

Behavior- and result-based performance management and the performance of business units:

An examination of the mediating
relationship of proactive behavior between
performance management and performance

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Abstract

This study looked into the relationship between performance management and performance with proactive behavior as a mediating variable. The goal of this study was to help unravel the 'black box' that exists between HRM and performance. According to Crant (2000), proactive behavior is becoming more important for organizations to focus on and therefore this study explored its role. Following the management control system literature, performance management is divided in behavior- and result-based performance management (Anderson & Oliver, 1987; Cravens, Ingram, LaForge & Young, 1993; Oliver & Anderson, 1994; 1995). Both forms of performance management were measured by structured interviews evaluated by two managers of each business unit. The same procedure was used for performance and included subjective evaluations of managers but collected on two different occasions; the first and second half of 2006. As there were missing values by the second rater of the second half of 2006 it was decided to only include the first rater of both periods. Proactive behavior was measured by questionnaires handed out to employees. The proactive behavior data was aggregated to the business unit level so all data could be analyzed at this level. The correlation matrix showed behavior-based performance management evaluated by line and HR management and result-based performance management evaluated by HR management were positively and negatively correlated to performance, respectively. Similar relationships were found between performance management and proactive behavior. In addition, a relationship between proactive behavior and performance was found. The correlation matrix showed signs of a mediating relationship for proactive behavior between behavior-based performance management and performance, but the regression analyses did not confirm this relationship.

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1. Introduction

Since 1990 the interest in the relationship between Human Resource Management (HRM) and performance has increased substantially. At first, the focus in this field was on the contribution of HRM to performance. Academics and managers were interested if HRM really made a significant contribution to the performance of organizations. The performance concept was mostly defined as business performance in financial economic terms (Paauwe, 2004). Dyer and Reeves (in: Boselie et al., 2005) differentiated three components of performance: financial outcomes (profits, sales, market share), organizational outcomes (productivity, quality, efficiency) and HR-related outcomes (satisfaction, intention to quit,). Several studies show that there is a link present between HRM and productivity (Huselid, 1995; MacDuffie, 1995), organizational performance (Delaney & Huselid, 1996), efficiency (Den Hartog & Verburg, 2004), financial performance (Huselid, 1995; van Veldhoven, 2005), and turnover (Huselid, 1995). Academics as well as managers are now becoming more interested in the critical success factors for an organization and gaining a sustained competitive advantage (Paauwe, 2004). A sustained competitive advantage can be described as ‘something that distinguishes them from their competitors, provides positive economic benefits and is not readily duplicated (Pfeffer, 2005 p. 95). Gaining a (sustainable) competitive advantage cannot be accomplished by the use of technology and production methods alone, but also by managing employees effectively (Paauwe, 2004). Therefore, the focus has now shifted from testing the existence of the link itself to the question of how HRM contributes to performance. Which are the underlying mechanisms that drive this relationship? As there is no certainty about what lies in between of HRM and performance researchers refer to this as the ‘black box’ (Boselie, Dietz and Boon, 2005). According to the review of Boselie et al., (2005) the linking mechanisms between HRM and performance are under exposed. Some models that are developed to investigate the ‘black box’ use variables such as the perceptions and experiences of employees (Boselie et al., 2005). This research will contribute to this area of research, and will try to clarify the ‘black box’ by looking into this relationship with proactive behavior as mediating variable.

The concept of HRM is defined in various ways in the literature (Wright & Boswell, 2002; Noe, Hollenbeck, Gerhart & Wright, 2003; Boselie et al, 2005). In the broadest sense, HRM can be defined as ‘carefully designed combinations of practices geared towards improving organizational effectiveness and hence better performance outcomes’ (Boselie et al., 2005,

p.67). A more specific definition is ‘policies, practices and systems that influence employees’ behaviors, attitudes and performance (Noe et al., 2003, p. 5). As was mentioned earlier, management of employees is necessary to create sustainable competitive advantage (Paauwe, 2004). Performance management can be seen as a combination of HR practices to manage employees that lead to better outcomes (Fletcher & Williams, 1996; Williams, 1998; Den Hartog, Boselie & Paauwe, 2004). The choice is made to focus on performance management in this study because effectively managing employees becomes more important and according to the review of Boselie et al. (2005) a lot of organizations have a form of performance management present and research has paid considerable attention to it (Paauwe, 2004). The central components of performance management that are mostly found in the literature are practices related to communicating the business strategy, defining job tasks, defining performance requirements, carrying out performance reviews, defining and measuring performance outcomes, and performance-related pay (Fletcher & Williams, 1996; Institute of Personnel Management in: Williams, 1998). These components can be reduced to three practices, namely: goal-setting, performance appraisal and performance-related-pay (Fletcher & Williams, 1996). If these practices are aligned they will positively influence the performance. Managing the processes and people of an organization in a beneficial way is seen as crucial for the growth and survival of an organization (Den Hartog et al., 2004).

Performance is also a construct that is measured with widely differing methods. In the review of Boselie et al. (2005) the distinction of the three components of performance (financial, organizational and HR-related outcomes) from Dyer and Reeves is used. Outcomes mostly used in research in this area are productivity and product and service quality (Boselie et al., 2005). HR-related outcomes are commonly used as mediating variables between HRM and the financial and organizational performance of organizations as can be seen in the overview given by Paauwe (2004). In this study the choice is made to focus on the financial and organizational performance of organizations as performance measure as these measures are commonly used in studies (Boselie et al., 2005). As stated above, HRM and performance seem to be related through changes in employee attitudes and experiences like commitment and job satisfaction. A striking finding in the review of Boselie et al. (2005) is that not many studies included these attitudes and experiences in their models. Most commonly used were variables like turnover, intention to leave, job satisfaction and commitment (Boselie et al., 2005).

An attitudinal variable that is becoming more important for organizations is proactive behavior because of the increasing globalization and competition (Campbell, 2000; Crant, 2000). Globalization and competition changed the way work is organized in organizations. In the early years of the 20th century, mass production dominated organizations. There was a strict distinction between management and labor. The design of the jobs minimized discretionary behavior ('behavior that is not formally required' (Morisson & Phelps, 1999 p. 403)) and did not leave opportunities for employees to make suggestions about work processes. There was also little trust between management and employees (Fox, 1974 in Boxall & Purcell, 2003). Since mid 20th century organizations tried to improve productivity and efficiency by focusing more on motivation and satisfaction of employees. The trust between management and employees increased and employees were expected to become multi-skilled and show more discretionary behavior (Wallace, 1998 in Boxall & Purcell, 2003).

Proactive behavior can be defined as taking initiative in making the present situation better, and not passively adapting to a situation but call it in question. Proactive employees are expected to identify and resolve problems on their own and show personal initiative at work (Crant, 2000). In the study of Dorenbosch, van Veldhoven & Paauwe (forthcoming) proactive behavior is seen as a active performance concept. In the study of Frese and Fay (2001) active performance concepts are present when employees are self-starting, can set their own goals, can go beyond formally required tasks and have a long-term focus on their job. Active performance concepts are related to the behaviors and attitudes of employees. Increasing uncertainty caused by the increasing globalization and competition requires employees to become more active in their job (Frese and Fay, 2001). In the literature several dimensions occurred that indicate the level of proactive behavior a employee will show (Dorenbosch et al., forthcoming). The dimensions are personal initiative (Frese, Fay, Hilburger, Leng & Tag, 1997), taking charge (Morrison & Phelps, 1999), proactive behavior at work (Parker, Williams & Turner, 2006). In the theoretical framework the dimensions will be further explained. The study of Crant (1995) showed a positive relationship between proactive behavior of employees and the sales performance of an organization. Crant (1995) states that this occurs because more proactive employees will create situations which will contribute to a better performance.

As stated above because of increased competition and globalization, it is important that employees show proactive behavior and are stimulated to contribute to the success of the organization so organization will gain a sustained competitive advantage (Frese & Fay, 2001). The management of employees is an important tool for influencing the behaviors of employees (Paauwe, 2004). Performance management is therefore expected to influence the level of proactive behavior of employees and the overall performance of the organization by setting the right goals and reviewing and rewarding when the goals are achieved. It is also expected that the level of proactive behavior will have an effect on the overall performance of the organization because employees will have an active approach towards their work and will create situations that lead to a better performance. This leads to the following research question:

Does performance management correlate with an increased performance and which role does proactive behavior of employees play in this relationship?

This question will help unravel the ‘black box’ by looking into the mechanism that is in between the HRM-performance link. Despite the great deal of attention paid to this link, there is still no conclusive answer to how these two concepts are related and which role other variables play in this relationship (Paauwe, 2004). This study will try to discover one of the mechanisms that could be in between HRM and performance. Secondly, this study is relevant as it seeks to determine if performance management contributes to the behaviors of employees and the performance of organizations. According to the research of Boselie et al. (2005) there is a substantial amount of organizations that pay attention to performance management. This research tries to find evidence if performance management does in fact influence the behaviors of employees and performance of organizations.

To give an answer to the research question, the constructs will be further explored and hypotheses will be formulated in the following section, the theoretical framework.

2. Theoretical framework

2.1 *Performance management*

According to DeNisi (2000 p.121) ‘performance management refers to the range of activities engaged in by an organization to enhance the performance of a target person or group with the ultimate purpose of improving organizational effectiveness’. The employer sets expectations, measures, evaluates and rewards the employee’s performance. Other terms that are used in the literature to describe this process include performance-based budgeting, management-by-objectives, management control systems, and pay-for-performance (Fletcher & Williams, 1996; Den Hartog et al., 2004). All definitions of performance management describe it as a process that involves the measurement of performance outcomes, and tracing this back to the effort of the employees (Den Hartog et al., 2004).

The concept of performance management can be divided in three stages. The first stage is goal-setting; the development of organizational, team and employee goals. The second is appraisal of the performance which consists of two topics. The first topic is the content, what is appraised, and the second part is the process, who appraises and how is it done (Den Hartog et al., 2004). Both parts will be included in this study. The third stage is performance-related pay (Fletcher & Williams, 1996; Williams, 1998). In the Netherlands, it is not very common to have performance-related pay. Trade unions are involved in negotiations, at sector level or organizational level, about wage, working hours and safety aspects. This results in less leeway for organizations to distinguish themselves from other organizations in the sector. This is why the third aspect of performance management, the rewards, will be excluded in this study (Den Hartog & Verburg, 2004).

