

THE ROLE OF BEHAVIORAL FACTORS IN THE SUCCESSFUL IMPLEMENTATION AND USE OF PERFORMANCE MANAGEMENT SYSTEMS

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Abstract

This paper examines the role behavioral factors play in the successful implementation and use of performance management systems that are based on critical success factors, key performance indicators and the balanced scorecard. Case study research was performed which identified 18 individual behavioral factors to be important. The research also showed that the use stage in a systems implementation project has to be performed well in order to assure a regularly used performance management system.

Introduction

Performance management systems are defined as “the formal, information-based routines and procedures managers use to maintain or alter patterns in organizational activities” (adapted from Simons, 2000). These systems focus on conveying financial and nonfinancial information that influence decision making and managerial action. The recording, analyzing, and distributing of this information is embedded in the rhythm of the organization and is often based on predetermined practices at preset times in the business cycle. These systems are designed specifically to be used by managers. According to Neely (2000), there is a natural evolutionary cycle at work in the development of theory and practice in the field of performance measurement and control systems. During this cycle, managers were first concerned that they were measuring the wrong things (late 1980s and early 1990s). After struggling with the adoption of new and alternative systems, like the balanced scorecard (throughout the 1990s), they now turn to the issue of how to use the data provided by these new systems (late 1990s and early 2000s). Zairi and Jarrar (2000) state that the main reason for managers to use data from the performance management system is to influence the behavior of subordinate managers and employees. To do so successfully, these managers need a clear view of human nature and behavior in organizations. Simons (2000) gives several assumptions about the nature of human activity in organizations: (1) people in organizations want to contribute to an organization of which they can be proud of; (2) people employed by business organizations also know the difference between right and wrong, and generally choose to do right; (3) people strive to achieve – even in the absence of external inducements (money, promotion, praise) people often set a personal goal for themselves; (4) people like to innovate – they have an innate desire to experiment by creating new technologies and new ways of doing things; and (5) people want to do competent work, a job well done allows them to exercise their skills and receive satisfaction from their competence. Simons concludes that people like to have and show good performance.

The human element in performance management

Performance can be considered an outcome of both organizational and human activities. Originally, performance measures were used as surrogates for these outcomes, and a direct link between performance management systems, human nature, and outcomes was not made. This omission was addressed by Argyris (1952) and later on by Simon et al. (1954). They explored the human behavioral side of performance management system use, looking specifically at the budgeting system. Both concluded that budgets and budgeting processes could be associated with important human relation problems. These included worker–management separation, cross-boundary conflict, and job-related tension. Their conclusions were substantial departures from the mechanistic approach to performance measurement found in traditional management theory.

Nowadays, the issue of the “human element” receives more than before attention in the literature. Simons (2000) states that performance measurement and control systems cannot be designed without taking into account human behavior. Holloway et al. (1995) argue that successful implementation of performance measurement depends above all on understanding and accommodating the human element. A closer look at the literature reveals that a lot of this attention for the human element seems to be still focused on its relationship to the budgeting system. In this respect, Hartmann (2000) remarks that it should be investigated whether personality factors related to individual preferences for risk and uncertainty are important determinants of managerial behavior and attitudinal reactions to budgeting. And Vagneur and Peiperl (2000) state that individual psychological responses to performance assessment should be investigated, taking into account research from the fields of psychology, organizational behavior, behavioral accounting, and systems theory. Next to this, a lot of performance management research focused on the technicalities of implementing a performance management system rather than on behavioral issues (Martins, 2000). In recent years, an increasing number of organizations have implemented performance management systems that are based on critical success factors (CSFs) and key performance indicators (KPIs). A frequently used format in this context is the balanced scorecard (BSC) (Kaplan and Norton, 1996). Despite the increase in experience gained with these systems, there is still a lot to be learned about the factors that influence effective use of CSFs, KPIs, and the BSC (Vosselman, 1999). The influence of users’ characteristics on the use of a performance management system has been underexposed in scientific and professional literature (Vagneur and Peiperl, 2000; Krause, 2000).

