

Commitment or Control? Human Resource Management Practices in Female and Male-Led Businesses

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Commitment or Control? Human Resource Management

Practices in Female and Male-Led Businesses

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Abstract: This paper investigates the commitment-orientation of HRM practices in female- and male-led firms. A distinction is made between emphasizing commitment or control in the design of HRM practices. To test for gender differences use is made of a sample of 555 Dutch firms. Contrary to what is generally believed it is found that – when controlled for relevant factors related to the business (e.g., firm size, age, sector) – HRM in female-led firms is more control-oriented than that in male-led firms. More specifically, female-led firms are more likely to be characterized by fixed and clearly defined tasks, centralized decision-making and direct supervision of the production process.

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Commitment or Control? Human Resource Management Practices in Female and Male-Led Businesses

Introduction

The way in which human resource management (HRM) practices are designed depends on factors such as sector (Mowday, 1998; Ram, 1999; Curran et al., 1993), business strategy (Schuler and Jackson, 1987; Lengnick-Hall and Lengnick-Hall, 1988; Youndt et al., 1996) and firm size (de Kok and Uhlaner, 2001; Ram, 1999). Because research on HRM is usually conducted in large corporate environments, we probably have a distorted view of how HRM is practiced in small firms. Available studies in the area of entrepreneurship and small business indicate that HRM practices in small firms differ from those in larger companies. In many small firms functional areas such as finance, marketing and production have precedence over HRM (McEvoy, 1984). Also, small firms usually lack time, money and employees to formalize HRM practices (Hornsby and Kuratko, 1990; Deshpande and Golhar, 1994; Marlow and Patton, 1993; Jackson et al., 1989).

It is expected that HRM practices vary even within the small business sector. According to Nooteboom (1993) it is difficult to make general statements about small and medium-sized firms as they are highly diverse. Because the entrepreneurship literature provides evidence in support of gender diversity for a range of dimensions including motivation and psychological traits (Cromie, 1987; Langan-Fox and Roth, 1995; Buttner and Moore, 1997), financial capital (Fay and Williams, 1993; Carter and Rosa, 1998; Verheul and Thurik, 2001), human and social capital (Cromie and Birley, 1992; Dolinsky et al., 1993) and performance (Kalleberg and Leicht, 1991; Du Rietz and Henrekson, 2000; Watson, 2002) there may also be differences between female and male entrepreneurship with respect to the way in which the

business is managed. Nevertheless, relatively few studies have been undertaken to investigate gender differences in organization and management (Brush, 1992; Carter, 1993, Mukhtar, 2002) or HRM (Verheul et al., 2002). This study investigates leadership styles of women and men within small businesses and builds on both leadership and entrepreneurship literature. According to Cogliser and Brigham (2004) there is considerable overlap between the concepts of entrepreneurship and leadership, as well as similarity regarding the study of these concepts. In scientific studies (Ely, 1994; Bass et al., 1996; Eagly et al., 2003) as well as in the popular literature (Helgesen, 1990; Rosener, 1995; Loden, 1985) it has been argued that women and men adopt different leadership or management styles. Still, others claim that the way in which women and men behave in an organizational setting is similar rather than different (Dobbins and Platz, 1986; Powell, 1990)¹. A related discussion concerns the distinction between ‘masculine’ and ‘feminine’ leadership styles, where women and men can adopt both styles (Vecchio, 2002).

Because research on gender differences in leadership (within the context of larger firms) has yielded ambivalent results, criticism has arisen regarding its study. Vecchio (2002) argues that studies focusing on gender and leadership are subject to stereotype and simplistic views and often ignore contextual influences. Likewise, Butterfield and Grinnell (1999) refer to the need to develop a new research agenda in the area of gender, management and leadership.

The contribution of the present study is threefold. First, whereas most studies focus on management within large firms (Mukhtar, 2002), this study investigates HRM within the context of small firms. In small firms the entrepreneur (owner-manager) often dictates the organizational structure and makes decisions concerning HRM practices so that structure and behavior are largely intertwined. Second, the study applies the distinction between the tradition (control) and the high commitment work systems to the world of small business, comparing the degree of commitment-orientation of HRM in businesses led by women and

men. Following the work of Beer et al. (1984), Walton (1985), Arthur (1992; 1994) and Godard (1998), a distinction is made between HRM practices that focus on enhancing employee commitment and practices that increase control of the owner-manager over employees and the production process². These two types of HRM practices are considered the extremes on a continuum. Finally, this paper takes into account the organization context by controlling for a range of factors such as firm size, age, sector and strategy. Generally, female leaders are said to be more commitment-oriented than their male counterparts (Chaganti, 1996; Bass et al., 1996; Yammarino et al., 1997). However, not all studies take into account contextual factors that may be confounded with gender³, possibly leading to spurious results.

