 1989). In studying this relation, the ecological psychologist needs, as Barker stressed, to take into account both the psychological environment and the “outside” environment. Consequently, there is a need to develop concepts about the ecological environment in which the behavior is immersed.

Transforming the original work into a more comprehensive language, a behavior setting can be viewed as a

… miniature social system whose basic function is to carry out setting programs. […] To facilitate the program, behaviors of people and arrangements of physical objects within the boundaries of the setting are highly coordinated. (Wicker, 1979, p. 755).

There are several behavior settings where Balanced Scorecard is practiced within the studied organization. At the county council level we see for example the yearly planning/budgeting process where participants from the management team meet in order to define and discuss goals and changes in strategic direction. This can be seen as a behavior setting since it has a specific setting program (define yearly plans for the county council); specific persons at the county council level management and managers from hospitals are present from time to time; it occurs at a specific time/space locus and consists of various Balanced Scorecard artifacts (physical objects in the meaning of setting theory).

The same type of planning/budgeting setting can also be identified at other levels of the organizations: hospital management, clinical department and at lower work units. Basically the same structure and program is present at all these behavior settings. The settings that are present here may be understood as goal deployment-oriented; they
operate as a stable motor for the *strategic planning process* and support management processes. Stability is achieved as the BSC settings become a natural part of the everyday work of managers within the organization. Each setting involves a characteristic pattern of behavior that is relatively independent of the presence of any particular person. That means that individual managers can be replaced without influencing the setting too much. As pointed out by the members of the organization, for newcomers in managerial positions it is very easy to learn the Balanced Scorecard structure.

Another type of behavior setting is the *continuous information activities* within various units. The information activities re-occur with the same participants from time to time using the same information structure (i.e. the spider chart). The setting program is very much related to the spider chart in that it provides a structure for how to conduct the meetings. The agenda for the meeting is set by the different perspectives and measures presented in the diagram.

A third type of setting activity is *reporting of organizational performance*. This is a formal reporting where the scorecard is used as the principal instrument. Reports to the health care unit’s clinic management is made through submitting a BSC every two months. Goals and metrics that are relevant are presented and complemented with comments and explanations as to why it looks the way it does. This type of setting is different from strategic planning and continuous information in the sense that the setting includes collection of information, collating the information in BSC, and sending information to the next manager in the hierarchy.

Barker & Barker (1961) propose that behavior settings are interdependent with other settings. The relations between settings at various levels are relevant since they can provide the kit that links the theoretical idea of Balanced Scorecard implementation to practice. Consider for example the Kaplan & Norton (1996) idea that Balanced Scorecard can be used to clarify strategy, communicate the strategy throughout the organization, obtain feedback and align strategic initiatives with performance reviews. The idea is also to have a stable organization – from year to year – that will be able to perform all these activities. Behavior setting theory is a tool that might help to move from theory to practical initiatives.
As can be seen from the case, the scorecard is included in many settings and is used to illuminate organizational performance from several perspectives. Settings at various levels are linked to each other and create a web of intertwined activities. The behavior settings serve as the motor of the Balanced Scorecard practice in the organization. Without them the whole system would collapse. But does the studied organization have a system of settings that links strategic initiatives, communicates strategy and provides feedback? The linkages between settings are key to understanding this question.

The various interdependencies shed light on the linkages between organizational units. As pointed out by setting theorists, it is not only the environment restricted to the immediate situation that influences action but also relations with contextual phenomena beyond that. For instance, products of earlier events in other time/space locations may influence the actions in the settings (cf. Keller & Keller 1996; Hollan et al. 2000).

Voices that traditionally have been weak have become more involved. Consider, for example, the nurses that now have become more involved in various types of analyses and can provide a perspective that previously was not well represented. But the idea is not just that communication during the setting program has changed.

