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Commitment, control, and the use of competency management

Use of
competency
management

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Abstract

Purpose – The purpose of this paper is to examine the effects of the commitment- and control-approaches on the use of competency management, and to investigate whether attitude, subjective norm and perceived behavioural control mediate these effects.

Design/methodology/approach – In Study 1, using a survey, employees indicated whether their organization adopted a commitment- or a control-approach towards competency management. Moreover, they rated their own attitude, subjective norm, perceived behavioural control, and behaviour. In Study 2 a scenario experiment was conducted in which the authors manipulated the commitment- and control-approaches towards competency management in order to establish causal relations.

Findings – Results consistently showed that the use of competency management is higher within a commitment- than within a control-approach. Furthermore, attitude and perceived behavioural control were found to mediate the relationship between the commitment-approach and the use of competency management.

Research limitations/implications – Future research should include other organizational members, for example (line) managers, to create future insight in the effects of commitment- and control-approaches on the use of competency management.

Practical implications – The results of the studies highlight that a commitment-oriented approach increases the use of competency management by employees and that a positive employee attitude and perceived behavioural control are of considerable importance when increasing the use of competency management is an organization's primary goal.

Originality/value – The paper gives insight in how to persuade and stimulate employees to use competency management more frequently.

Keywords Competences, Employee attitudes, Employee behaviour

Paper type Research paper

Introduction

Competency management has become leading in human resource practices (Sparrow and Bognanno, 1993) and is often applied in organizations to guide selection, assessment, development, and performance appraisal (Holmes, 1995). Competency management can be described as an integrated set of human resource activities aimed at optimizing the development and the use of employee competencies in order to increase individual effectiveness, and, subsequently, to increase organizational effectiveness

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(Athey and Orth, 1999; Paulsson *et al.*, 2005). It differs from the more traditional job analysis in that competency management focuses more on “how” work is accomplished instead of on “what” is accomplished (Kurz and Bartram, 2002; Schippmann *et al.*, 2000).

When competency management is successfully implemented it can bring about a lot of advantages for an organization (Becker and Huselid, 1999). Competency management can, for example, provide clear behavioural guidelines and performance standards which, in turn, can be used to improve communication between employer and employee (Heinsman *et al.*, 2005). Consequently, employee performance might increase and this may lead to increased organizational effectiveness (Athey and Orth, 1999; Paulsson *et al.*, 2005). However, implementing competency management using an incorrect approach may lead to negative attitudes towards competency management, which may, consecutively, result in resistance and limited use of competency management. It is thus important to study the effects of implementation approaches on the use of competency management.

The present study examines two approaches to the implementation of competency management; commitment and control. Commitment and control represent two distinct approaches to shaping employee attitude and behaviour at work. Although researchers have shown a growing interest in the effects of human resource practices on employee attitude and behaviour (Edgar and Geare, 2005; Guest, 1999), no study we know of has examined the effects of the commitment- and control-approaches on employee attitude towards and on the use of competency management. The aim of the present study is to fill part of this gap. Using several components of Ajzen’s (1985, 1991) Theory of Planned Behaviour (TPB), we examine the effects of both approaches on attitude and behaviour towards competency management.

Competency management: commitment- and control-approach

Although the modern competency movement dates from the late 1960s and early 1970s, the interest in competencies and competency management in The Netherlands has emerged after the publication of Prahalad and Hamel (1990) on “core competencies” of organizations. These days the Dutch economy slowly changed into a knowledge economy and employee development became increasingly important. The tight labour market made retaining and committing employees essential and competency management appeared to be a useful tool for general managers in accomplishing this. Strengths and weaknesses were assessed using competency management and employees were given the opportunity to develop strengths and weaknesses by means of, for example, training and coaching.

As a result of the economic downfall, from 2000 to 2005 competency management was increasingly used for selection purposes and for performance appraisal (Heinsman *et al.*, 2006). Strengths and weaknesses were assessed to function as criteria for performance appraisal. The aim was to reduce labour costs, and to improve performance standards in order to react adequately to the growing competition and to increase organizational effectiveness. Thus, managers used competency management primarily to organize or control the workforce.

When studying these changes in market conditions two approaches to human resource management in general or to competency management in particular can be identified: the commitment- and the control-approach (Walton, 1985). Although there might be different stands with regard to the relationship (and direction of causality) between the both approaches and competency management, we believe that the

commitment- and control-approach shape HR practices, such as competency management. The commitment-approach is characterized by winning hearts and minds (Guest, 1997) and is aimed at increasing employee loyalty by means of training, education, communication, knowledge sharing, and coaching (Boselie *et al.*, 2004). Jobs are broadly defined, hierarchy is minimized, and control and coordination depend on shared goals rather than on formal positions. Autonomy, involvement, and trust are keywords (Bijlsma and Koopman, 2003; Koopman, 1991). Behaviour is primarily self-regulated (Wood, 1996) and employees are merely intrinsically motivated.

Within the control-approach, as opposed to the commitment-approach, the employee is managed on a much more instrumental basis (Truss *et al.*, 1997). The control-approach is characterized by the wish to establish order, to exercise control, and to reduce labour costs (Walton, 1985). There is no doubt the steering wheel is in the hands of management and, consequently, important decisions are made top-down (Koopman, 1991). Employees are merely motivated by extrinsic rewards, which are dependent on measurable output criteria.