2.1.1 *Behavior-based and result-based performance management*

According to the management control systems literature performance management can be divided in result-based control systems (also called result-based performance management) and behavior-based control systems. A control system is described as ‘an organization’s set of procedures for monitoring, directing, evaluating and compensating its employees’ (Anderson & Oliver, 1987 p.76). These systems influence the behaviors of the employees with the ultimate aim of improving the performance of the individual and the total organization. In the management control systems literature there are four dimensions of the control systems, namely monitoring, directing, evaluation and compensation (Anderson & Oliver, 1987).

These dimensions are comparable to the components of performance management described earlier. The components that will be used in this study are goal-setting and appraisal. Result-based performance management is characterized by little monitoring and directing by management, evaluations being done with objective measures, and employees' compensation is determined by a proportion of the sales they make (by commission). Behavior-based performance management is the opposite of result-based performance management. This is characterized by close monitoring and directing by management, the use of subjective evaluations by management to evaluate the employee's performance and the employees receive a fixed salary. Employees are more risk averse and more attention is paid to product knowledge and strategies that they use to get the work done when behavior-based performance management is carried out (See table 1 for a summary) (Anderson & Oliver, 1987; Cravens, Ingram, LaForge & Young, 1993; Oliver & Anderson, 1994; 1995).

Table 1: Characteristics of result-based and behavior-based performance management.

	Result-based performance management	Behavior-based performance management
Monitoring	Little monitoring	Close monitoring
Directing	Little direction	Lot of direction
Evaluating	Objective measures, measures of results	Subjective measures, measures of methods to achieve results
Compensation	Commission	Fixed salary
Advantages	Measures easily acquired and accepted by all members of the organization	Large amount of control for managers, managers can take into account external factors beyond control of employees
Disadvantages	Focus on short term results and employees will only focus on aspects that are measured	Complex and subjective evaluations, measures need to be constantly adjusted to the strategy of the company

Source: Anderson and Oliver, 1987; Noe, Hollenbeck, Gerhart & Wright, 2003

According to the literature the result-based performance management system and the behavior-based performance management system are the ends of a continuum. The position management picks out on the continuum has consequences for the organization (Oliver & Anderson, 1994; 1995). The choice of which type of management control systems organizations should implement depends on the environment of the organization. It is said

that behavior-based performance management is the best system to choose when there is a lot of uncertainty in the market that the organization operates in, when it is difficult to attribute the organizational outcomes to the different units, when employees are more risk averse, firm-specialized, or intrinsically motivated, when managers have a good idea about which behaviors lead to effective performance. Whereas firms that are relatively small, where the costs for subjective measures that are used for evaluations are high, where a direct link between employee effort and performance is hard to establish, when jobs are complex and when there is no best way to achieve results, result-based performance management is the best suited for the situation (Anderson & Oliver, 1987; Noe et al., 2003). Until now the distinction between behavior- and result-based performance management is only investigated in sales organizations. In this study, both approaches will be compared to see if a conclusion can be drawn on which system is the best system for the total population used in this study and which type of performance management is present in which sector.

2.2 Performance

Nowadays it is critical for organizations to focus on their overall performance. Firstly, the rapid changing business environment forces organizations to adapt to survive. Secondly, increasing globalization has required organizations to become more competitive than ever before. Organizations therefore need to pay attention to the measurement of performance, and create guidelines of what constitutes good performance (Den Hartog et al., 2004). Performance is also a construct that is measured on different levels, namely the individual, team and organizational level (DeNisi, 2000). In this study the performance at business unit level will be analyzed. The choice is made to focus on business unit because of the ‘causal distance’ between HR and organizational performance. There are so many other factors that influence the organizational performance that the relationship between HRM and organizational performance is very hard to establish (Boselie et al., 2005). It is important for organizations to focus on performance and to know which factors contribute to a better performance. The first issue that will be addressed is how to measure performance.

2.2.1 Objective versus subjective performance

Performance is a multi-dimensional concept and is measured and made operational in many ways (Den Hartog & Verbarg, 2004). Performance outcomes that are used by organizations are financial performance, productivity, employee commitment, absenteeism and customer satisfaction (Den Hartog & Verbarg, 2004; Boselie et al., 2005). Constructing a uniform

definition of performance and a standard measure is problematic as both definition and measure vary according to the business sector organizations operate in (Boselie et al., 2005). This study investigates if performance management does in fact lead to a better financial and organizational performance regardless of an organization's specific industry. According to Dess and Robinson (1984) and Guest (2001) obtaining accurate performance measures is challenging in a research setting in which organizations from multiple sectors are studied. It is even more demanding when the research is directed towards individual business units rather than an organization as a whole.

A possible solution for creating better performance measures in this setting is the use of subjective performance measures. Approximately half of the studies published use subjective evaluations to measure the performance of the organization (Wall, Michie, Patterson, Wood, Sheehan, Clegg & West, 2004). There are some functional reasons to use subjective data. In some settings the use of objective data may not be possible. The use of subjective data is more cost effective because it can be acquired simultaneously with the data about the HR practices through surveys or interviews (Wall et al., 2004).

Objective and subjective data are not equivalent and there exist two main differences: scope and relativity. Many studies argue that objective and subjective data are equivalent even though subjective data focuses most often on an overall performance rating while objective data usually focuses more on a specific financial outcome. Secondly, subjective data is mostly gathered in relationship to, for instance, competitors and objective data are absolute in character. Therefore cautiousness is needed when treating subjective and objective data as equivalent (Wall et al., 2004).

However, some studies suggest the opposite: the difference between objective and subjective data are not of much importance (Powell, 1992; Wall et al., 2004). Firstly, most of the time it is the CEO or other upper-level managers in the organization who are asked to subjectively evaluate the performance. It is stated by Powell (1992) and Wall et al. (2004) that the financial situation of the organization measured by objective data form a big part of the supervisor's subjective performance evaluations of the organization. There is also evidence that subjective data and objective data correlate significantly (Dess & Robinson, 1984; Powell, 1992; Delaney & Huselid, 1996; Bae & Lawler, 2000; Wall et al., 2004). In Wall et al. (2004) and Dess and Robinson (1984) subjective data is tested for their convergent validity

(‘measures of subjective performance are associated with corresponding objective measures’ Wall et al., 2004, p. 99), discriminant validity (‘different ways of measuring the same concept should correlate higher than the same way of measuring different constructs’ Wall et al., 2004, p.100), and construct validity (‘whether subjective and objective measures of performance are associated with one another, and whether they are associated with other variables in the same way’ Wall et al., 2004, p.100). In both studies evidence was found for all three types of validity. In other words, the subjective measures correlated with the objective measures. The correlation between the subjective and objective measures for the same construct was stronger than the correlation between the subjective measures for different constructs. And the relationships found between the HR practices and the subjective measures were equal to the relationships found when objective measures were used. In sum, the use of subjective performance measures is a good alternative for measuring performance when objective data is unavailable or can not be used. The different sectors included in this study make it difficult to use objective data and therefore a subjective measure for performance will be used.

2.2.2 Performance management and perceived business unit performance

There are several studies that look into the relationship between performance management and outcome measures. The question which performance measures should be used to measure individual, group or organizational performance is still not solved (Den Hartog et al., 2004). In the study of Fletcher and Williams (1996) a relationship between performance management and job satisfaction, and organizational commitment is found. Performance management leads to employees being more committed to the organization and being more satisfied with their job. A positive relationship between behavior-based performance management, financial effectiveness and customer satisfaction effectiveness were found by Cravens et al. (1993). In their study they also hypothesized that the achievement of objective sales goals would be higher when performance management was more result-based because this concept of performance focuses not on behavior but only on results. This was, however, not confirmed. One explanation could be that behavior-based performance management led to better objective outcomes due to the professional competence of employees. Behavior-based performance management pays attention to gaining knowledge and keeping skills up-to-date. This resulted in better outcomes. The best performance was therefore gained when performance management was more behaviorally based (Cravens et al., 1993). Moreover, according to the study of Oliver and Anderson (1994; 1995) behavior-based performance

management leads to more organizational commitment and job satisfaction because of a more certain and nurturing environment as well as a greater degree of formalization which reduces role conflict. Their 1995 study also investigated a hybrid form of performance management. It was concluded that this form was closely related to behavior-based performance management. The relative performance scale they included in their study showed the highest correlations with this hybrid form. Because of the high correlations between these two forms, it was decided in this study to only make a distinction between behavior and result-based performance management. The studies mentioned showed that behavior-based performance management can contribute to a better subjective performance. Result-based performance management showed no positive relationship with performance caused by a lack of knowledge. This study tests if the theory remains valid with the following hypotheses:

Hypothesis 1a: The higher the degree of behavior-based performance management the higher the degree of the perceived business unit performance

Hypothesis 1b: The lower the degree of result-based performance management the higher the degree of the perceived business unit performance?

Den Hartog et al. (2004) created a model based on the literature that looks into the relationship between performance management and performance. They state that it is important that practices are aligned and that they should work together to accomplish the goals of the organization. Performance management is a construct that aligns HR practices. In their model, they outline how performance management contributes to employee behaviors that are beneficial for the organization. The employee behaviors will lead to an improved performance and is therefore crucial for the organization (see figure 1).

According to Crant (2000) proactive behavior is becoming increasingly important for organizational success. Therefore, this paper will look into the relationship between performance management and proactive behavior but first a closer look at proactive behavior is necessary.