The four perspectives should also broaden the way people think. Clinic management has strived to create discussions about the four perspectives, and that all parts must be processed in parallel without focusing on any one perspective. On the unit level, they also believe that increased dialogue and overall vision are very important consequences of the scorecard process. Different groups of staff discuss the organization as a whole in a different way because of the different perspectives. On the county level, it is emphasized that the scorecard is about seeing the organization from several perspectives. At all levels, the scorecard makes discussions broader, and provides a tool to link various organizational aspects. It also has implications for improvement work, because it shows that changes in one perspective influence other ones.

BSC PRACTICE AS DISTRIBUTED COGNITION
With the theoretical goggles of cognitive theories, the case material will reveal itself in a different guise. Focus is shifted to the application and use of the BSC, with the ambition of describing this as a cognitive
process that is distributed in both space and time, between people, objects and resources (Hutchins, 1995a). The main element of interest is thus the interactions between these entities and how together they complete the task at hand (cf. Hollan et al., 2000).

The central theme is that context and environment must be appreciated as an intrinsic part of human cognition. Otherwise, we risk “mistaking the properties of the sociocultural system for the properties of a person” (Hutchins, 1995a, p. 366). In line with that thought, Hollan et al. (2000) point out that:

since social organization – plus the structure added by the context of activity – largely determines the way information flows through a group, social organization may itself be viewed as a form of cognitive architecture. (Hollan et al., 2000, p. 177)

The distribution in time is visible in several time scales. The first is one of many generations, passing down cultural knowledge, at times embodied in tools that we use, at times simply in the way activities are performed. The second is the history of an individual, the experiences and skills they have gained and developed, and the third is the “microgenesis” of the present, how social interaction affects the tasks performed in a situation (Hutchins, 1993).

Based on this viewpoint, the Balanced Scorecard can be seen as an information resource that is used in a certain setting for specific purposes. The use of BSC for discussion, analysis and interpretation of how work should be planned becomes a support for the manager's leadership. This can be seen as distributed cognition, where BSC becomes part of a management system’s cognitive ability to lead the coordination of the operations. A central concern for distributed cognition (DC) is thus the social organization of meetings in which BSC is being practiced. The cognitive processes in these meetings are, according to DC, limited by functional relationships between the various elements, between individuals or between an individual and artifacts such as the spider chart (cf. Hollan et al. 2000).

The purpose of the BSC is to aid managers in their work through providing them with a comprehensive framework for translating vision and strategy into a coherent set of performance measures (Kaplan & Norton 1993; 1996), making the BSC both a measurement system and a strategic control system (Nørreklit, 2000). In any of the above given
settings, this task is distributed between the team members and the Balanced Scorecard, all of which are communicative links to other similar settings (management meetings). The BSC and the meetings themselves become carriers of the management culture within the organization, and serves as a reminder of “how things are done” in the relevant settings. The spider chart mediates meaning and serves as a point of reference for the management team members. Information about previous interactions in this, and other, cognitive systems is embedded in the spider chart. Since the clinical perspective is weakly represented in previous interactions, this is reinforced in subsequent interactions. The clinical perspective could thus be seen as a deviation in the cognitive process, and the system compensates for this by excluding it from the process.

As a great number of BSC meetings are concerned with reflective activity, participants become reliant on various sources of knowledge in order to make fair judgements. At one end we have discussions, interpretations and analyzes of organizational activity conducted by people with no knowledge whatsoever of the organizational context other than the content of the Balanced Scorecard. This is a case of low bandwidth of information (Hutchins 1993; 1995a). At the other end we have evaluations of organizational activity by people who are well acquainted with the local circumstances under which the measuring activity took place. The full potential of the BSC method does not become evident before these people come together.

Before BSC entered the organization, there was no systematic integration between units, leading to isolated efforts and sub optimization. BSC contributed to a change towards a system perspective, thus changing the nature of the cognitive process in the managerial settings. The spider chart has multiple functions in the cognitive process. First, it aids the team members in their navigation through the meeting. Second, it provides input into discussions of the business processes that the measurements represent. And third, the spider chart becomes a mediator in the coordination between the internal environment of the given meeting and the rest of the organization. The functional relationship between the team members and the spider chart comprises only the dimensions that the chart represents, and the clinical perspective is thus excluded from the cognitive system altogether for lack of presence in the chart.
One central issue in DC theory is the feedback mechanisms that enable teams to perform at a high level. This is crucial in the circumstances that are typically studied from a DC perspective (e.g. ship navigation and airplane take-offs). However, in the case at hand, no immediate feedback mechanisms exist. There is a substantial delay in feedback (e.g. waiting for budget outcomes or effects of strategic plans), which complicates matters, and hinders the cognitive processes of the management team. It becomes very difficult for the team to evaluate its own performance and make necessary adjustments. All measures taken in this direction will be after the fact, thus limiting their effectiveness.