Two recent studies into the behavioral aspects of performance management system implementation and performance management system use aim at filling this void. Lipe and Salterio (2000) found that managers’ cognitive limitations may prevent organizations to fully benefit from a performance management system, and that cognitive differences between managers may lead them to use the performance management system differently. Malina and Selto (2000) found that positive outcomes from performance management system use were mostly determined by the effectiveness by which the system is used as a management control device (defined in terms of effective measurement, comprehensive performance, and weight of the measurement dimensions), while these outcomes were not attributable to its use as a communication device. Positive outcomes are generated by better strategic alignment of employees and better motivation, which indicates that causal relationships exist between performance management system design, management control use, managerial and employee behavior, and performance.

In this paper the line of research into the behavioral aspects of performance management system implementation and use is extended by addressing the research question *Which behavioral factors contribute to the successful implementation and use of a performance management system?* (de Waal, 2002). A performance management system is regarded successful if managers use the system on a regularly (daily) basis. The research question is answered by studying three organizations that have designed and implemented a performance management system. The research aims to identify the behavioral factors that are responsible for the successful design and implementation of a performance management system.

Criteria for Regular Use

Since the objective of the research is to identify which behavioral factors are important to the successful implementation and use of a performance management system, criteria for regular use have been formulated on the basis of literature (Bruijn, 1994; Gelderman, 1998a, 1998b). These criteria denote when use of the performance management system, and its CSFs, KPIs and BSC is valuable to the organization and its managers. The criteria are a mix of tangible and intangible benefits but focus more on the intangibles (Mooraj et al., 1999). In the criteria for regular use the ideas of Lewy and Du Mée (1998) are included, who argue that successful implementation and use of a performance management system does not necessarily mean that the organization has its performance management system embedded in the planning and control cycle with periodic reporting and discussion. In their opinion, a successful implementation and use of a performance management system can already be achieved when the managers have an intensified awareness of the importance of the performance management system. The criteria for regular use are given in Exhibit 1, in the format of interview questions.

Criteria for Regular Use
Are the results of the organization, according to managers, improved through the use of the performance management system?
Are the results of the organization, objectively, improved through use of the performance management system?

Criteria for Regular Use
Has the degree of performance management system use by managers increased?
Are there plans for follow-up projects?
Is there a difference in manager attitude toward performance management, from project start to currently?
Is there regular communication about KPI results?
Are the CSFs, KPIs and BSC incorporated in the regular management reporting?

Exhibit 1: Criteria for regular use

Classification scheme

The scientific and professional literature studied mentions many behavioral factors that are potentially important to successful implementation and regular use of a performance management system. Examples given are: “Managers accept the need for performance management” and “Managers accept the promoter”. These factors have been grouped and arranged in a classification scheme (Exhibit 2).