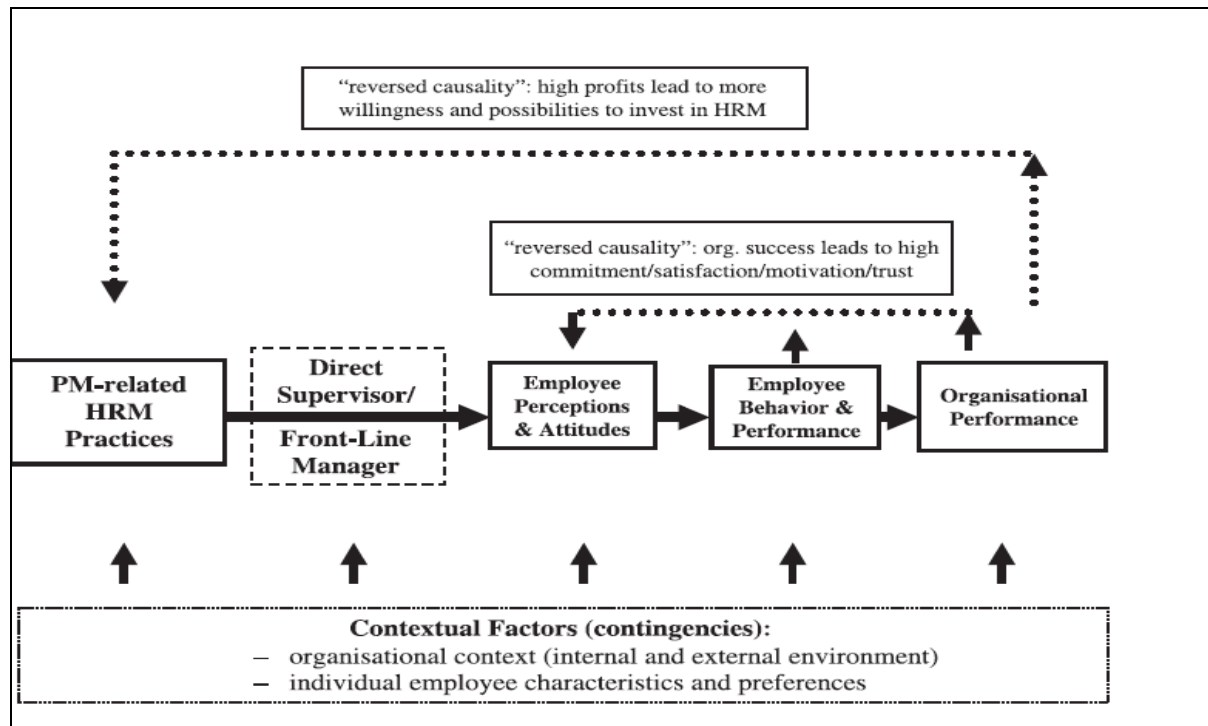


Figure 1: Model Den Hartog et al. (2004)

2.3 Proactive behavior

The concept of proactive behavior has been defined and measured in multiple ways. Notably, Crant (2000) produced a definition based on a review he carried out that covers the essence of the various approaches to proactive behavior. He defines it as ‘taking initiative in improving current circumstances or creating new ones; it involves challenging the status quo rather than passively adapting to present conditions’ (Crant, 2000, p. 436). Not all behaviors that appear to be proactive are seen as proactive behavior. It is only seen as proactive behavior when it is effective for the organization. Some behaviors can be proactive for an employee to help accomplish their own goals but not be in the interest of the organization. This will therefore not be described as proactive behavior (Frese & Fay, 2001). Despite the large amount of literature no consensus emerges on how to measure proactive behavior or on the related concepts (Crant, 1995; 2000; Frese & Fay, 2001; Dorenbosch, forthcoming). Personal initiative is mentioned to relate to proactive behavior (Frese et al., 1997; Crant, 2000). Personal initiative is defined as ‘individuals who take an active and self-starting approach to work and going beyond what is formally required in a given job’ (Frese et al., 1997, p. 140). Another concept that is related to proactive behavior is taking charge. This is defined as ‘voluntary and constructive efforts, by individual employees, to effect organizationally functional change with respect to how work is executed within the contexts of their jobs, work

units, or organization' (Morrison & Phelps, 1999 p. 403). In the method section will be explained how these related concepts were included in the concept of proactive behavior.

2.3.1 Performance management and proactive behavior

According to the review done by Boselie et al. (2005) it is clear that there are mediating variables in between HRM and performance, or what is referred to as the 'black box'. However, the so called 'black box' persists because there is no consensus on what are, in fact these mediating variables. From the review of Boselie et al. (2005) climate, commitment, increased employee skills and attitudes, motivation, morale, and employee involvement are at least some mediating variables that are proven to have an effect. As shown in the model of Den Hartog et al. (2004) and by Oliver and Anderson (1994) in their study, the relationship between performance management and performance is expected to be mediated by certain behaviors of employees. The study from Appelbaum, Bailey, Berg and Kalleberg (2000) states that when high-performance work practices are installed, productivity will rise if this relationship is mediated by discretionary behavior. MacDuffie (1995) states in his study that HR practices will improve the economic performance when three conditions are met. Employees must have knowledge and skills to do the job, the HR practices must motivate employees to use their skills and knowledge to contribute discretionary effort, and this discretionary effort must enable the firm to achieve the business goals. Discretionary effort is seen by MacDuffie (1995) as well as a mediating variable. The control management literature indicates that when behavior-based performance management is used, employees plan more, spend more time on non-formally required activities, and have more intrinsic motivation than employees that are managed by result-based performance management (Anderson & Oliver, 1987; Cravens et al., 1993; Oliver & Anderson, 1994; 1995). Employees are also more willing to perform extra-role behavior with behavior-based performance management (Anderson & Oliver, 1987; Cravens et al., 1993; Oliver & Anderson, 1994; 1995). When employees are managed by a result-based performance management system employees are more extrinsically motivated because they are only rewarded for the results, and employees spend less time on non-formally required behavior than employees in a behavior-based performance management system (Anderson & Oliver, 1987; Cravens et al., 1993; Oliver & Anderson, 1994; 1995). From these studies it can be concluded that behavior-based performance management will also show a positive relationship with proactive behavior. The following hypotheses can be formulated:

Hypothesis 2a: The higher the degree of behavior-based performance management the higher the degree of proactive behavior of employees

Hypothesis 2b: The lower the degree of result-based performance management the higher the degree of proactive behavior of employees

2.3.2 Proactive behavior and perceived performance

Employees need to have an active approach toward their work and need to take an active role in the workplace, because of the continuously changing business environment and the need for organizations to stay current with the latest developments in the sector (Frese & Fay, 2001). Proactive behavior is proven to be a critical determinant of organizational success (Crant, 2000; Parker et al., 2006). As was mentioned in the introduction, proactive behavior is seen as an active performance concept (Dorenbosch et al., forthcoming). In the study of Fay and Sonnetag (1998 in: Frese and Fay, 2001) it was shown that personal initiative was positively related to individual performance. In a sample of students it was shown that the students that showed more personal initiative had better school grades. In the study of Bear and Frese (2003) profitability of organizations was positively influenced by a pro-initiative climate. This implies that when personal initiative is shown throughout the whole organization it will have a positive effect on the performance of the organization because when the situation of the organization changes most employees show personal initiative to solve problems that arise and try to make the production go as smooth as possible. Employees do not wait for a supervisor to tell them what to do. This has proven to be beneficial to the organization (Baer & Frese, 2003). The study of Crant (1995) showed a positive relationship between proactive behavior and the sales performance of an organization. The reason for this positive relationship to occur is that according to Crant (1995) proactive employees will create situations that are beneficial for the organization. Proactive employees will adjust procedures and question decision to obtain the best situation to perform. This will have an effect on the performance of the organization. The studies mentioned show that proactive behaviors can have a positive contribution to the performance of individuals and organizations. Therefore, the following hypothesis is formulated:

Hypothesis 3: The higher the degree of proactive behavior of employees the higher the degree of perceived business unit performance

Paauwe (2004) summarizes the research that has been done about the relationship between HRM and performance. All models predict that HRM has an impact on HRM outcomes and employee behavior. In all models a mediating relationship between HRM and performance is expected. Notably, the Den Hartog et al. (2004) model of the relationship between performance management and performance is expected to be mediated by a yet undetermined behavior. According to DeNisi (2000) when an organization wants to influence their performance, it has to start by influencing the behaviors of employees because performance (at every level of analysis) is a function of the behavior of individuals. Following this reasoning, an organization needs to start with performance management to influence the behaviors of employees. The behaviors of employees will change and the individual performance will increase, which can ultimately lead to an increased performance at business unit and performance level. This paper explores the relationship with proactive behavior as the mediating variable in the following conceptual model (see figure 2):

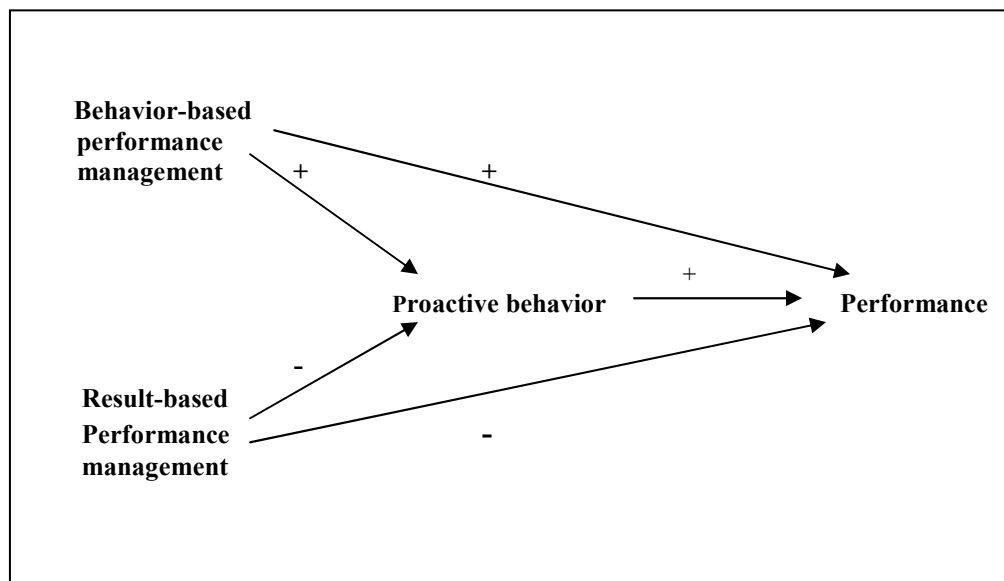


figure 2: conceptual model

In the literature not much evidence is found yet for this mediating relationship between performance management, proactive behavior and performance so this will be tested by explorative analyses. The next section addresses the methodology necessary for testing the hypotheses and answering the posed research question.