Although the commitment- and control-approaches have been an important topic in human resource literature for quite some time, researchers have been focusing primarily on the relations between human resource management and performance (Boselie *et al.*, 2004; Huselid, 1995; Truss *et al.*, 1997). Previous theoretical as well as empirical studies have shown that the commitment-approach has a more positive effect on outcomes such as organizational performance and turnover than the control-approach (Arthur, 1994; Boselie *et al.*, 2004).

Recently, the interest in the effects of human resource management on employee attitude and behaviour is growing. Storey (1989), for example, emphasized the need to study the impact of employment practices on the recipients more systematically and Arthur (1994) concluded that there is an increasing need to demonstrate the effects of both approaches on employee attitude and behaviour. In his review on human resource management and performance, Guest (1997) argued for the inclusion of more subjective evaluations when studying the effects of human resource management on performance. In 1999, based on the results of an annual survey on employment relations, Guest showed that employee perceptions and attitudes mediate the relationship between human resource practices and performance-related behaviour. Unfortunately, guest does not provide insight in the effects of the commitment- and control-approaches on employee attitude and behaviour.

With this study, we respond to the calls of Arthur (1994), Guest (1997) and Storey (1989), and we built upon the empirical research conducted by Guest (1999) by examining the effects of the commitment- and control-approaches on employee attitude and behaviour towards competency management. In studying the effects of the commitment- and the control-approaches on the use of competency management we use several components of the TPB (Ajzen, 1985, 1991), which is described below.

Theory of planned behaviour

The TPB (Ajzen, 1985, 1991) is the successor of the theory of reasoned action (Fishbein and Ajzen, 1975). A central factor in the TPB is the individual's intention to perform a given behaviour. As Ajzen (1991, p. 181) states, "the stronger the intention to engage in a behaviour, the more likely should be its performance". According to the TPB an individual's intention to perform a given behaviour is formed by three determinants:

attitude, subjective norm, and perceived behavioural control. The relative importance of the determinants varies across situations (Ajzen and Fishbein, 1980).

Attitude to certain behaviour refers to the individual's global positive or negative evaluation of performing that behaviour. Subjective norm refers to the individual's perceptions of general social pressure to perform a certain kind of behaviour. The final determinant is called perceived behavioural control. Perceived behavioural control refers to the perceived ease or difficulty of performing certain behaviour. Applied to predicting the use of competency management, the TPB holds that the extent to which an individual has a positive or negative evaluation of competency management (attitude), the perception of social pressure to use competency management (subjective norm), and the individual's confidence in his/her ability to use competency management (perceived behavioural control) will predict the intention to use and the actual use of competency management.

Commitment, control, and the theory of planned behaviour

As stated, researchers have been focusing primarily on the relation between the commitment- and control-approach and several outcome variables, such as performance and turnover (Arthur, 1994). Previous theoretical as well as empirical research has pointed out that the commitment-approach has more positive effects on outcomes than the control-approach (Arthur, 1994; Boselie *et al.*, 2001; Gelade and Ivery, 2003). In his study on the effects of commitment- and control-approaches on manufacturing performance in 30 steel mills, Arthur (1994), for example, found that the mills that operated with commitment-systems had higher productivity, lower scrap rates, and lower employee turnover than those with control-systems. In line with this, we expect the commitment-approach to have a more positive effect on the TPB variables attitude, subjective norm, perceived behavioural control, and behaviour (the use of competency management). We therefore hypothesize:

H1. Both the commitment- and the control-approach are positively related to attitude, subjective norm, perceived behavioural control, and behaviour. However, compared to the control-approach, the commitment-approach to competency management is more positively related to:

H1a. Attitude.

H1b. Subjective norm.

H1c. Perceived behavioural control.

H1d. Behaviour (the use of competency management).

The TPB has proven valuable in predicting a wide range of behaviours, for example excessive driving (Elliott *et al.*, 2003), condom use (Hynie *et al.*, 2006), and blood donation (Giles and Cairns, 1995). Although the TPB has also been applied to predict work related behaviour (McFarland and Ryan, 2006; van Hooft *et al.*, 2004) no study we know of has used the theory to predict the use of competency management. Therefore, in the present study we focus on the relationships between the commitment- and the control-approach and the use of competency management (behaviour). Furthermore, we examine the effects of attitude, subjective norm, and perceived behavioural control on these relationships. Based on the principles of the TPB and on Guest (1999), who

beliefs that variables such as attitude will mediate the relationship between the commitment- and control-approaches and behaviour, we hypothesize:

H2a. Attitude.

H2b. Subjective norm.

H2c. Perceived behavioural control mediate the relation between the commitment-approach and behaviour (the use of competency management).

H3a. Attitude.

H3b. Subjective norm.

H3c. Perceived behavioural control mediate the relation between the control-approach and behaviour (the use of competency management).

To test our hypotheses we conducted a survey study and a scenario experiment. In Study 1 we examined the influence of the commitment- and control-approaches on employees' use of competency management using a survey. In Study 2 a scenario experiment was conducted which, in contrast to the survey study, enabled us to draw conclusions concerning causality and to eliminate alternative explanations for relationships found (Dipboye, 1990). Furthermore, Study 2 had the advantage of sampling participants from a wide range of organizations, and -in contrast to scenario studies in general- was thus based on non-student employees. The participants were expected to be better able to visualize the situation described in the scenario experiment than student employees, and this way we aimed at bridging part of the gap between a more controlled scenario experiment and a real organizational setting.