The paper is structured as follows. Section two introduces the control-commitment continuum and its dimensions. Section three discusses the influence of gender on HRM as well as the relationships between the business profile, HRM and gender. Sections four and five are devoted to the methodology and the results, respectively. An exploratory factor analysis is used to construct HRM scales which are included in the regression analysis to test the main hypothesis, i.e., that HRM practices in female-led firms are more commitment-oriented than those in male-led firms. Section six concludes, summarizing and discussing the most important findings and limitations of the study.

A Control-Commitment Continuum

Commitment and control HRM systems

The distinction between commitment and control can be traced back to McGregor's (1960) Theory X and Y, pointing at the tension between the instrumental rationality of bureaucratic systems and the affective needs of employees. Similar classifications include *autocratic* versus *democratic* decision-making, where a democratic or participative style is characterized by consultation and participation of employees in decision-making (Lewin and Lippitt, 1938);

transactional versus *transformational* leadership (Bass et al., 1996), where transactional leadership sees job performance as a series of transactions with employees and a transformational style aims at aligning the self-interest of employees and group goals through ‘motivation by inclusion’ (Bass, 1985); and *task-oriented* (initiation of structure) versus *interpersonal-oriented* (consideration) leadership (Bales, 1950; Blake and Mouton, 1964), where managers with an interpersonal style support their employees and provide them with relevant information and task-oriented leaders want their employees to follow the rules and procedures and will explicitly formulate work roles and tasks. Other relevant classifications include that of mechanistic versus organic organizations (Burns and Stalker, 1961); direct control versus responsible autonomy (Friedman, 1977) and the *tell-sell-consult-join* continuum of Tannenbaum and Smith (1958)

Based on the traditional versus high-commitment work system as proposed by Beer et al. (1984), Walton (1985) explicitly distinguishes between commitment and control strategies in the organization. Others have applied this distinction to the context of HRM (Guest, 1987; Arthur, 1992, 1994; Godard, 1998). Commitment and control are two distinct ways in which employee behaviors and attitudes can be influenced (Arthur, 1994). Control HRM systems are characterized by a division of work into small, fixed tasks for which individuals can be held accountable and direct supervision (Walton, 1985). Control systems aim at reducing labor costs and improve efficiency, enforcing employee compliance through rules and procedures (Walton, 1985; Eisenhardt, 1985; Arthur, 1994). Commitment HRM systems are characterized by managers who facilitate rather than supervise. This type of system emphasizes employee development and trust, establishing (psychological) links between organizational and personal goals, i.e., attitudinal commitment (Allen and Meyer, 1990).

It has been argued that high-commitment HRM has a positive effect on firm performance (Huselid, 1995; Huselid et al., 1997; MacDuffie, 1995; Ichniowski et al., 1997). Though

important, establishing a link between employee commitment and firm performance is not within the scope of the present paper. This study takes a descriptive rather than a normative approach to HRM, and does not pass judgment on whether commitment-oriented or control-oriented practices are more valuable for firm performance.

Dimensions of the control-commitment continuum

Different sets of HRM practices can be distinguished within the HRM system including practices aimed at developing competences of employees; increasing performance motivation; enhancing the opportunity to participate or perform; and those aimed at increasing employee commitment (Guest et al., 2004). This study proposes a dichotomy of HRM practices, i.e., those aimed at increasing control over employees and those aimed at enhancing employee commitment. To illustrate, Table 1 presents a range of HRM dimensions as proposed by Beer et al. (1984) and Arthur (1994), and which can be designed to stimulate employee commitment or to have more control over employees. Control and commitment can be seen as two extreme sides of a continuum and HRM dimensions will differ with respect to their location on this continuum, i.e., their degree of commitment-orientation.