3. Methodology

3.1 *Design of the research*

In this study, data will be used from a study conducted in 2006 with new data gathered in 2007. The 2006 study looked into HRM (in this study only performance management will be used), proactive behavior and performance of the first half of 2006. HRM and performance were measured with interviews and proactive behavior was measured with questionnaires distributed to employees of the 49 business units. Only the performance data collection in 2006 was repeated in 2007, which gives the study a prospective character. The data collected in 2007 was about the second half of 2006.

3.2 *Description of respondents*

The data for 2006 was collected from 49 business units in six different organizations which are situated in different sectors and include: government, services, education, health care and finance/banking sector. An ANOVA analysis was done to see which type of performance management was present in which sector. The four scales that are described more extensively in the instrument section were used to perform the ANOVA analysis. On the first scale, HRbehavior, the sectors education, health care and finance had a high average and were significantly different from industry and government. For the second scale, HRresult, the sectors service, industry and finance had a high average and were significantly different from health care. For the third scale, LMbehavior, the sectors were not significantly different from each other but education and finance showed the highest average. The sector with the lowest average on this scale was industry. Finally, the fourth scale showed a significant difference between finance and health care. The sectors with the highest average were finance and education, and the lowest average was for the sector health care. Overall can be said that the health care sector showed mainly behavior-based performance management and the industry sector showed mainly result-based performance management. Finance had a high average on all scales which could mean a mixed form of performance management is present in this sector.

In total, 716 surveys can be used from the study of 2006. The response rate for 2006 was 54.9 %. Of the 716 surveys that were returned, 50.1 percent was female and 49.9 percent was male. Six percent of the respondents were younger than 25, 24.9 percent were aged between 25 and 34, 27.8 percent between 35 and 44, 27.6 percent from 45 to 54 years old, and 11.2 percent

were older than 54 years. Four percent of the respondents listed primary school as their highest level of education attained, 29.5 percent finished high school (VMBO, HAVO/VWO), 31.1 percent finished vocational education (MBO) and 33.9 percent finished a form of higher education (HBO 29.3% and WO 4.6%). As noted before, the same business units that were questioned for performance in 2006 were questioned again in 2007. In total, there were 29 business units that participated in both studies. The response rate for interviews done in 2007 was 51.8 %.

3.3 Procedure

In 2006, the performance management and performance data were collected by using structured face-to-face interviews with mostly closed questions so data of HR and line management could be easily matched, but also to reduce the missing values to a minimum. Missing values were likely to occur because of the large amount of questions included in the interviews and because of the possibility that respondents could not fully understand some questions. Even though the questions were piloted there was a chance that respondents misunderstood some of the jargon or terms used. Interviews gave the possibility of answering questions that might arise during the interviews immediately. Both HR and line management were interviewed with comparable questions that could be answered for each business unit. Two raters were included for each business unit so measurement error that occurs with single-rater studies could be partly controlled for (Gerhart, Wright, McMahan & Snell, 2000). In the study of Gerhart et al. (2000) it is advised to include 3 raters when evaluating HR practices at the organizational level but because this study focuses on the business unit level, two raters are in many cases the only possible amount of raters that can be included (Dorenbosch, forthcoming).

Similarly, the 2007 study about performance also used structured face-to-face interviews with the same questions for both line and upper level management to collect the data. The respondents were asked to answer the question for the second half of 2006, which is equal to the same period of time that the 2006 study focused on (the 2006 study focused on the first half of 2006).

Data for proactive behavior was collected through questionnaires that were handed out to the employees of the respective business units that were questioned in the interviews. As the questionnaires were handed out, letters to the respondents were distributed along with return

envelopes for the completed questionnaires. The letter requested cooperation in the survey and indicated that all information would be treated confidentially. A code associated to their business unit was added to the questionnaires so that they could be linked to the management interviews.

3.4 *Instruments*

Performance management was measured by interviews at the business unit level with HR and line management. A large number of studies about performance management ask employees how they experience an HR practice rather than studying the practice from the manager's perspective (Oliver & Anderson, 1994; 1995; Baldauf, Cravens & Piercy, 2001). According to Baldauf et al. (2001) it is important to look at the management level because the manager is responsible for the implementation and application of performance management and the performance of the business unit. In this study, both the HR manager and line manager are questioned because the HR managers initially develops an HR practice while the success of the practice in improving the overall performance of the organization depends on the adept implementation by line managers (Gratton and Truss, 2003). In the study of Guest (2001) the question is raised which manager is the right manager to collect information from. The HR manager may not always be the right person in the position to answer the questions and therefore not always able to give reliable answers. This can be solved by asking more than one person from the organization. Due to the possible differences in ratings between HR and line managers, this study takes into account performance management from both perspectives. According to the review of Boselie et al. (2005) an HRM practice can be measured in three ways, namely presence, coverage (the proportion of employees that is covered by it) or intensity (degree of which an employee is exposed to the HR practice). Most studies focused on the presence of an HR practice because it is easy to obtain data about and it is easy to analyze. There are only a couple studies that looked into coverage and intensity was very rarely studied (Boselie et al., 2005). The research about behavior- and result-based performance management does look into the intensity of the two forms of performance management (Anderson & Oliver, 1987; Cravens et al., 1993; Oliver & Anderson, 1994; 1995). Therefore the choice is made to focus in this study as well on the intensity of performance management.

In total, the interviews consisted of 21 items which had a range from one to five: one considered 'little' and five considered 'a lot'. The questions are derived from the study of

Dorenbosch (forthcoming) who made a scale of performance management. The two stages goal-setting and appraisal are used from this scale. All questions had two answering alternatives, one for behaviour-based performance management and one for result-based performance management. Respondents could answer the questions for one of the two alternatives or for both (see appendix for which items are included). An example of a question is: 'In welke mate (1-5) wordt het wel of niet bereikt van deze prestatiedoelen/targets/afspraken teruggekoppeld in het beoordelingsproces?'/ To what extent is giving feedback about achieving the goals/targets/agreements in the appraisal process? After deletion of the items concerning performance-related pay and items V2E5 and V2E9cat (see appendix for full questions), because they did not contribute well to the scales, the data is analyzed using a Principal Component Analysis (PCA).

The Keiser Meyer Olkin (KMO) value and Bartlett's test of sphericity were calculated for the data to see if a PCA was suitable for analyzing the data. The KMO was .682 and the Bartlett's test of sphericity was significant (.000). The PCA showed four components that could be distinguished judged on the Scree plot and the Eigenvalues of the components. The four scales that were constructed were HRbehavior with a Cronbach's alpha of .922, HRresults with a Cronbach's alpha of .863, LMbehavior with Cronbach's alpha of .874 and the last scale LMresult with a Cronbach's alpha of .880.

Performance is difficult to operationalize because it is a complex and multidimensional construct. According to Guest (2001) three problems arise when subjective measures of performance are used. The first problem is the positive response bias. However, this bias is insignificant if it occurs consistently throughout the whole sample. The second problem occurs when using a single, general item to measure a complex construct. To overcome this problem, this study asks five questions instead of one general one. A third problem is that one informant may have more or less information than the next informant. This can be simply solved by using more than one informant. Five questions were asked in the interviews: effectiveness of the business unit, view of customer, performance in comparison with competitors, financial performance and an overall grading of the performance of the business unit were asked. A five-point Lickert scale ranging from total agreement to total disagreement was used for the first four questions. The overall performance score ranged from one to ten. The responses of this item were recoded so all questions had a five-point scale.

Correlations between the performance items of the first and the second half of 2006 were calculated to see if performance scores stayed the same when they are collected at different times. As can be seen from the correlation matrix (see table 2) the items about the first half of 2006 answered by line management (item 1 to 5) did not show high correlations between each other. The items about the first half of 2006 collected from HR management show higher correlation between the items (item 6 to 10). Comparing the ratings from line managers with HR managers, the results appear to be inconsistent. In other words, they do not agree with each other much so no overall performance scale for the first half of 2006 can be constructed (item 1 to 10). The data collected in 2007 about the second half of 2006 asked to line managers show high correlations between the items, except for item QS4 concerning the financial situation of the business unit (item 11 to 15). The items answered by upper level managers about the second half of 2006 show high correlations as well (item 16 to 20). The ratings between line management and upper level management show a consistent pattern for the second half of 2006. It can be concluded from the correlation matrix that there is no conclusive answer on how to construct the performance measure. The aim of this study was to use two raters for both the first and second half of 2006. As already mentioned, there were less business units that participated in the second sample. The second sample also had a lot of missing values for the second rater and the second rater was not always the HR manager as was the case for the first half of 2006. Therefore, this study did not succeed in getting two raters for every business unit for the data about the second half of 2006. Conversely, the line manager who answered questions for the first and second half of 2006 *did* capture most business units and line managers were consistently included in both studies. Therefore it is decided to use only the first rater of both studies to measure performance.

On both datasets (the first and second half of 2006) a PCA was conducted. The PCA of the bigger dataset had a KMO of .669 and Bartlett's test of sphericity indicated significance (.001). The PCA showed one scale could be constructed (see for the items included in the scale appendix). The scale 'performanceLM2006' was constructed with a Cronbach's alpha of .613. The data of the second half of 2006 showed a KMO of .671 and Bartlett's test of sphericity was significant (.000). The PCA showed one scale could be constructed here as well, namely 'performanceLM2007' with a Cronbach's alpha of .665. In the scales constructed there was one item that did not contribute well to the scale. Because of the comparison between 2006 and 2007 the decision was made to keep all items in the scale. All scales were reliable enough for analyses at a group level.

The concept of proactive behavior was measured with survey questions asked to the employees of the participating business units. In total 21 items were included in the study. The items came from different articles and were combined in this survey. Items Prac1 up to item prac5 were used from the constructs intrinsic motivation and aspiration of Warr (1990) and Vallerand (1997). Item prac7 up to item prac12 were developed for this study. Prac13 up to prac15 were used from the studies of Frese et al. (1997) and Morrison and Phelps (1999) with as concepts personal initiative and taking charge. Items prac6, and prac18 up to prac21 were used from the studies of Metselaar (1997), Podsakoff, Ahearne and MacKenzie (1997) and Andreas and van Yperen (2002) about OCB (see appendix for full items). A five- point Lickert scale ranging from completely true to completely false was used. An example of a statement asked in the survey is: 'In mijn werk probeer ik telkens weer nieuwe dingen te leren'/ In my job I always try to learn new things. To analyze the construct of proactive behavior a PCA was used again. The PCA showed that the items prac4 and prac6 were not contributing well to the scale so these items were removed. The KMO and Bartlett's test of sphericity were calculated to check if the PCA is a valid method to use on the proactive behavior data. The KMO was .928 and Bartlett's test of sphericity was significant (.000). The screeplot and eigenvalues showed one component was the best structure for the construct of proactive behavior. The scale proactive behavior was constructed with a Cronbach's alpha of .910.