Consistent with the idea of triangulation (Denzin, 1970; Jick, 1979), by comparing the results of a cross-sectional survey and a scenario experiment and by using different types of participants we tried to maximize the validity, strength, and interpretative potential of the present research. Both the survey and the scenario study have strengths and weaknesses, and the strengths of one method can compensate for the weaknesses of the other (Dipboye, 1990).

Study 1

Method

Sample and design. Data for this study were collected using a survey distributed by master students through their own network. In total 85 employees participated and returned the survey to the master students. A total of 81 participants (46.9 per cent male, mean age = 37.57 years, SD = 10.55) completely filled out the survey. Level of education of the participants varied between lower vocational training (1.2 per cent) and master's degree (14.8 per cent), with higher vocational training being the largest category (50.1 per cent). Participants were working in a wide range of industries, such as professional/financial services (26.9 per cent), education (21 per cent), health care, and government (both 16 per cent). A total of 29.6 per cent of the participants were working in organizations with 50-250 employees, and 50.6 per cent in organizations with more than 250 employees. A close look at the sample characteristics did not reveal an overrepresentation of specific groups or industries.

Measurement. All responses were assessed in five-point Likert scales ranging from 1 (strongly disagree) to 5 (strongly agree). Scales for attitude, subjective norm, perceived behavioural control, and behaviour were based on Ajzen's (1985, 1991) TPB (for a similar approach see, e.g. van der Zee *et al.*, 2002; van Hooft *et al.*, 2004).

The commitment-approach to competency management was measured with four items, including "employees were stimulated and inspired to use and accept competency management" and "during the design and implementation of competency management the emphasis was on creating employee motivation and employee involvement". The items were based on a questionnaire developed by de Caluwé and Vermaak (1999). The α coefficient for this scale was 0.80.

The control-approach to competency management was measured with four items, including "the design and implementation of competency management was strictly monitored by general management or the board" and "during the design and implementation of competency management the emphasis was on controlling and directing". The items were based on a questionnaire developed by de Caluwé and Vermaak (1999). The α coefficient for this scale was 0.60.

Participants' attitude toward competency management was measured with three items, including "I consider the use of competency management an opportunity for this organization", and "I am willing to use competency management". The α coefficient for this scale was 0.85.

Subjective norm was measured with three items, including "My colleagues are of the opinion that everyone should accept competency management" and "My colleagues' opinion towards competency management is so strong that deviating from it seems impossible". The α coefficient for this scale was 0.63.

Perceived behavioural control was measured with five items, including "I am able to influence the way competency management is applied to my performance appraisal" and "I have got sufficient knowledge of competency management in order to use it to assess my own strengths and weaknesses". The α coefficient for this scale was 0.78.

Behaviour, or the actual use of competency management, was measured with three items, including "I have accepted the use of competency management" and "I have accepted performance appraisal based on competency management". The α coefficient for this scale was 0.69.

Results

We performed principal components analyses using OBLIMIN rotation of the items of the independent and dependent variables. Since both independent and dependent variables were theoretically related (Ajzen, 1985, 1991; Arthur, 1994; Walton, 1985), OBLIMIN rotation was chosen for all analyses (Field, 2005). The analysis of the items of the independent variables yielded a two-factor solution, accounting for almost 57 per cent of the variance, with all items loading above |0.54| on the intended scale, and with all cross loadings below |0.38|. A principal components analysis of the items of the dependent variables yielded four factors with eigenvalue > 1 , accounting for more than 66 per cent of the variance. All items, except one, loaded above |0.55| on the intended scale and all cross loadings were below |0.30|. One of the items of the scale for behaviour had a primary loading of |0.58| on the factor containing items measuring attitude. However, the secondary loading, |0.47|, was on the intended factor. Based on the content of this item, we decided to maintain the a priori categorization.

Table I presents the means, the standard deviations, and the correlations among the variables under study.

In testing *H1a*, *H1b*, and *H1c*, expecting attitude, subjective norm, perceived behavioural control, and behaviour to be more strongly positively related to the commitment- than to the control-approach, we computed correlation coefficients and we conducted regression analyses (Tables I-III). First, as expected, both the commitment- and the control-approach were positively related to the variables. Yet, there was one exception. The correlation between attitude and the control approach was, though not significant, negative in nature, $r = -0.13$, $p = 0.24$.

Second, a test for the significance of the difference between the correlations (Steiger, 1980) was used to examine whether the commitment-approach was more strongly positively related to all other variables than the control-approach. Perceived behavioural control was found to be more strongly related to the commitment- than to the control-approach, $z = 3.04$, $p = 0.00$. No such results were found for attitude and subjective norm. The difference between the both approaches regarding their relationship with behaviour was marginally significant, $z = 1.39$, $p = 0.08$. The β 's of the relationship between the commitment- and the control-approach and attitude, subjective norm, perceived behavioural control, and behaviour display the same pattern as the correlation coefficients (Table II). In line with *H1c*, we may thus conclude that perceived behavioural control is more positively related to the commitment- than to the control-approach. Since no significant differences were found for both approaches with respect to their relationships with attitude, subjective norm, and behaviour, our results did not support *H1a*, *H1b*, and *H1d*.