Table 1 about here

Most HRM dimensions can be clearly divided into a control and commitment ‘side’. For example, it may be expected that commitment-oriented HRM is related to making work more attractive, e.g., by way of job rotation or including different tasks. Indeed, Whittington et al. (2004) find some evidence for a relationship between transformational leadership and job enrichment. However, commitment and control are not necessarily mutually exclusive. Indeed, in practice separate HRM practices may not add up to a coherent system where they are all commitment-oriented or control-oriented (Duberley and Walley, 1995). Certain

practices may enhance both control and commitment. For example, explicit attention for the learning process of employees may improve both commitment (employees feel valued and are willing to put in effort) and control (learning as a tool for pursuing cost reduction)⁴. Similarly, a highly formalized organizational structure increases control over employees and the production process, but may also enhance commitment through ensuring equal and fair treatment of employees and providing opportunities for training and development. This study investigates the commitment-orientation of separate HRM practices as well as that of the overall HRM system.

Determinants of the Commitment-Orientation of HRM

Gender and the HRM system

Instrumental, transactional, task-oriented or autocratic styles are often referred to as ‘masculine’ leadership styles, whereas interpersonally oriented, charismatic, transformational or democratic styles tend to be labeled as ‘feminine’ styles that allow for participation and the sharing of power and information⁵. Most studies argue that women are more likely than men to embody what is described as the ‘feminine’ style (e.g., Chaganti, 1986; Bass et al., 1996; Yammarino et al., 1997; Druskat, 1994). However, Mukhtar (2002) does not find support for a comprehensive ‘feminine’ leadership style among women. According to Eagly and Johnson (1990) gender differences in leadership style are less pronounced in organizational studies (where the context is similar for women and men) than in laboratory studies and assessment studies using students or employees who do not have a leading role. Because the ‘feminine’ leadership style – characterized by decentralization, participation and informal organization – resembles commitment-oriented HRM, the following hypothesis is formulated:

H1: HRM systems in female-led firms are more commitment-oriented than in male-led firms

Gender and HRM dimensions

For gender differences with respect to the separate dimensions of the HRM system (such as those proposed in Table 1) there is scarce evidence, although it has been argued that female managers are more likely to let employees participate in decision-making (Jago and Vroom, 1982; Neider, 1987; Cromie and Birley, 1991; Stanford et al., 1995) and tend to delegate responsibilities and emphasize relationships rather than hierarchy (Buttner, 2001; Brush, 1992; Fischer and Gleijm, 1992). Nevertheless, Mukhtar (2002) finds that female owner-managers are less likely to consult employees on a regular basis and that they are less inclined to allow their employees to make independent decisions. According to Eagly et al. (2003) women may combine elements from the commitment- and the control oriented style. In line with Hypothesis 1 this study assumes that separate HRM practices in female-led firms tend to be commitment-oriented rather than control-oriented.

Organization context, gender and HRM

It is well-known that organization context plays a role in determining structure (Lawrence and Lorsch, 1967; Mintzberg, 1979; Donaldson, 1997). Moreover, female-led firms may differ from male-led firms with respect to the organization context. To rule out spurious effects and to be able to draw clear conclusions in terms of gender effects this study includes a range of controls.

Firm size is taken into account because women usually lead smaller firms than men (Carter et al., 1997; Fischer et al., 1993) and firm size has been found important for determining HRM (Hornsby and Kuratko, 1990; Deshpande and Golhar, 1994; Marlow and Patton, 1993; Jackson et al., 1989). According to Mintzberg (1979) larger firms are characterized by more specialized jobs, a more formal structure and a higher degree of decentralization.

Firms in different sectors may be characterized by different employment cultures (Curran et al., 1993). Women tend to have a preference for *service firms* (OECD, 1998) where the relationship between customers and employees is the key to the production process and employee commitment is considered important for customer loyalty, satisfaction and performance (Heskett et al., 1997; Peccei and Rosenthal, 1997; Hall, 1993; Maister, 1997; Ram, 1999).

Business strategy is found to influence HRM (Schuler and Jackson, 1987; Lengnick-Hall and Lengnick-Hall, 1988; Youndt et al., 1996) and women may adopt different strategies than men. Women tend to emphasize quality, operate in niche markets, produce tailor-made products (Chaganti and Parasuraman, 1996; Brush, 1992) and are less likely to strive after growth (Du Rietz and Henrekson, 2000; Rosa et al., 1996). A growth strategy usually leads to the development of more formal HRM practices (Thakur, 1999; Matthews and Scott, 1995).