Control variables are not included in this research because of the limited amount of cases. Factor analyses and regression analyses preferably need more cases than are present in this study. By keeping the amount of variables analyzed as low as possible the models can study the structure and relationships between the variables better.

Table 2: Correlations between performance items collected in 2006 and 2007

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Customer view LM1	1																			
2. Competitor comparison LM1	.281	1																		
3. Effectiveness LM1	.141	.335*	1																	
4. Financial LM1	.168	.322*	.261	1																
5. Grade LM1	.225	.270	.121	.481**	1															
6. Customer view HR	.086	.123	.125	.253	.283	1														
7. Competitor comparison HR	.064	.421**	.000	.114	.168	.556**	1													
8. Effectiveness HR	-	.025	.036	.477**	.405**	.475**	.117	1												
	.150																			
9. Financial HR	.029	.161	-.094	.314*	.433**	.543**	.319*	.652**	1											
10. Grade HR	.104	.403**	.181	.342**	.188	.572**	.604**	.244	.455**	1										
11. Customer view LM2	.258	.556**	.375*	-.130	-.015	.006	.355	-.389*	-.086	.649**	1									
12. Competitor comparison LM2	.175	.618**	.152	.050	.081	-.032	.195	-.135	.005	.486**	.404*	1								
13. Effectiveness LM2	.144	.381	.293	-.014	-.022	-.345	.086	-.245	-.222	.262	.334	.539**	1							
14. Financial LM2	.071	.207	.058	.515**	.129	.146	-.074	.410*	.311	.273	.039	.207	.008	1						
15. Grade LM2	.239	.342	.300	-.023	.111	-.136	.185	-.195	-.152	.549**	.630**	.574**	.605**	.229	1					
16. Customer view UM	.020	.370	.417	.011	.091	.025	.026	.111	.251	.575*	.713**	.778**	.482	.233	.731**	1				
17. Competitor comparison UM	.196	.338	.189	.188	.428	.208	.158	.102	.544*	.579*	.702**	.709**	.472	.205	.778**	.745**	1			
18. Effectiveness UM	-	.344	.262	.504*	.383	-.251	-.191	.189	.169	.375	.395	.579*	.657**	.500*	.727**	.693**	.731**	1		
	.018																			
19. Financial UM	.077	.281	.095	.600*	.191	-.092	.034	.472	.121	.229	.013	.259	.431	.715**	.354	.257	.379	.593*	1	
20. Grade UM	-	.120	.379	.123	.240	-.318	-.358	.096	.138	.394	.541*	.520*	.501*	.304	.839**	.766**	.714**	.856**	.362	1
	.016																			

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Note: Numbers 1 to 10 are the items concerning performance of the first half of 2006. Numbers 11 to 20 are the items concerning the second half of 2006

3.5 Data aggregation

To test the relationships between the variables mentioned above the variables need to be on the same level of analysis. There are two options. The data from performance management and performance can be disaggregated or the data of proactive behavior can be aggregated. Both procedures have disadvantages. For instance disaggregating might lead to an ecological fallacy. An ecological fallacy occurs when conclusions are wrongfully drawn at the individual level but the data is collected at the group level (Baker, 1999). On the other hand, aggregating data might lead to an atomistic fallacy. This occurs when conclusions are wrongfully drawn at the group level but the data is collected at the individual level (Bliese, 2000). Having weighed these options, in this study the choice is made to aggregate the data for proactive behavior to the group level because there are already two variables measured at this level. To judge if aggregation of data is statistically allowed the Intraclass Correlation Coefficients (ICC's) were calculated. The ICC1 is 'the extent to which one rater from a group may represent all raters within the group' (Klein & Kozlowski, 2000 p.224). The ICC1 answers the question 'to what extent does proactive behavior vary *between* business units versus *within* business units'. The ICC1 was calculated for the scale of proactive behavior and was .061, or 6.1 percent of the variance in proactive behavior can be attributed to being part of a certain business unit. Preferably the ICC1 should be as high as possible but, because of the large N in this study, a low ICC1 score is not seen as problematic. Most researchers that use ICC1 to test if aggregating data is allowed conclude that it is allowed when the F test is significant as was the case in this study (see table 2).

Table 3: ICC1, ICC2 and F value 2006

	N	Average number of respondents in BU's	ICC1	ICC2	F	Sign
Proactive behavior	716	15	0.061	0.48	2.133	.000

The second coefficient that was calculated was the ICC2. 'The ICC2 can be interpreted as the reliability of the mean business unit scores' (van Veldhoven, 2005 p. 12). Values for ICC2 are considered acceptable when they equal or exceed .70 with values above .50 are considered tolerable. In this study the ICC2 for proactive behavior was .48 (see table 2). This value is close to .50 so it can be concluded from both coefficients that aggregation of the proactive

behavior data is allowed. The range was calculated for the individual data and the aggregated data to see the effect of aggregation on the variance of proactive behavior. The individual data showed a minimum value of 1.79 and a maximum value of 5.00. After aggregating, the minimum value was 3.93 and the maximum value was 4.25. The extreme scores were averaged out which reduces the variance. This should be taken into account when looking at the results.

3.6 *Statistical processing*

This study collected data at multiple levels. The performance management and performance data were measured at business unit level and the surveys for proactive behavior were measured at individual level. Multilevel analysis would be an appropriate method, but it is beyond the scope of this research. Therefore, the individual data is tested for adequacy of aggregation (see section 3.5). The analysis showed that aggregation was possible and therefore all data were analyzed at business unit level. Reliability and validity were tested of all scales. Baldauf et al. (2001) and Oliver & Anderson (1994) used a correlation matrix to test their hypotheses. This method will be used here as well. In addition, to check if there is a mediating relationship between performance management, proactive behavior and performance, multiple, hierarchical regression analyses will be used. There are three conditions mentioned in Baron and Kenny (1986) that must be met before a mediating effect can be established. The first condition is that variance of the independent variable must significantly account for variance in the mediator. The second condition is that variance in the mediator variable must significantly account for variance in the dependent variable. The third condition is that when the effect between the independent and mediator variable and the effect between the mediator and the dependent variable are controlled for the effect between the independent and dependent variable should not be significant anymore. This shows if proactive behavior is a mediator of the relationship between performance management and performance. To establish this mediating effect a first regression equation between the performance management and proactive behavior had to be estimated. The second step was to estimate an equation between performance management and performance. In the last equation all variables were included in the regression analysis. If all the direct relationships are verified as predicted, then the β coefficient of the relationship between performance management and performance when proactive behavior is added in the third equation must be less than the β coefficient in the second equation between performance management and performance (Baron & Kenny, 1986). The next chapter provides the results of the regression analyses.

4. Results

This chapter answers the research question '*Does performance management correlate with an increased performance and which role does proactive behavior of employees play in this relationship?*' This will be done by testing the hypotheses that were stated in the theoretical framework. The first step was to check correlation between all variables used in this study to test the hypotheses (see table 4).

4.1 *Performance management and perceived business unit performance*

The first hypothesis looked into the relationship between performance management and business unit performance. It was hypothesized that the more performance management is behavior-based, the higher the level of the perceived business unit performance will be. Furthermore, the lower the degree of result-based performance management, the higher the degree of perceived performance will be.

The correlation matrix (see table 4) shows a positive, but not significant, relationship between behavior-based performance management evaluated by HR management and the business unit performance of the first half of 2006 ($R^2 = .220$). Result-based performance management, evaluated by HR management, is negatively related to the perceived performance of the first half of 2006 of business units ($R^2 = -.365$, $p < .01$). The correlation matrix (see table 4) showed a positive relationship between behavior-based performance management, evaluated by line management, and the perceived business unit performance of the first half of 2006 ($R^2 = .206$, $p < .1$). Result-based performance management evaluated by line management is negatively, but not significantly related to the business unit performance of the first half of 2006 ($R^2 = -.026$). Hypothesis 1a and 1b are both partly confirmed. When organizations are using more behavior-based performance management and less result-based performance management the performance is perceived to be higher.

The correlation matrix (see table 4) showed that the performance of the second half of 2006 evaluated by line management does not reach significance with both performance management types. The relationship between behavior-based performance management evaluated by line and HR management does show a positive correlation with the business unit performance of the second half of 2006 as was the case with the performance data of the first half of 2006 ($R^2 = .261$; $R^2 = .084$). The performance data of the second half of 2006 showed

a negative relationship with result-based performance management evaluated by HR management as was the case for performance of the first half of 2006 but this relationship was positive when evaluated by line management ($R^2 = -.073$; $R^2 = .214$). In conclusion, hypothesis 1a and 1b could not be confirmed for the performance data of the second half of 2006.

4.2 Performance management and proactive behavior

The second hypothesis tested the relationship between performance management and proactive behavior. It was stated that the more performance management is behavior-based, the more it would contribute positively to the level of proactive behavior of employees. When performance management is less result-oriented the degree of proactive behavior will be higher.

The correlation matrix (see table 4) showed a positive relationship between behavior-based performance management evaluated by HR management with the average level of proactive behavior ($R^2 = .248$, $p < .1$). Result-based performance management evaluated by HR management is negatively related to proactive behavior ($R^2 = -.260$, $p < .1$). As can be seen from the correlation matrix (see table 4), behavior-based performance management evaluated by line management is positively related to proactive behavior ($R^2 = .392$, $p < .01$) and result-based performance management evaluated by line management is also positively but not significantly related to proactive behavior ($R^2 = .083$). Hypothesis 2a is totally and 2b is partly confirmed.

4.3 Proactive behavior and perceived business unit performance

The last hypothesis tested the relationship between the level of proactive behavior of the employees and the perceived business unit performance. It was said that the higher the level of proactive behavior of employees the higher the level of perceived business unit performance.