**DISCUSSION**

As previously stated, the different theoretical perspectives highlight different aspects in the empirical material, and thereby guide our analysis in different directions. This has enabled us to draw a richer set of conclusions than would be possible through a single theory. One might therefore be tempted to integrate the three perspectives into a unified theoretical frame of reference. However, we believe that such an approach would run the risk of underutilizing the potentials of each theory. Also, several researchers point to the difficulties of combining theoretical perspectives into an eclectic approach (Alvesson 2002). Table I gives an overview of the various facets of the different perspectives.

**Table I  A summary of theoretical perspectives**

<table>
<thead>
<tr>
<th>Object of interest</th>
<th>Actor-Network Theory</th>
<th>Behavior Setting Theory</th>
<th>Distributed Cognition</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Formation and stabilization of powerful networks that support the BSC action program and the use of BSC as a valid representation of organizational performance</td>
<td>Recurring management meetings (e.g. budgeting, strategic planning, information meetings) that include standing patterns of BSC usage (‘backbone’)</td>
<td>Focus on shared cognitive processes within BSC activities</td>
</tr>
<tr>
<td>Time/space delimitation</td>
<td>Independent of time and space</td>
<td>Limited to certain meetings, which are time/space dependent.</td>
<td>Influenced but not limited by spatial colocation. Distributed over time.</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------------</td>
<td>-------------------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>Relationship between humans and objects</td>
<td>No analytical difference between humans and objects. All network entities help to stabilize the network and promote the scorecard approach.</td>
<td>As a part of the setting program, the spider chart regulates behavior, and sets the agenda. BSC provides a structure that guides the management team through the meeting.</td>
<td>The spider chart contains accumulated knowledge that is developed within the system, and provides input into the BSC activity. BSC is a carrier of managerial culture.</td>
</tr>
<tr>
<td>Goal of the system</td>
<td>Promote and support the action program: BSC as a valid representation of organizational performance, and the application of BSC methodology</td>
<td>Perform and conserve the execution of the BSC program.</td>
<td>Effective managerial performance, in relation to the BSC.</td>
</tr>
<tr>
<td>Condensed description</td>
<td>Process of conceptual and social translation of the BSC concept, and social construction of BSC benefits to the organization.</td>
<td>Ritualistic performance of the BSC setting program. Organizational benefits from BSC activities are subordinated to the setting program, and are thus of less importance.</td>
<td>Knowledge development in managerial work is coordinated through BSC activities. Organizational benefits from BSC activities result from effective cognitive processes.</td>
</tr>
</tbody>
</table>
This paper is based on empirical material from a single management model applied in a single organization. The organization under study is, of course, unique in many aspects. However, there is little indication that our observations are in any way related to any discriminant characteristic of the Balanced Scorecard or limited to the studied organizational context. Thus, it is reasonable to think that our conclusions are relevant to organizational change in a more general sense, particularly to the introduction of new management models. In line with this, we present five propositions that address the practice surrounding management models.

First of all, in order to translate management concepts into organizational practice, formation and stabilization of networks that support the management concept is necessary. From the studied case we see that stability is maintained as actors from several organizational levels become involved. This leads to our first proposition:

P1: The implementation of a management model rests on the premise that a substantial mass of actors (human and non-human) supports the action program that represents the management model.