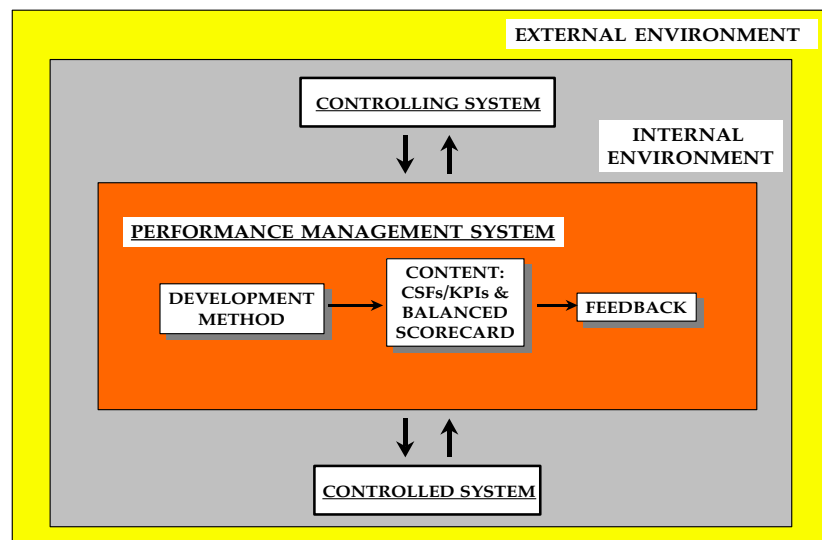


Exhibit 2: Classification scheme of behavioral factors

This classification scheme was developed by linking the factors of effective control as given by De Leeuw (1990) with the control cycle of performance measurement as given by Van Tuijl et al. (1995). For effective control, the controlling system (the superior of a manager) and the controlled system (the manager) need a performance management system. Through the performance management system, the controlling system gets information about the performance of the controlled system and the controlled system obtains information about its own performance. The internal and external environments in which the controlling and controlled systems operate also influence the effectiveness of control. In the performance management system, the development method part describes the way in which CSFs, KPIs, and the BSC are developed. The content part gives the quality criteria that CSFs, KPIs, and the BSC have to meet in order to be relevant to both controlling and controlled system. The feedback part describes the way in which information about CSFs, KPIs, and the BSC is conveyed to both controlling and controlled system. Each part of the classification scheme can be divided into subparts. For each subpart, behavioral factors can be found in the literature, so that it can become clear how each part of the classification scheme can be influenced favorably.

Method

To answer the research question, case study research was conducted at three Dutch organizations: a nonprofit organization, a profit company, and an organization in transition from nonprofit to profit. All organizations had, at the time of the research, extensive experience with CSFs and KPIs. The purpose of the case study research was to identify the behavioral factors that are the most important to the implementation and regular use of the performance management system at those organizations. Generally, in a performance management system implementation project, three stages can be distinguished: (1) the *starting* stage (S), in which the organization decides to implement a performance management system; (2) the *development* stage (D), in which CSFs, KPIs, and the BSC are developed; and (3) the *use* stage (U), in which the organization starts to use the performance management system (Kerklaan et al., 1994; Kaplan and Norton, 1996). In each stage, identification took place of those behavioral factors that were the most important to a positive end result of that stage and the overall project. In addition, the stage that was the most important to the overall success of the project was identified. In total, forty behavioral factors were researched (Exhibit 3).

Classification Scheme Part	Subpart	Behavioral Factor	Influence on Stage
Performance management system – Development Method	Development method	Managers accept the need for performance management.	S (1)
		Managers have an active role during the development stage of the performance management system project.	D (1)
		Managers agree on the starting time.	S (2)
		Managers have been involved in decision making about the project starting time.	S (3)
		Managers are informed about the status of the performance management system project.	D (2)
		Managers are actively communicating about the performance management system project.	D (3)
Performance management system – Content	Quality	Managers understand the meaning of KPIs.	D (4)
		Managers are involved in defining KPIs.	D (5)
		Managers have insight into the relationship between KPIs and financial results.	U (1)
	Registration	Managers do not get discouraged by the collection of performance data.	U (2)
	Purpose	Managers have insight into the relationship between strategy and CSFs/KPIs.	D (6)
		Managers have insight into the relationship between business processes and CSFs/KPIs.	D (7)
	Targets	Managers are involved in setting KPI targets.	D (8)
	Balance	Managers' KPI sets are aligned with their responsibility areas.	D (9)
Managers have insight into the relationship between cause and effect.		U (3)	
Performance management system – Feedback	Feed forward	Managers are involved in forecasting.	U (4)
		Managers trust good-quality forecasts.	U (5)
		Managers' activities are supported by KPIs.	U (6)
		Managers' frames of reference contain similar KPIs.	U (7)
Performance management system – Feedback (ctd)	Feedback	Managers are involved in making the CSF/KPI/BSC reporting layout.	D (10)
		Managers understand the CSF/KPI/BSC reporting.	D (11)
		Managers trust the performance information.	U (8)
		Managers are involved in making analyses.	U (9)
		Managers trust good-quality analyses.	U (10)
Controlled system	Management level	Managers use the CSFs/KPIs/BSC that match their responsibility areas.	D (12)
		Managers' information processing capabilities are not exceeded by the number of CSFs/KPIs.	U (11)