From the correlation matrix (see table 4) can be seen that the average level of proactive behavior of the business unit is positively related ($R^2 = .379$, $p < .01$) to the perceived business unit performance of the first half of 2006. Hypothesis 3 is therefore confirmed.

The same hypothesis was checked with the performance data of the second half of 2006. As can be seen in the correlation matrix (see table 4) the correlation between proactive behavior and the perceived business unit performance was negatively related but did not reach significance. Overall, because the performance data of the second half of 2006 showed no significant relationships with the other variables included in the model, these data will not be included in the regression analyses.

Table 4: Correlations between all variables

	Mean	SD	1	2	3	4	5	6	7
1. HR Behavior	2.57	1.303	1						
2. HR Result	3.12	1.137	-.318**	1					
3. LM Behavior	3.24	1.118	.287**	-.145	1				
4. LM Result	3.12	1.191	.001	.264*	-.082	1			
5. Proactive behavior	3.93	.156	.248*	-.260*	.392***	.083	1		
6. Performance LM 2006	3.76	.455	.220	-.365***	.260*	-.026	.379***	1	
7. Performance LM 2007	3.79	.598	.084	-.073	.261	.214	-.110	.475**	1

***. Correlation is significant at the 0.01 level (2-tailed)

**. Correlation is significant at the 0.05 level (2-tailed)

*. Correlation is significant at the 0.1 level (2-tailed)

Judging from the correlation matrix (see table 4) a mediating effect between performance management, proactive behavior and performance is expected to be found. To check if this conclusion is correct and if proactive behavior is contributing to the performance of the business units a regression analyses is performed with the performance data of the first half 2006. Because of the limited amount of cases (N = 49) the choice is made to only include the variables that are expected to have a mediating relationship. The correlation coefficients are closely related to regression line that predicts relationships between variables (Allison, 1999). Therefore, the variables that showed a significant correlation with the two other constructs included in the model are included in the regression analyses (HRresult, LMbehavior, proactive behavior and performance LM 2006).

To test whether performance management is a factor in explaining some of the variance in proactive behavior, a first regression equation is estimated with proactive behavior as dependent variable. The model was significant ($p < .05$, see table 5) and had an R squared of

.196. It follows then that 19.6 percent of the variance in proactive behavior is explained by performance management. Behavior-based performance management evaluated by line management showed a positive relationship with proactive behavior ($\beta = .339$, $p < .05$). Result-based performance management showed a negative relationship with proactive behavior but did not reach significance in this analysis. Overall, this analysis confirms hypothesis 2a, but does not confirm hypothesis 2b.

Table 5: standardized β 's, R squared and p values of proactive behavior regression model 2006

Model 1	
HRresult	-.208
LMbehavior	.362***
R squared	.196
Sign.	.007
Dependent variable proactive behavior	
***. Correlation is significant at the 0.01 level (2-tailed)	
**. Correlation is significant at the 0.05 level (2-tailed)	
*. Correlation is significant at the 0.1 level (2-tailed)	

The second equation that need to be estimated according to Baron and Kenny (1986) is between performance management and the business unit performance. The first block of the regression model included result-based performance management evaluated by HR management and behavior-based performance management evaluated by line management regressed on performance. The first model reached significance and had an R squared of .177 ($p < .05$, see table 6). This means that 17.7 percent of the variance in performance is explained by the two forms of performance management. Result-based performance management significantly contributed to the perceived business unit performance in the expected direction ($\beta = -.281$, $p < .05$.) and behavior-based performance management was positively, but not significantly, related to the perceived performance ($\beta = .245$). Therefore, confirmation of hypothesis 1b was found here but not for hypothesis 1a. In the second block, proactive behavior was added to the model to see if this type of behavior would make a significant contribution to the performance. The R squared changed .054 (see table 5). This change was significant which means that adding proactive behavior to the model does make a significant contribution to performance, and consequently, more variance in performance is explained. The β for result-based performance management did show a small decline but stayed significant. Three conditions mentioned by Baron and Kenny (1986) need to be met before a mediating relationship can be established. The first is that the independent variable must influence the mediating variable. This is the case for LMbehavior ($\beta = .362$). The second

condition is that the independent variable must influence the dependent variable. This is case for HRresult ($\beta = -.335$). The last condition is that the mediating variable should influence the dependent variable. This was the case ($\beta = .260$). A mediating relationship occurs when all conditions are met and the beta-coefficient of the independent variable regressed on the dependent variable is smaller in the regression equation with all variables included than the equation of the independent variable on the dependent variable without the mediating variable. All conditions are not met for either one of the independent variables and also the independent variables did not show a significant decline when the mediating variable was added to the equation. A mediating relationship could therefore not be established.

Table 6: standardized β 's, R squared and p values of performanceLM2006 regression model

	Model 1	Model 2
HRresult	-.335**	-.281**
LMbehavior	.211	.245
Proactive behavior		.260*
R squared	.177	.231
Sign.	.011	.008

Dependent variable performanceLM2006

***. Correlation is significant at the 0.01 level (2-tailed)

**. Correlation is significant at the 0.05 level (2-tailed)

*. Correlation is significant at the 0.1 level (2-tailed)

4.4 Conclusion

In conclusion, the correlation matrix showed that behavior-based performance management evaluated by line is positively related with the perceived business unit performance and result-based performance management evaluated by HR management is negatively related with perceived performance. The correlation matrix also showed a positive effect from behavior-based performance management evaluated by line and HR management on proactive behavior and a negative correlation between result-based performance management evaluated by HR management on proactive behavior. Proactive behavior was positively related with the perceived business unit performance (see figure 3).

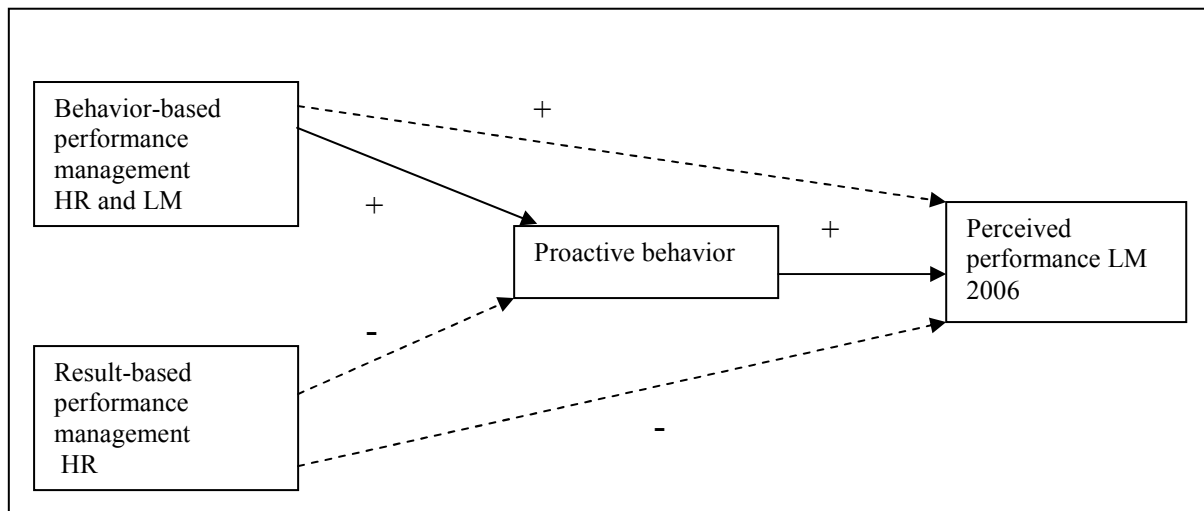


Figure 3: confirmed hypotheses based on the correlation matrix

Note: \dashrightarrow : hypothesis is confirmed for only one rater. \longrightarrow : hypothesis is confirmed for both raters

The correlation matrix showed evidence for a mediating effect between performance management, proactive behavior and performance. The regression analyses did not show confirmation for a mediating relationship because the three conditions mentioned by Baron and Kenny (1986) were not met for the independent variables that were included in the regression analyses.

5. Conclusion and discussion

The goal of this study was to contribute to the unraveling of the ‘black box’ between HRM and performance. According to the literature in this area there is a mediating relationship between HRM and performance but unclear is which variables should be included. This research tried to contribute by investigating the relationship between one specific HR practice, namely performance management, and performance with as mediating variable proactive behavior. The research question that was stated in this study was: *‘Does performance management correlate with an increased performance and which role does proactive behavior of employees play in this relationship?’*

In this study two types of performance management are distinguished, namely behavior-based and result-based performance management. This is consistent with the management control systems literature. A lot of research in this area of literature is done in sales organizations or sales business units (Anderson & Oliver, 1987; Cravens, et al., 1993; Oliver & Anderson, 1994; 1995). In this study many different business units from different sectors are included to see if this distinction is also present in other contexts than sales. What could be concluded from the ANOVA analyses is that in the health care sector behavior-based performance management was present and in the sector industry result-based performance management was present. For the other sectors, a conclusion could not be drawn on which type of performance management was present. The correlation matrix in the result section showed that the different types of performance management systems are distinct types in this research contexts (see table 4). The correlations found between the two types are mainly not significant and low. The literature on management control systems also argued that the behavior-based and result-based performance management systems are ends on a continuum. This is also confirmed by the correlation matrix because of the negative correlations between behavior-based and result-based performance management (see table 4). If a business unit has more behavior-based performance management, than there are less characteristics of result-based performance management present.

The differences in evaluation of HR practices of managers have been pointed out in the method section. The correlation matrix in the result section also showed evidence concerning differences in ratings of performance management. The correlation between behavior-based performance management evaluated by line management and performance was significant but

when behavior-based performance management was evaluated by HR managers this relationship did not reach significance. Both coefficients did show a positive relationship. The amount of cases ($N = 49$) included in this study can be an explanation why behavior-based performance management evaluated by HR management did not reach significance. The amount of cases included in this study ($N = 49$) is not very big which makes it difficult to find significant relationships (Allison, 1999). If the amount of cases would be bigger this relationship would probably reach significance.