With respect to *firm age* it may be argued that during the life course of the firm different problems arise, resulting in a change in desired management skills, priorities, and organization structure (Kazanjian, 1988; Kimberly and Miles, 1980; Smith et al., 1985).

Finally, women are more likely to be *part-time* entrepreneurs than men (Brush, 1992; Goffee and Scase, 1995), and it can be expected that decentralization and employee commitment are more important in firms where the owner-manager is not always present to supervise the production process.

Methodology

Data collection and sample characteristics

A sample is drawn from a Dutch panel of small firms participating in a longitudinal study conducted by EIM Business and Policy Research. Every four months approximately 2,000

entrepreneurs participate in this panel. The participants are selected from a representative sample of the Dutch Chamber of Commerce. The panel study registers basic information on the business and its owner, collected each year using a questionnaire, and information on attitudes, behaviors and performance of small firms, collected three times a year using telephone interviews.

The dependent variable HRM is measured by a range of questions available in the panel questionnaire which are grouped into scales of HRM activities by way of exploratory factor analysis. The information on HRM was assembled in different rounds in the period between 2000 and 2001. Measurement of HRM practices is based largely on self-ratings of the respondents. According to Malloy and Janowski (1992) this may not be a problem as they find that self-ratings of leadership styles and perceptions of others tend to be relatively similar.

The organization context variables are measured in 1998 to ensure an adequate direction of causality between HRM and the independent variables in the analysis. Because information was gathered in different rounds, the number of respondents for which information is available differs per variable. Table 2 briefly describes the independent variables.

Table 2 about here

Thus far we did not pay attention to the definition of an entrepreneur. Traditionally, an entrepreneur has been perceived as an innovator (Schumpeter, 1934); someone who takes risk (Knight, 1921); or someone who is able to perceive profit opportunities (Kirzner, 1979). This study does not emphasize the different roles of the entrepreneur but takes a broader perspective, and equates entrepreneurship with owning and managing a business (van Stel, 2005).

The interviews are conducted with the owner or managing director of the business. Often a small firm has a single owner who is the general manager (i.e., an owner-manager). For the EIM panel this is true for about 50 percent of all enterprises with less than 100 employees. In addition, 35 percent has two owners and 10 percent has more than two owners. The number of respondents that participated (at least once) in the panel, and for which information is available on gender, amounts to 3431 of which 3015 are male and 416 female. With a percentage of about 12 percent women are relatively underrepresented, in particular if you compare this percentage to the share of female entrepreneurs of about one-third in the Netherlands and worldwide⁶. The relatively low share of women in the sample may be related to the fact that the data sample is set up to include a minimum number of respondents per size class, whereas in general smaller firms (<10 employees) prevail and larger firms only account for a relatively small percentage of all firms (EIM, 2007). The percentage of women in (top) management of larger companies is usually lower than in owner-managed firms (Oakley, 2000; Eagly and Carli, 2003). The size class distribution of the panel is as follows: 0-10 employees (37,9 percent), 11-50 employees (36,8 percent) and 51 or more employees (25,3 percent).

For the final analysis the sample amounts to 555 respondents (i.e., who are owner-manager or managing director) of whom 524 are male and 31 female. For these respondents information is available for all relevant variables in the different measurement rounds. The relatively low percentage of women in this sub-sample (about 6 percent) vis-à-vis that in the initial sample (about 12 percent) may be related to the fact that the sub-sample is characterized by a lower percentage of service firms (38 versus 45 percent) and of small firms with less than ten employees (27 versus 38 percent).

Data Analysis and Results

Factor analysis and scale formation HRM

Exploratory factor analysis (Principal Components Analysis, Varimax rotation) is used to develop meaningful scales from the HRM questions. These scales are included as dependent variables in the analyses examining gender effects on the commitment-orientation of HRM⁷.

Based on the cut-off point of Eigenvalue = 1 the factor analysis yields a seven-factor solution. Results are presented in Table 3. The first factor consists of items that belong to the dimensions of *informal structure* and *learning*. Based on the fact that these are two separate items in the literature (see Table 1) and they are easy to interpret on the basis of their content, both dimensions are included in the analysis. Factor two clearly shows the *decentralization* dimension and factors three to seven show the *general training*, *broadly defined jobs*, *employee participation*, *indirect supervision* and *task differentiation* dimensions, respectively.