Classification Scheme Part	Subpart	Behavioral Factor	Influence on Stage
		Managers have enough time to work with their CSFs/KPIs/BSC.	U (12)
	Management style	Managers have earlier (positive) experiences with performance management.	S (4)
		Managers realize the importance of CSFs/KPIs/BSC to their performance.	U (13)
		Managers do not experience CSFs/KPIs/BSC as threatening.	U (14)
		Managers can use their CSFs/KPIs/BSC for managing their employees.	U (15)
Controlling system	Responsibility	Managers can influence the KPIs assigned to them.	D (13)
		Managers have sole responsibility for a KPI.	U (16)
	Supervision	Managers accept the promoter.	D (14)
		Managers see the promoter spends enough time on the performance management system implementation.	D (15)
		Managers clearly see the promoter using the performance management system.	U (17)
	Relationship with controlled system	Managers and their controlling systems have a mutual trust.	U (18)
Internal environment	Alignment	Managers find the performance management system relevant due to regular evaluations.	U (19)
		Managers use the performance management system regularly during the planning and control cycle.	U (20)
		Managers agree on changes in the CSF/KPI set.	U (21)
	Organizational culture	Managers are stimulated to improve their performance.	U (22)
		Managers work in a stable, relatively tranquil environment.	S (5)
		Managers' results on CSFs/KPIs/BSC are openly communicated.	U (23)
	Managers' use of the performance management system is stimulated by the reward structure.	U (24)	
External environment	External environment	Managers find the performance management system relevant because only those stakeholders' interests that are important to the organization's success are incorporated.	D (16)
		Managers find the performance management system relevant because it has a clear internal control purpose.	D (17)

Exhibit 3: Overview of the behavioral factors

Results

The research question was investigated by applying pattern matching, which allows patterns to be discerned between the various scores of the cases. These patterns tell us which behavioral factors, theoretically predicted to be important, coincide with the criteria for regular use. Pattern matching is applied to identify patterns between the scores on the individual behavioral factors and the criteria for regular use, and between the end scores for the three stages and the scores for the criteria for regular use. The assumption in pattern matching is that the behavioral factors are independent. This is why the factors have not been weighed. For pattern matching, a complete match between the scores of all cases gives a complete coincidence, indicating that these behavioral factors seem to have a general similarity with a successful implementation and use of a performance management system. These behavioral factors can consequently be considered to be essential. A match between three or two scores gives a partial coincidence, which means that these behavioral factors have a partial similarity with the criteria for regular use. These behavioral factors may be important to the successful implementation and use of a performance management system. Finally, a match between one or none of the scores indicates there is no coincidence, which means that these behavioral factors may not be important to the successful implementation and use of a performance management system. Pattern matching was applied for individual behavioral factors and for individual stages.