The correlations between result-based performance management evaluated by HR showed a negative significant relationship with performance but when result-based performance management is evaluated by line management is still negative but not significant. The coefficient for line management was also not close to reach significance. An explanation why HR and line management differ in their evaluation of result-based performance management influences the perceived business unit performance can be the different perspective both managers have on HR practices. HR managers look at what was intended with the practice and not what is executed. The line managers look at what is actually executed. So the success of a practice does not only depend on the design by HR management but also on good implementation from line management (Gratton & Truss, 2003). Line management can therefore differ in their opinion if result-based performance management is really executed or if they see result-based performance management as a valuable practice for the organization. More research is needed on this topic to investigate how different managers look at practices and what implications this has for organizations.

As stated above the results showed a positive correlation between behavior-based performance management evaluated by line management and the perceived business unit performance of the first half of 2006 and a negative correlation between result-based performance management evaluated by HR management and the perceived performance of the first half of 2006. This is in line with the literature that states that behavior-based performance management is contributing positively to obtaining sales goals, customer satisfaction effectiveness and financial effectiveness (Cravens et al., 1993). When managers closely monitor and direct employees and the evaluations of employees are done by subjective measures the perceived performance will be higher. On the other hand when there is little monitoring and directing and the evaluations are done by objective measures the perceived performance will be lower. This can be explained by the focus on gaining more knowledge

what made employee more professionally competent when behavior-based performance management is executed (Anderson & Oliver, 1987; Cravens, et al., 1993; Oliver & Anderson, 1994; 1995).

The performance data of the second half of 2006 did not show significant correlations with performance management. The directions of the correlations were as hypothesized except for result-based performance management evaluated by line management. These non-significant relationships can be explained by the small amount of cases that were included in this study ($N = 29$). A sample size smaller than 60 cases is considered small. With a small amount of cases it is very hard to find reliable and significant results because the chance of finding large variance is small. The variance of all the variables in the analyses should be as high as possible to find reliable and significant results (Allison, 1999). The way the interviews were executed can be an explanation for why the relationship between result-based performance management evaluated by line management for the first half is negative and positive for the second half of 2006. The performance of the first half of 2006 was measured by questions that were incorporated in an interview about the HR practices and for performance of the second half of 2006 the whole interview focused on performance. This made the circumstances different for both interviews why bias can occur. Another explanation for the difference between the first and second half of 2006 is related to common-method bias. Since the same measure was used to measure both the independent and dependent variable for the first half of 2006 bias can occur which can cause relationships to not or not so strongly appear or in different directions (Guest, 2001).

A positive relationship between behavior-based performance management evaluated by line and HR management and proactive behavior, and a negative relationship between result-based performance management evaluated by HR management and proactive behavior was found in this study. These relationships are consistent with the literature. Behavior-based performance management makes employees plan more, spend more time on non-formally required behaviors and they are intrinsically motivated. Employees are not only concerned with the tasks that are specified for the jobs they perform, but are also willing to carry out tasks that go beyond the scope of the job, also called extra-role behavior (Anderson & Oliver, 1987; Cravens, et al., 1993; Oliver & Anderson, 1994; 1995; Morrison & Phelps, 1999). Proactive behavior can also be seen as a fitting example of extra-role behavior. Proactive behavior is defined in this paper as taking initiative in making the present work situation better, and not

passively adapting to a situation but call it in question. Proactive employees will perform tasks that are not formally required and go beyond the daily routines (Crant, 2000). Employees of behavior-based performance management systems are intrinsically motivated. Intrinsically motivated employees are willing to do more than is formerly required in the job even if this does not result in pay. The studies of Appelbaum et al (2000) and Huselid (1995) also show that HR practices affect the level of discretionary behavior as was mentioned in the theoretical framework. Overall, behavior-based performance management will increase the level of proactive behavior because of the characteristics that employees possess. This study also shows evidence for this relationship.

The negative relationship between result-based performance management and proactive behavior that is found in this study can also be explained by the characteristics of employees. In a result-based performance management system employees are rewarded for results and therefore are more extrinsically motivated and will perform less non-formally required behavior. Employees in this system will show less extra-role behavior because they are not rewarded for it (Anderson & Oliver, 1987; Cravens, et al., 1993; Oliver & Anderson, 1994; 1995). Therefore, it is also expected that they will not show proactive behavior. Actively solving problems that are not directly work related or trying to change current procedures will not be rewarded so there is no gain in performing those tasks. In the literature of Appelbaum et al. (2000) and Huselid (1995) it is stated that discretionary behavior is shown when employees get the opportunity, have the skills and are motivated to show this type of behavior. A result-based management system does not motivate employees to show this type of behavior and therefore the negative relationship that is found in this study is no surprise.

This study found a positive relationship between proactive behavior and perceived performance of the first half of 2006. This was also hypothesized in the literature. The study of Fay and Sonnetag (1998 in: Frese and Fay, 2001) found that personal initiative did increase the individual performance of students. In the study of Baer and Frese (2003) a pro-initiative climate has proven to be beneficial for the organization. When proactive behavior is spread all throughout the organization the profitability will increase. This is caused by the proactive handling of problems and changing circumstances by employees. Also the study of Crant (1995) showed a positive relationship between proactive behavior and sales because proactive employees will change and create situations that will make the work process go smooth and this increases the performance.

The same results were not found for the performance of the second half of 2006. This can be due again to the differing circumstances in which the performance data were gathered and the occurrence of common method bias (Guest, 2001). Another reason is the small amount of cases which was mentioned before. The last reason why the relationship between proactive behavior and the perceived business unit performance did not reach significance can be attributed to the fact that the individual proactive behavior data was aggregated to the business unit level and this caused a loss of variance. The range calculated for the individual and aggregated data in the method section showed loss of variance after aggregation. The data had been tested if aggregation was possible and this test showed it was possible but the conditions were not perfectly met. ICC1 was not very high and the ICC2 did not exceed the level of .50. Because the F-test did reach significance it was decided to proceed with aggregation nevertheless. The lack of variance between the business units can therefore be the cause of not finding a significant relationship.

The mediating relationship of proactive behavior between performance management and perceived performance was tested with regression analyses. If the regression coefficient for performance management on performance is smaller when proactive behavior is added to the equation, a mediating relationship is indicated. The result section showed that both of the independent variables that were used in the regression analyses showed no proof for the existence of a mediating relationship. Result-based performance management was not related to proactive behavior and the regression coefficient did not decline enough to indicate a mediating relationship. Behavior-based performance management did not relate to performance and also this regression equation did not decline significantly to indicate a mediating relationship. The smaller amount of cases can again be the explanation for not finding a mediating relationship. The lack of cases decreased reliability and made significant results within this dataset extremely difficult to realize especially since this dataset barely met the required amount of cases for regression analyses. A minimum of five cases per variable is required (Allison, 1999). This study had a prospective design and therefore causality can not be investigated which can also be an explanation why no mediating is found. Cautiousness is therefore needed when interpreting these results.

To answer the research question that was stated in this study, behavior-based performance management evaluated by line management correlates positively with the perceived performance of business units, and result-based performance management evaluated by HR

management correlates negatively with the perceived performance of business units. Behavior-based performance management evaluated by HR and line management and result-based performance management evaluated by HR management are respectively positively and negatively correlated to proactive behavior, but no mediating relationship could be found between behavior- and result-based performance management, proactive behavior and performance. The goal of this research was to contribute to the unraveling of the 'black box' by looking into the mediating relationship between performance management and performance. It is confirmed that HRM correlates with the average level of behavior of the business unit and with the perceived performance of the business unit. More research is needed to investigate the mediating relationship between HRM and performance.

5.1 Limitations and recommendations

This study also has some limitations that need to be mentioned. As said before this study used a small samples ($N = 49$ and $N = 29$) which makes it difficult to confirm the hypotheses that are stated in this study (Allison, 1999). The limited statistical power that is caused by the small sample size is recognized, nevertheless, some significant relationships are found. A recommendation for future research would be to increase the sample size and thereby increasing the statistical power and then test the conceptual model again.

The small sample size also affects the variance between the cases. With a small sample the chance of finding a high level of variance is small. Preferably the range of each variable should be as high as possible so significant relations can be found (Pallant, 2001). Not just the sample size but also aggregation affects the variance. Proactive behavior did not show a significant relationship with performance of the second half of 2006 which can be caused by aggregation of the proactive behavior data. Multilevel research was beyond the scope of this study, but future studies should look into the possibilities of multilevel research to find relationship between performance management, proactive behavior and performance.

Performance was measured in this study with a general subjective measure because different sectors were included. Different sectors make it hard to measure performance because of the diverse standards that are present in organizations. To keep the performance measure comparable between the sectors, performance criteria that are specific for the sector were not included. The choice to include different sectors was made so the variance between cases would be as high as possible. A risk when only one sector is used is that the variance will not

be big enough to find any significant results. An interesting study would be to include these specific performance criteria and studying one sector and if the sample size is big enough the problem of variance will not be very significant. It is then hoped that a better insight to the single sector will be obtained.

The performance data about the second half of 2006 did not show any significant relationships with behavior- and result-based performance management or proactive behavior and therefore this variable was not tested in the regression analyses. The data for performance management and the performance of the first half of 2006 are collected with the same measure which leads to common method bias. Preferably this study should be repeated to test if the relationships found are not caused by this bias. Reversed causality could also not be studied because the performance management and proactive behavior data were collected once and therefore this study did not have a longitudinal design. Hence, it can be possible that a good performance by a business unit leads to more performance management or proactive behavior. This is also mentioned in the model of Den Hartog et al. (2004). Another possibility is that the characteristics of a business unit determine the form of performance management that is used. As was mentioned in the articles of Anderson & Oliver (1987) and Noe et al., (2003) the characteristics of employees should be taken into account before a choice for a certain performance management system is made. For instance, when employees are more risk-averse, behavior-based performance management is the best system to use. The mediating relationship in this study should therefore be analyzed with caution because the direction of the relationships can not be established. A recommendation for further research is to repeat this study with longitudinal data to check for reversed causality.

The concept of performance management is divided in two dimensions, namely behavior-based and result-based performance management. According to the literature, the best results are achieved when a combination of both forms of performance management is used. In this study a variable for this hybrid form was not included. The distinction was based on behavior-based and result-based only but not on a combination of behavior- and result-based performance management. It would be interesting to test if the hybrid form indeed is the best form of performance management business units should use instead of what this study showed behavior-based management.