Variable	M	SD	1	2	3	4	5	6
1. Attitude	3.60	0.72	(0.85)					
2. Subjective norm	2.66	0.58	0.13	(0.63)				
3. Perceived behavioural control	3.21	0.59	0.41***	0.12	(0.78)			
4. Behaviour	3.45	0.66	0.41***	0.10	0.40***	(0.69)		
5. Commitment-approach	3.15	0.74	0.20+	0.17	0.53***	0.36**	(0.80)	
6. Control-approach	3.44	0.60	-0.13	0.07	0.18	0.19****	0.35**	(0.60)

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; **** $p < 0.10$. All tests are two-tailed. Scale reliabilities (Cronbach's α s) are in parentheses along the diagonal. $N = 81$

Table I.
Means, SD,
intercorrelations, and
reliabilities for Study1

Variable	Attitude	Subjective norm	Perceived behavioural control
Commitment-approach	0.28*	0.16	0.53***
Control-approach	-0.23****	0.02	-0.01
R^2	0.09	0.03	0.28
Adjusted R^2	0.06	0.00	0.26
$F(df_1,df_2)$	3.64 (2,78)*	1.13 (2,78)	15.26 (2,78)***

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; **** $p < 0.10$. All tests are two-tailed. Standardized regression coefficients are shown

Table II.
Results of regression
analyses for commitment
and control explaining
attitude, subjective norm,
and perceived
behavioural control for
Study 1

Table III.
Results of the mediation analyses explaining the use of competency management (behaviour) for Study 1

Variable	Behaviour					
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Commitment-approach	0.33**	0.23*	0.33**	0.33**	0.33**	0.17
Control-approach	0.07	0.16	0.07	0.07	0.07	0.08
Mediator: attitude		0.38***				
Mediator: subjective norm				0.04		0.30*
Mediator: perceived behavioural control						0.20
R^2	0.13	0.27	0.13	0.13	0.13	6.29 (3,77)**
F^2_k (df ₁ ,df ₂)	5.94 (2,78)**	9.34 (3,77)***	5.94 (2,78)**	3.97 (3,77)*	5.94 (2,78)**	6.29 (3,77)**
ΔR^2		0.14		0.00		0.06
$F^2_{\Delta R}$ (df ₁ ,df ₂)		14.13 (1,77)**		0.15 (1,77)		6.18 (1,77)*

Notes: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$. All tests are two-tailed. Standardized regression coefficients are shown

Furthermore, we studied the effects of attitude, subjective norm, and perceived behavioural control on the relationship between commitment- and control-approaches and behaviour using the procedure proposed by Shrout and Bolger (2002), which is based on the procedure described by Baron and Kenny (1986). According to Shrout and Bolger, a variable functions as a mediator when the following conditions hold:

- the independent variable (commitment/control-approach) significantly affects the mediator (attitude, subjective norm, and perceived behavioural control);
- the independent variable affects the dependent variable (behaviour);
- the effect of the independent variable on the dependent variable is decreased in the presence of the mediator; and
- the effect of the mediator on the dependent variable is significant.

To test for mediating effects hierarchical regression analysis was performed. The results of the analyses are discussed for each of the independent variables separately and are shown in Tables II and III.

The results showed that both attitude and perceived behavioural control were significantly related to the commitment-approach, $\beta = 0.28$, $p = 0.02$ and $\beta = 0.53$, $p = 0.00$, respectively, (Table II). Subjective norm was not significantly related to the commitment-approach, $\beta = 0.16$, $p = 0.18$. Hence, the first condition as proposed by Shrout and Bolger (2002) was met only for attitude and perceived behavioural control and not for subjective norm. Based on the procedure proposed by Shout and Bolger and in contrast to attitude and perceived behavioural control, subjective norm could not be considered a mediator of the relationship between the commitment-approach and behaviour. In line with the second condition proposed by Shrout and Bolger, the commitment-approach was significantly related to behaviour, $\beta = 0.33$, $p = 0.00$, and adding attitude as a mediator into the regression equation caused the β of the relationship between commitment and behaviour to decrease, $\beta = 0.23$, $p = 0.04$ (Table III). Thus, the third condition proposed by Shrout and Bolger was fulfilled as well. A Sobel (1982) test showed that the mediation effect of attitude was significant, $z = 2.03$, $p = 0.04$. Moreover, attitude was significantly related to behaviour, $\beta = 0.38$, $p = 0.00$.

Adding perceived behavioural control into the regression equation as a mediator caused a decrease in the β of the relationship between commitment and behaviour as well, $\beta = 0.17$, $p = 0.18$ (Table III). The β corresponding to the relationship between perceived behavioural control and the use of competency management was significant, $\beta = 0.30$, $p = 0.02$. In sum, the third and fourth condition for mediation as proposed by Shrout and Bolger (2002) were met for perceived behavioural control. The results of a Sobel (1982) test confirmed significance of the mediation effect found, $z = 2.25$, $p = 0.02$.