Artifacts that are easily moved between organizational contexts support stabilization of the network. As black boxes (for example in our case the spider chart) are closed, the system will also be conserved, and re-opening the black boxes becomes difficult. Therefore, strange as it may seem, it can be valuable to cultivate the dialectic process between action programs and anti-programs and thereby keep black boxes open for a while so that good solutions will have time to be explored. Listening to the various critical voices can be of value here, which is highlighted in our second proposition:

P2: The implementation of a management model needs to be preceded by a process of problematization, in which both supporting and critical voices are allowed to take place. This will facilitate adaptation and contextual fit of the model.

This phase is of great importance to anchor the scorecard in the organization, both interpersonally – through the formation of routines and structures for application of the scorecard, and also physically – through instituting the spider chart as an immutable mobile. This process is a prerequisite for employing a sustainable setting program. A black
box left open may become an obstacle to establishing standing patterns of behavior that include the scorecard. In our third proposition, we emphasize the importance of artifacts, such as the spider chart, which become important representations of previous interactions within the organization, and serve as reminders of managerial tradition.

P3: The organizational behavior around a management model is influenced by artifacts within the setting. Artifacts that are a natural part of the setting and the inherent setting program will function as representations of organizational practice.

The core practice of a management model is the recurring actions of its principal agents. This can only be maintained if a complex of standing patterns of behavior is present. We see this in the recurring meetings that share the same structure – or setting program. Without this recurring structure, there is no arena for the model to have any impact whatsoever, a point that is captured by our fourth proposition:

P4: The practice of a management model needs to be represented by a standing pattern of organizational behavior, which is the very backbone of management model application.

However, this “backbone” does not address questions of model efficacy. Instead, organizational benefits are related to the accomplishment of specific setting programs where the method is practiced.

Theories of behavior settings and actor-networks help us to understand the prerequisites for BSC to have a practical impact on the organization at hand, but they do not provide any insight into how the model is put to use or how usage of the model may influence organizational outcomes. This perspective is to some extent covered by distributed cognition, through which we see an evident lag in feedback of information. This hinders the management team in their evaluation of performance, and leaves them little possibility to adjust performance in a continuous manner, thereby limiting the efficiency of managerial work.

P5: In order for a management model to have effect on organizational outcomes, mechanisms of feedback are necessary to assess performance on a long and short-term basis. Lack of feedback mechanisms will increase the risk of decoupling between the BSC settings and the overall organizational system.
As pointed out by Johnson et al. (2003), an activity-based approach has little possibility of demonstrating impact on organizational outcomes. In our case, the data does not permit robust statements of the impact of the scorecard on these matters, but there are indications that the model has had positive impact on information processing, which in turn may have a positive effect on the outcomes.

So, what kind of implication does this have for managers who are interested in practicing new management concepts? Can the interpretations here help in understanding implementation questions that managers so often need to deal with in their everyday work?

First of all, the setting analysis shows that there is a need to integrate the management concept into the daily life of organizational practice. The concept needs to be integrated in the work settings that are a part of the value-adding activities of the organization. That will provide an infrastructure and possibility for organizational integration. This type of ritualistic thinking is of course not sufficient. We also see that understanding of shared cognitive processes is of importance as management concepts are being used. Are there possibilities of creating feedback mechanisms on the performance of activities in certain settings with respect to organizational outcomes? Systems that are highly effective in this respect have clear links between organizational actions and performance. So, from this perspective we might ask how the various elements of the settings can be organized so that effective production takes place. One related question here is how we can create robust organizations.

In the introduction to this article, we highlighted two common perspectives on management models. In our empirical material, we see both of these perspectives represented. On the one hand, the scorecard does have an impact on the organization. It provides an important contribution to managerial work, and helps to provide a structure for information processing, both within and outside the management meeting context. On the other hand, we see that the organizational practice surrounding the scorecard has a strong element of ceremony or ritual, as emphasized by the institutional perspective. In addition to these observations, we also see the political process that precedes the application of the scorecard. All of these elements are part of what we refer to as organizational practice around management models.
We believe that there is much potential in combining a multi-theoretical approach with process studies. In this article, we have demonstrated some merits of such an approach. We would like to see more of this in the field of management studies, and welcome combinations of other management models, contexts and theoretical perspectives.

REFERENCES