Classification Scheme Part	Areas of Attention to	Behavioral Factors
Performance management system	Managers' understanding – <i>A good understanding by managers of the nature of performance management</i>	<ul style="list-style-type: none"> ▪ D4. Managers understand the meaning of KPIs. ▪ D7. Managers have insight into the relationships between business processes and CSFs/KPIs. ▪ U7. Managers' frames of reference contain similar KPIs. ▪ U21. Managers agree on changes in the CSF/KPI set.
Controlled system	Managers' attitude – <i>A positive attitude of managers toward performance management, toward a performance management system and toward the project</i>	<ul style="list-style-type: none"> ▪ S2. Managers agree on the starting time. ▪ S4. Managers have earlier (positive) experiences with performance management. ▪ U13. Managers realize the importance of CSFs/KPIs/ BSC to their performance. ▪ U14. Managers do not experience CSFs/KPIs/BSC as threatening.
Controlling system	Performance management system alignment – <i>A good match between managers' responsibilities and the performance management system</i>	<ul style="list-style-type: none"> ▪ D9. Managers' KPI sets are aligned with their responsibility areas. ▪ D13. Managers can influence the KPIs assigned to them. ▪ U9. Managers are involved in making analyses. ▪ U15. Managers can use their CSFs/KPIs/BSC for managing their employees.
Internal environment	Organizational culture – <i>An organizational culture focused on using the performance management system to improve</i>	<ul style="list-style-type: none"> ▪ U23. Managers' results on CSFs/KPIs/BSC are openly communicated. ▪ U22. Managers are stimulated to improve their performance. ▪ U8. Managers trust the performance information. ▪ U17. Managers clearly see the promoter using the performance management system.
External environment	Performance management system focus – <i>A clear focus of the performance management system on internal management and control</i>	<ul style="list-style-type: none"> ▪ D16. Managers find the performance management system relevant because it has a clear internal control purpose. ▪ D17. Managers find the performance management system relevant because only those stakeholders' interests that are important to the organization's success are incorporated.

Exhibit 4: Overview of the important behavioral factors

The results of the pattern matching indicate that there are 18 individual behavioral factors that coincide with the final score for the criteria for regular use. The scores for the use stage coincide completely with the final scores for the criteria for regular use. In other words, it seems there is a relationship between a well-executed use stage and a good final score. The scores for the starting and development stages, on the other hand, coincide partially or not at all with the scores for the criteria for regular use. This tells us that there is no relationship between how well these stages have been executed and the final score. So, even a well executed starting and/or development stage is no guarantee for a good final score, that is, a regularly used performance management system. It is possible to group the 18 important behavioral factors together in categories in such a way that an overview appears of the areas an organization has to pay special attention to increase the chance of implementing a new performance management system that will be regularly used (Exhibit 4).

Discussion

The research results indicated that special attention should be paid to 18 specific behavioral factors. In addition, the use stage turned out to be the most important to the success of the performance management system. For the starting and development stages, such a clear relationship was not found. This does not mean that, during these stages, an organization should not pay attention to the behavioral factors that are important to these stages. The three stages are executed sequentially, which means that the first two stages must be executed properly before the use stage can be started. The fact that the use stage contributes most to the success of a performance management system may be explained by the fact that this stage is, in contrast to the starting and development stages, a continuous stage. The consequence of this is that the behavioral factors that are important to the use stage have to be monitored continuously to ensure regular use of the

performance management system. In contrast, the attention for behavioral factors that are important to the starting and development stages lies in the past and therefore becomes less significant and visible through time.

The aim of the research was to identify behavioral factors that are important to the successful implementation and regular use of a performance management system. Initially, the research concentrated on identifying behavioral factors that the literature indicated as being of influence on successful performance management system use. To keep the scope of the research manageable, a selection was made of the behavioral factors that were mentioned in the literature. Consequently, potentially influential factors may thus have been left out of the study. Therefore, a worthwhile avenue of further study is to look at additional behavioral factors. Further research is also needed into other factors, such as environmental or organizational factors. This research may yield more factors that are of great importance to successful implementation and use of a performance management system. The research results show that the use stage is the most important to the success of the performance management system. This means that further study should concentrate on this stage in order to discover (further) reasons why organizations do not use a newly implemented performance management system. Research is also needed into a “maintenance” system that makes sure that organizations, and its managers, continue to pay attention to the behavioral factors after the performance management system is put into use in order to make sure that the performance management system remains a success. As the case study organizations examined did not yet dispose of a reward system that was linked to the performance management system, further study should pay special attention to the role of the reward system in the maintenance system.

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