In sum, *H2a*, expecting attitude to mediate the relationship between the commitment-approach and the use of competency management, was supported by our data (Figure 1). More specifically, the fact that competency management is more frequently used by employees when implemented with a commitment-approach may be a result of more positive attitudes towards competency management. *H2b* was not supported by our results. Subjective norm was not significantly related to the commitment-approach and could thus not be considered a mediator of the relationship between the commitment-approach and behaviour. In contrast to *H2b* and *H2c* was

supported by Figure 1. Within the commitment-approach the use of competency management is partly due to the fact that within this approach employees experience more perceived behavioural control. In contrast, the results showed that perceived behavioural control did not mediate the relationship between the control-approach and behaviour.

We continued our analysis for the control-approach. In order to test *H3*, we examined whether attitude, subjective norm, and perceived behavioural control mediated the relationship between the control-approach and behaviour. As is shown in Table II, attitude, subjective norm, and perceived behavioural control were not significantly related to the control approach. Thus, the first condition as proposed by Shrouf and Bolger (2002) was not met. Moreover, the control approach was not found to be significantly related to behaviour, $\beta = 0.07$, $p = 0.52$ (Table III). The second condition as proposed by Shrouf and Bolger was not supported. In conclusion, attitude, subjective norm, and perceived behavioural control were not found to mediate the relationship between the control-approach and behaviour. In other words the relationship between the control-approach and the use of competency management was not influenced by attitude, subjective norm, or perceived behavioural control. *H3a*, *H3b*, and *H3c* were not supported by our data.

Study 2

Study 1 showed that when competency management was implemented with a commitment-approach participants reported more perceived behavioural control than when competency management was implemented with a control-approach. Both attitude and perceived behavioural control were found to mediate the relationship between commitment and behaviour. The fact that competency management was used more frequently by employees when implemented with a commitment-approach instead of with a control-approach was found to rely on a positive attitude as well as on perceived behavioural control. None of the TPB variables was found to mediate the relationship between the control-approach and the use of competency management.

Although the results of Study 1 seem to be valuable for the use of competency management in practice, no conclusions about the direction of the relationships found could be drawn. Hence, in Study 2 a scenario experiment was conducted in order to establish clear causality of the relationships found in the field study while maintaining a relatively high degree of reality.

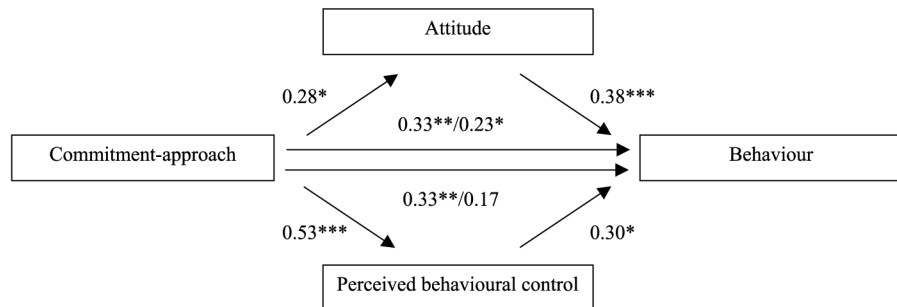


Figure 1.
The mediating effects of attitude and perceived behavioural control in Study 1

Method

Sample and design. We asked 500 individuals who were involved in a one-day assessment centre to participate in our scenario experiment. A total of 412 participants (261 male, mean age = 36.42 years, SD = 8.68) voluntarily completed the scenario experiment resulting in a response rate of 82.4 per cent. Level of education of the participants varied between lower vocational training (0.7 per cent) and master's degree (53.2 per cent). A total of 131 participants currently held a management position, and 279 were employees (information on position was missing for two participants). Participants were working in a wide range of industries. The study was set up according to a one-factor design with two levels (commitment vs control). Participants were randomly assigned to one of the two levels, further called conditions.

For the purpose of this study an experimental manipulation was developed. Based on the results of the field study, in which additional analyses showed no significant interaction effects between the commitment- and control-approaches, and on discussion sessions with several experts in the competency management area, we decided to develop a scenario experiment in which a situation concerning high commitment could be contrasted with a situation concerning high control. Situations in which both commitment and control were simultaneously high, respectively, low, were regarded as situations lacking realism. For example, in a situation without any form of commitment or control, working with competency management would never be an issue simply because in such a situation no one would initiate the implementation of competency management.

To measure participant's reactions towards competency management implemented with a commitment- or a control-approach each participant was confronted with one of the two conditions. A short introduction, in which participants were asked to visualize that they were working in a financial organization with a very good reputation and a broad clientele, preceded the conditions. Participants read that to maintain this reputation and clientele the board had announced to implement competency management in order to identify the strengths and weaknesses of each employee by assessing their competencies. A short description of competency management was given. Participants read that implementing competency management would have consequences for themselves and their colleagues. After all, in the future their competencies and their performance would be assessed. Participants were asked to visualize the situation they read about and to answer the questions that followed the description accordingly.

In the commitment-condition participants were informed that the decision to implement competency management was made after consulting different groups within the organization and that the participant him/herself had also been given the opportunity to participate in decision making. In the end it was deemed important that each and every employee would benefit from implementing competency management. Competency management was not only implemented to monitor employee performance. Competency management would also contribute to individual development, training, and career planning.