A last limitation that needs to be addressed is the sampling method. A convenience sample was used to collect the data. Organizations that were most easy approachable were asked for participation in this study. Preferably a random sample should be used to create the biggest variance in the sample and to give all organizations in all sectors the same chance of being included in the sample. A convenience sample can cause homogenous data which again makes it hard to find significant and reliable results (Baker, 1999). The sample used for the data of the second half of 2006 included organizations that participated in 2006. Unfortunately not all organizations agreed to participate again which caused systematical fall out. Thus, the results in this study need to be cautiously interpreted.

This research contributes to the unraveling of the ‘black box’ that exists between HRM and performance by looking into the relationship between performance management and performance. Again, it is proven that HRM contributes to the performance of business units and therefore it is important for organizations to pay attention to HRM. A careful design of the HRM system can be beneficial to the organization. HRM also affects the behaviors of employees. It is proven in this research that performance management positively affects the average level of proactive behavior that is present in a business unit. Performance management can therefore be an important tool to communicate the goals of the organization to employees and affect the behaviors of employees. The level of proactive behavior in business units showed a relationship with the performance, so the ‘black box’ is partially unraveled. More research is still needed on this topic to completely grasp the full relationship between performance management and performance.

6. Appendix

Performance management

Table 7: Factorloadings performance management for the different components data 2006

	Component 1	Component 2	Component 3	Component 4
V2E6a	.905			
V2E11a	.852			
V2E7a	.844			
V2E8a	.844			
V2E10a	.824			
V2E234a	.808			
V2E8aLM	.450		.438	
V2E234bLM		.877		
V2E6bLM		.867		
V2E11bLM		.856		
V2E7bLM		.787		.308
V2E10bLM		.757		
V2E8bLM		.541		
V2E6aLM			.908	
V2E234aLM			.831	
V2E10aLM			.822	
V2E11aLM			.813	
V2E 7aLM			.755	
V2E234b				.842
V2E7b	-.490			.800
V2E6b				.795
V2E8b	-.366			.680
V2E11b				.658
V2E10b	.472			.657
α	.922	.880	.874	.863

Table 8: Items included in scale HRbehavior

Item code	Item
V2E234a	Koppeling van: Worden de volgende doelen geformuleerd en gecommuniceerd om richting te geven aan het aansturen van medewerkers in uw afdeling? V2E2a: Centrale organisatie competenties/ waarden V2E3a: Afdelingscompetenties/ waarden V2E4a: Individuele ontwikkelingsafspraken/ doelen
V2E6a	In welke mate wordt het wel of niet bereiken/vertonen van deze ontwikkeling standaard teruggekoppeld in het beoordelingsmoment?
V2E7a	In welke mate is de vooruitgang in de ontwikkeling van werknemers binnen deze afdeling objectief/meetbaar/kwantificeerbaar?
V2E8a	In welke mate is het uiteindelijke beoordelingsoordeel over vooruitgang in ontwikkeling afhankelijk van hoe andere medewerkers het doen?
V2E10a	In welke mate worden bij het halen van doelen, eisen aan de ontwikkeling van gedrag/competenties voor de volgende periode opgehoogd?
V2E11a	In welke mate hebben medewerkers inspraak bij het stellen van nieuwe ontwikkelingsdoelen van competenties/gedrag?

Table 9: Items included in scale HRresult

Item code	Item
V2E234b	Koppeling van: Worden de volgende doelen geformuleerd en gecommuniceerd om richting te geven aan het aansturen van medewerkers in uw afdeling? V2E2b: Centrale organisatiedoelen V2E3b: Afdelingsdoelen V2E4b: Individuele prestatieafspraken/ doelen
V2E6b	In welke mate wordt het wel of niet bereiken van deze prestatie doelen/targets/afspraken teruggekoppeld van het beoordelingsproces?
V2E7b	In welke mate is vooruitgang in prestaties/het halen van targets van werknemers objectief/meetbaar/ kwantificeerbaar?
V2E8b	In welke mate is het uiteindelijke beoordelingsoordeel over prestatieverbeteringen afhankelijk van hoe andere medewerkers het doen?
V2E10b	In welke mate worden bij het halen van de doelen, de eisen aan de prestaties voor de volgende periode opgehoogd?
V2E11b	In welke mate hebben medewerkers inspraak bij het stellen van nieuwe individuele/ afdelings prestatiedoelen?

Table 10: Items included in scale LMbehavior

Item code	Item
V2E234aLM	Koppeling van: Worden de volgende doelen geformuleerd en gecommuniceerd om richting te geven aan het aansturen van medewerkers in uw afdeling? V2E2a: Centrale organisatie competenties/ waarden V2E3a: Afdelingscompetenties/ waarden V2E4a: Individuele ontwikkelingsafspraken/ doelen
V2E6aLM	In welke mate wordt het wel of niet bereiken/vertonen van deze ontwikkeling standaard teruggekoppeld in het beoordelingsmoment?
V2E7aLM	In welke mate is de vooruitgang in de ontwikkeling van werknemers binnen deze afdeling objectief/meetbaar/kwantificeerbaar?
V2E8aLM	In welke mate is het uiteindelijke beoordelingsoordeel over vooruitgang in ontwikkeling afhankelijk van hoe andere medewerkers het doen?
V2E10aLM	In welke mate worden bij het halen van doelen, eisen aan de ontwikkeling van gedrag/competenties voor de volgende periode opgehoogd?
V2E11aLM	In welke mate hebben medewerkers inspraak bij het stellen van nieuwe ontwikkelingsdoelen van competenties/gedrag?

Table 11: Items included in scale LMresult

Item code	Item
V2E234bLM	Koppeling van: Worden de volgende doelen geformuleerd en gecommuniceerd om richting te geven aan het aansturen van medewerkers in uw afdeling? V2E2b: Centrale organisatiedoelen V2E3b: Afdelingsdoelen V2E4b: Individuele prestatieafspraken/ doelen
V2E6bLM	In welke mate wordt het wel of niet bereiken van deze prestatie doelen/targets/afspraken teruggekoppeld van het beoordelingsproces?
V2E7bLM	In welke mate is vooruitgang in prestaties/het halen van targets van werknemers objectief/meetbaar/ kwantificeerbaar?
V2E8bLM	In welke mate is het uiteindelijke beoordelingsoordeel over prestatieverbeteringen afhankelijk van hoe andere medewerkers het doen?
V2E10bLM	In welke mate worden bij het halen van de doelen, de eisen aan de prestaties voor de volgende periode opgehoogd?
V2E11bLM	In welke mate hebben medewerkers inspraak bij het stellen van nieuwe individuele/ afdelings prestatiedoelen?

Performance 2006 and 2007

Table 12: Factorloadings for performance of line management

First half of 2006	Component 1
V3B4LM	.725
V3B2LM	.708
Recode rapportcijferLM	.688
V3B3LM	.525
V3B1LM	.523
α	.613

Table 13: Factorloadings for performance line management

Second half of 2006	Component 1	Component 2
Recode rapportcijferman1	.896	
Quickscan2man1	.795	
Quickscan3man1	.760	
Quickscan1man1	.720	
Quickscan4man1		.955
α	.665	

Table 14: Items included in scales performanceLM2006 performanceLM2007

Item code	Item
V3B1LM Quickscan1	Onze klanten hebben een positief beeld van ons organisatieonderdeel
V3B2LM Quickscan2	Wij onderscheiden ons als organisatieonderdeel in positieve zin ten opzichte van onze concurrenten
V3B3LM Quickscan3	Ons organisatieonderdeel bereikt de doelen die ze zich gesteld heeft
V3B4LM Quickscan4	De financiële situatie van ons organisatieonderdeel is goed
V3B5LM Quickscan5	Wilt u alstublieft een rapportcijfer geven over het functioneren van uw eigen organisatieonderdeel

Proactive behavior

Table 15: Factorloadings proactive behavior

	Component 1	Component 2	Component 3
Prac17	.743		
Prac16	.733	-.395	
Prac15	.720	-.411	
Prac13	.715		
Prac21	.687		
Prac10	.654	.339	
Prac3	.637	.365	
Prac14	.629	-.468	
Prac7	.628	.465	
Prac2	.613	.387	
Prac11	.605		.535
Prac8	.597	.439	
Prac20	.590		
Prac18	.566		
Prac9	.558	.395	
Prac5	.554		
Prac1	.551	.418	
Prac19	.541		
Prac12	.519		.646
α	.910		

Table 16: Items included in scale proactive behavior

Item code	Item
prac1	In mijn werk probeer ik mijn zwakke kanten te verbeteren
prac2	In mijn werk stel ik mezelf uitdagende doelen
Prac3	Ik probeer mijn werk voor mijzelf zo interessant mogelijk te maken
Prac5	Als het erop aankomt, zet ik me extra voor mijn werk in
Prac7	In mijn werk probeer ik telkens weer nieuwe dingen te leren
Prac8	Ik denk er over na hoe ik in de toekomst mijn werk zo goed mogelijk kan blijven doen
Prac9	In mijn werk zoek ik de mensen op waarvan ik iets kan leren
Prac10	Ik zorg ervoor dat ik qua kennis en vaardigheden goed mee kan komen met veranderingen in mijn werk
Prac11	Ik trek het me aan wanneer de kwaliteit van het werk ondermaats is
Prac12	Ik trek het me aan wanneer de communicatie met collega's niet goed verloopt
Prac13	In mijn werk, neem ik initiatief ook wanneer anderen dit niet doen
Prac14	Ik bediscussieer werkmethodes met mijn leidinggevende als ik vind dat ze beter kunnen
Prac17	Wanneer er iets niet klopt in de manier waarop het werk wordt gedaan, probeer ik dat te verbeteren
Prac16	Wanneer werkmethodes of procedures niet effectief zijn, probeer ik daar iets aan te doen
Prac15	Op mijn werk doe ik suggesties om de manier van werken te verbeteren
Prac18	Ik vervul vrijwillig taken in het algemeen belang van de organisatie
Prac19	Ik help collega's die problemen hebben met hun werk
Prac20	In mijn werk doe ik vaak meer dan er van me gevraagd wordt
Prac21	Ik zet me in voor veranderingen binnen de afdeling

7. Literature

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