In the control-condition participants were told that the decision to implement competency management was solely made by the board. No one was given the opportunity to participate. In the end it was deemed important that the board would benefit optimally from implementing competency management. Competency management was primarily implemented to monitor employee performance.

Competency management would rarely contribute to individual development, training, and career planning.

Measurement. All responses were assessed on 5-point Likert scales ranging from 1 (strongly disagree) to 5 (strongly agree). Scales for attitude, subjective norm, perceived behavioural control, and behaviour were based on Ajzen's (1985, 1991) TPB (for a similar approach see, e.g. van der Zee *et al.*, 2002; van Hooft *et al.*, 2004). Compared to Study 1 dependent measures of subjective norm and perceived behavioural control were adapted in order to make them more applicable to the fictitious situations described in the scenario experiment. Also, due to the fictitious situations described we measured intention instead of actual behaviour regarding competency management.

The commitment-manipulation was measured with two items ($\alpha = 0.88$); "Competency management is made attractive for everyone" and "During the implementation of competency management it was possible to suggest changes or adaptations". The control-manipulation was measured with two items ($\alpha = 0.64$); "During the implementation of competency management the emphasis was on controlling and directing" and "The implementation of competency management was closely monitored by general management or by the board".

Attitude was measured using the same items as described in Study 1. The α coefficient for this scale was 0.91.

Subjective norm was measured with two items; "My manager is of the opinion that competency management should be accepted by everyone" and "My manager expects everyone to get acquainted with competency management". The α coefficient for this scale was 0.59.

Perceived behavioural control was measured with four items, including "In this situation, I can easily adapt competency management to my own demands" and "In this situation, I expect to be able to influence the way competency management is used to assess my strengths and weaknesses". The α coefficient for this scale was 0.83.

The participants' intention to use competency management was measured with four items, including "I will accept competency management when I am confronted with it" and "I will use competency management to assess my own competencies". The α coefficient for this scale was 0.75.

Results

Manipulation checks. We first performed a principal components analysis using OBLIMIN rotation including the items meant for the manipulation check. This analysis yielded a two-factor solution, accounting for almost 83 per cent of the variance, with all items loading above |0.69| on the intended scale and all cross loadings below |0.28|. A second principal components analysis of the items of the dependent variables yielded four factors with eigenvalue > 1 , accounting for almost 70 per cent of the variance. All items loaded above |0.58| on the intended scale and all cross loadings below |0.31|.

Results of a *t*-test showed that in the commitment-condition participants rated the situation as more commitment-oriented ($M = 3.84$, $SD = 0.58$) than control-oriented ($M = 1.76$, $SD = 0.84$), $t(342.15) = 29.10$, $p = 0.00$, $\eta^2 = 0.71$, $CI(\text{diff}) =$ between 1.95 and 2.23. In the control-condition, participants rated the situation as more control-oriented ($M = 3.87$, $SD = 0.70$) than commitment-oriented ($M = 3.10$, $SD = 0.76$), $t(409.94) = -10.71$, $p = 0.00$, $\eta^2 = 0.22$, $CI(\text{diff}) =$ between -0.91 and -0.63 . We may thus conclude that our manipulation was successful.

Intention to use competency management. To test our first hypothesis, expecting attitude, subjective norm, perceived behavioural control, and intention to be more positive in the commitment- than in the control-condition, we conducted *t*-tests. Results showed that in the commitment-condition participants reported a more positive attitude ($M = 3.84$, $SD = 0.59$) than in the control-condition ($M = 2.64$, $SD = 0.95$), $t(320.36) = 15.16$, $p = 0.00$, $\eta^2 = 0.42$, $CI(\text{diff}) =$ between 1.04 and 1.35. In the commitment-condition participants also reported more perceived behavioural control ($M = 3.35$, $SD = 0.61$) than in the control-condition ($M = 2.50$, $SD = 0.76$), $t(372.73) = 12.30$, $p = 0.00$, $\eta^2 = 0.29$, $CI(\text{diff}) =$ between 0.71 and 0.98. No differences were found for subjective norm. Furthermore, participants in the commitment-condition were more inclined to use competency management ($M = 3.69$, $SD = 0.50$) than participants in the control-condition ($M = 3.41$, $SD = 0.68$), $t(358.35) = 4.59$, $p = 0.00$, $\eta^2 = 0.06$, $CI(\text{diff}) =$ between 0.16 and 0.39. *H1a*, *H1c*, and *H1d* were thus supported by our data.

A *t*-test and ANOVA's were used to examine the possible mediating effects of attitude, subjective norm, and perceived behavioural control on the relationship between approach and the intention to use competency management. According to the procedure proposed by Shrout and Bolger (2002), a variable functions as a mediator when the four conditions as described in Study 1 hold. A *t*-test showed that both approaches had a different effect on the intention to use competency management. As the results of *H1d* pointed out, the intention to use competency management was higher in the commitment-condition than in the control-condition. The results of the ANOVA showed that the former main effect of approach disappeared when adding attitude as a mediator, $F(1,409) = 0.60$, $p = 0.44$, $\eta^2 = 0.00$, $CI(\text{diff}) =$ between -0.19 and 0.08 . A Sobel (1982) test confirmed the significance of this mediation, $z = 6.93$, $p = 0.00$. Moreover, the effect of attitude on the intention was significant, $F(1,409) = 60.59$, $p = 0.00$, $\eta^2 = 0.13$, $CI(\text{diff}) =$ between 0.20 and 0.34 .

No relationship was found between approach and subjective norm. Therefore, the first condition as proposed by Shrout and Bolger (2002) was not met for subjective norm and we had to conclude that subjective norm did not mediate the relationship between approach and the intention to use competency management. Contrary to subjective norm, perceived behavioural control was found to mediate the relationship between approach and the intention to use competency management. The results of the ANOVA showed that the main effect of approach on the intention to use competency management disappeared when adding perceived behavioural control as a mediator, $F(1,409) = 0.04$, $p = 0.84$, $\eta^2 = 0.00$, $CI(\text{diff}) =$ between -0.014 and 0.11 . Again a Sobel (1982) test confirmed the significance of the mediation found, $z = 7.05$, $p = 0.00$. Moreover, the effect of perceived behavioural control on the intention was significant, $F(1,409) = 74.16$, $p = 0.00$, $\eta^2 = 0.15$, $CI(\text{diff}) =$ between 0.26 and 0.42 , thereby fulfilling the fourth condition for mediation.

In sum, the results of the scenario experiment are in line with the results presented in the survey study. The mediating effects of attitude and perceived behavioural control are thus replicated in a more controlled setting. We may conclude that the positive effect of the commitment-approach on the use of competency management by employees is almost completely due to a positive attitude and an increased perceived behavioural control. The role of subjective norm in predicting the use of competency management is, regardless of the approach chosen, negligible.

General discussion

The purpose of these studies was to investigate the influence of commitment- and control-approaches on the use of competency management. The hypotheses, based on the integration of research on the commitment- and control-approaches to human resource management (Gelade and Ivery, 2003; Guest, 1999) with the principles of the TPB (Ajzen, 1985, 1991), were put to test in two studies that yielded consistent results.

The commitment-approach leads to a positive employee attitude towards competency management and to more perceived behavioural control than the control-approach. These positive effects were replicated in the scenario study, which enabled us to draw conclusions concerning the direction of the relationship. Compared to the control-approach, the commitment-approach, by “winning hearts and minds” (Guest, 1999, p. 6), by eliciting organizational citizenship behaviours (Organ, 1988), and extra-role and unrewarded behaviours (Katz, 1964), has led to a more positive attitude towards competency management. Furthermore, using an approach in which participation, trust, and involvement are central aspects will increase the feeling of behavioural control by employees. Perceived behavioural control refers to being able to perform a certain kind of behaviour, as well as to “mastering” a certain kind of behaviour and it is be compatible with Bandura’s (1982) concept of perceived self-efficacy (Ajzen, 1991). It therefore seems likely that the commitment-approach, in which involvement and participation are central aspects, made employees feel confident in their ability to use competency management. Compared to a control-approach, in which decisions are primarily made top-down, a commitment-approach gives employees the feeling that they have got sufficient knowledge and skills to properly use competency management within their work.

Only in Study 2 the commitment-approach had a more positive direct effect on the (intention to) use competency management. The results of Study 1 do, however, point in the direction of the expected effect, since the difference between both approaches with regard to their relationship with behaviour was marginally significant. In comparing these results we need to keep in mind that we measured the actual use of competency management in Study 1 and the intention to use competency management in Study 2. All in all, it seems that involving employees during the implementation of competency management might increase the use of competency management by these employees.

Attitude and perceived behavioural control were furthermore found to mediate the relationship between the commitment-approach and the use of competency management. We may therefore conclude that a positive stance towards competency management as well as a feeling of behavioural control, both caused by the commitment-approach, increases the use of this human resource tool by employees. This finding is in line with our expectations that were based on the ideas of, for example, Arthur (1994) and Guest (1999). Competency management is often used to assess employees, for example for the purpose of performance appraisal. As such, competency management can be regarded as a threat, since it not only reveals ones strengths but ones weaknesses as well. This may cause resistance and uncertainty. Involving employees during the implementation might take away this resistance and uncertainty, thereby positively influencing employee attitude and their perception of behavioural control, and eventually even increasing the use of competency management.

Limitations and future research. Although the present study has resulted in important findings regarding the use of competency management within organizations, the current study has some limitations that should be addressed.

First, the relatively low reliability coefficients for the control-approach and subjective norm warrant attention. Remarks made by participants after filling out the survey made clear that employees experienced some difficulties answering the questions regarding the control-approach. This might have had something to do with the hierarchical distance between employees on the one hand and management/the board on the other.

We expect that the smaller the hierarchical distance between participants and management/the board the more transparent the process of implementation and decision making. Subsequently, the more transparent the process, the easier it is expected to be to answer questions regarding control and decision making.

This line of thought is supported by our data. The α coefficient found in the scenario experiment, in which it was clearly outlined whether the implementation of competency management was carried out under a commitment- or a control-approach, was higher than the one reported in Study 1. Further research should focus on an adjustment of the current measure for the control-approach or even on alternative measures, such as interviews, to make the content more accessible to employees from different hierarchical levels within an organization.

With regard to the low α coefficient for subjective norm we could argue that subjective norm is the weakest component in the TPB (Armitage and Conner, 2001) resulting in lower α coefficients. There might, however, be alternative explanations. One reason for the low α coefficients for subjective norm may be found in the fact that we only used two or three items to construe the scales for subjective norm in each of the studies. Using a small number of items as opposed to using multiple-item scales may have had a negative impact on the scale's reliability (Nunnally, 1978).

Another reason may be found in the concept's operationalization and conceptualization. Ajzen and Fishbein (1980) operationalized subjective norm as the global perception of social pressure to comply (or not to comply) with the wishes of others and it is this operationalization that we adopted in the studies. Ajzen and Fishbein's operationalization implies a rather direct or explicit form of social pressure. Social pressure is, however, rarely exerted this direct or explicit and, therefore, many researchers have argued for a different operationalization of subjective norm (Terry and Hogg, 1996). Others even suggest that there may be different types of norms, like personal, descriptive and injunctive (Cialdini *et al.*, 1991) or moral norms (Beck and Ajzen, 1991). It is clear that there is considerable debate about the concept of subjective norm and therefore we advocate for further research on the concept's operationalization and conceptualization.

A second limitation is related to the cross-sectional design of Study 1. In line with Schippmann *et al.* (2000), we expected that a large percentage of the participants in Study 1 would already be working with competency management. Owing to the fact that measuring intentions in retrospect is impossible we decided to measure behaviour instead. This has resulted in a cross-sectional design. Although it seems safe to assume that one's intention is an important predictor of one's behaviour (van der Zee *et al.*, 2002; van Hooft *et al.*, 2004, for a meta-analytic review see Armitage and Conner, 2001), we recognize that solely measuring intentions in a scenario experiment (as we did in Study 2) does not provide us with sufficient evidence to confirm the link between intentions and behaviour with respect to the use of competency management. Therefore, we argue for future longitudinal research on both the intention to use and the actual use of competency management.

A third limitation lies in the fact that we did not include a sample consisting of (line) managers in our studies. Including (line) managers would have created further insight in the effects of commitment- and control-approaches throughout the entire organization. Moreover, comparisons between employees and (line) managers could have been made with respect to, for example, their attitude towards and their use of competency management.

Our measures of commitment and control are based on a questionnaire of de Caluwé and Vermaak (1999). There are however several other researchers who have focussed on the concepts of commitment and control (Arthur, 1994; Beer *et al.*, 1984). These researchers have proposed several dimensions along which commitment- and control-approaches could be compared. These dimensions include, for example, decentralization, participation, and general training. Although our measures do not fully cover the dimensions proposed by, for example, Arthur (1994) and Beer *et al.* (1984), the items used in our measures do represent most of these dimensions. It would be interesting to examine the relationships between the measures used in the present study and the dimensions as proposed by Arthur and Beer *et al.* in future studies.

Future research should also focus on concepts such as trust, fairness, and procedural justice and their relationship with the variables used in this study. Previous research has shown that the extent to which employees feel fairly treated by their organizations influences an organization member's attitude and behaviour (Lind and Tyler, 1988; Thibaut and Walker, 1975; Tyler, 1999). Given their influence on attitude and behaviour, it is conceivable that concepts such as trust and fairness might influence the relationships between the commitment- and control-approach and the use of competency management. We therefore argue for future research simultaneously focusing on commitment, control, the TPB variables, the use of competency management, and the additional variables mentioned above.

Practical implications. Despite the limitations the results of the studies yield some important practical implications. First, the mediating effect of attitude implies that creating a positive attitude, for example by implementing competency management using a commitment-approach, may substantially increase the use of competency management. Changing one's attitude towards competency management requires persuading employees of the benefits of competency management. This might be accomplished by distributing information and attending workshops. However, we need to keep in mind that there is more to attitude change than simply offering information and attending workshops, since changing one's attitude is a rather complex process. Attitude researchers underline this complexity by recognizing that attitudes are sometimes susceptible and sometimes resistant to change (Fishbein and Ajzen, 1975; Zajonc, 1980). The process of attitude change seems to be influenced by moderators of different kind such as argument quality, recipient knowledge, and consensus information (Petty and Cacioppo, 1986) and by context (Schwarz, 1998). Thus, although we believe that for example distributing information and attending workshops might be a first step in changing employee attitude towards competency management, future research should focus on the conditions under which attitudes towards competency management are changed most effectively.

Second, the mediating effect of perceived behavioural control implies that feelings of mastery over competency management and its applications increases the use of competency management. This implication is in accordance with research on change

related topics that states that individuals are more likely to accept change whenever they have some determination (Deci *et al.*, 1992), or whenever they experience autonomy (Hackman and Oldham, 1976) or perceived ownership (Clegg and Walsh, 2004; Wall *et al.*, 2002). Enhancing feelings of mastery and control during the implementation of competency management might thus increase the use of competency management, at least by employees. To increase perceived behavioural control and, thus to increase feelings of mastery over competency management, training and workshops on competency management might be a useful tool (Gist, 1989; Salas and Cannon-Bowers, 2001).

Taken together, attitude and perceived behavioural control are important factors to consider whenever increasing the use of competency management is one of the organization's goals. Future research should focus on the effects of both the commitment- and the control-approach on the use of competency management by managers and on the role of intentions. All in all, we believe that the findings of the present studies can be very useful in designing interventions aimed at encouraging and increasing the use of competency management in organizations.

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