Table 3 about here

The low Cronbach Alpha's for the last two dimensions (0.45 and 0.31, respectively) suggest that the items loading on these factors are not homogeneous and that the two scales are unreliable. This is why separate items of these scales are selected for further analysis. The choice for the item '*employees' jobs are interchangeable*' is motivated by the fact that it is expected that in firms characterized by high levels of commitment, employees are easily persuaded and able to take on jobs of their colleagues. Pinning down the order of tasks as well as the specification of outcomes (items 2 and 3) are not (directly) related to the individual job range. Item 1 ('*employees do not have specific tasks*') may erroneously have been interpreted as a lack of structure instead of work that is comprised of different tasks⁸. For the dimension

of *task differentiation* the item *'employees have multiple tasks'* has been selected because it best captures task differentiation, whereas the item *'work is diverse'* may have been interpreted to refer to the whole firm rather than to individual tasks⁹.

The results of the exploratory factor analysis overlap with several of the HRM dimensions as proposed by Beer et al. (1984) and Arthur (1994), and also correspond with some of the classical measures in the organization theory. For example, Hage and Aiken (1967) distinguish between two dimensions of centralization: participation in decision-making and hierarchy of authority. They also operationalize formalization in terms of job codification and rule observation.

On the basis of the results of the exploratory factor analysis and taking into account the content value of the selected items, eight commitment variables are constructed as an unweighted average of the underlying items. In addition, a *general* commitment variable (COMMITM) is constructed as an unweighted average of the eight commitment variables. A description of the commitment variables and their measurement is presented in Table 4.

Table 4 about here

Descriptive statistics

Table 5 presents Pearson correlations between the main variables in this study. Gender correlates with firm size and age, suggesting that women lead relatively small and young firms. Also, it seems that women are less likely to pursue a focus strategy. Gender is negatively correlated with decentralization (DECENTR), task differentiation (TASKDIFF) and overall commitment (COMMIT), suggesting a control-orientation of women on these dimensions.

We also see relatively high correlations of firm size with attention paid to learning (LEARN), informal structure (INFORMAL), employee participation (PARTICIP) and general training (TRAINGEN), indicating that larger firms are characterized by a formal structure with a well-developed learning environment. The degree to which the HRM systems are commitment-oriented (COMMITM) appears to be related to gender, sector and strategy. This indicates that commitment orientation is present in service firms, firms led by men, and in firms pursuing quality, focus and growth strategies.

Using consistency among HRM practices, it would be expected that all commitment variables are positively correlated. However, this is not the case, which indicates a lack of coherency within the HRM system for the firms in the sample.

Table 5 about here

Regression analysis

Table 6 presents the results of the OLS regression analyses explaining commitment-orientation of HRM for the separate dimensions as well as for the overall system. A distinction is made between taking into account all explanatory variables in the first row, organization context only in the second row, and gender only in the third row.

Table 6 about here

When including all explanatory variables we see that seven out of the eight gender effects on commitment-orientation of HRM are negative, albeit that only three are significantly negative. Combining the gender effects on the separate HRM dimensions leads to a significant negative effect of gender on the commitment-orientation of the overall HRM

system (COMMITM). Hence, HRM practices in female-led firms are more control-oriented than in male-led firms, which is opposite to what we expected. More specifically, female-led firms are characterized by a relatively low level of task differentiation and a relatively high degree of centralization as compared to male-led firms. In addition, there is a tendency for women to exercise a more direct form of supervision where they more closely watch over the production process.

Although gender is significantly correlated with firm size, age and the focus strategy (see Table 5), these variables do not appear to mediate the relationship between gender and HRM.

The absence of an effect of firm size on the commitment-orientation of the HRM system appears due to contradicting effects of firm size on the commitment-orientation of the separate HRM dimensions, of which three are positive (PARTICIP, LEARN, TRAINGEN) and two are negative (INFORMAL, INDIRECT), canceling out its effect on the HRM system as a whole. Hence, whereas smaller firms tend to be characterized by relatively high levels of employee participation, learning and training, they also appear to have an informal structure where employees work independently without direct supervision.

Service firms are more likely to adopt commitment-oriented HRM practices than non-service firms, particularly in terms of decentralization and creating a learning environment. If employees are valuable in terms of their contact with the customers it is important that they are able to approach and build up a relationship with the customer independently. Employees need to learn about this within the context of the business.

Time invested in the business negatively affects the degree of decentralization and learning, i.e., firms where the owner-manager is more likely to be present are characterized by centralization and limited learning. Hence, it appears that decentralization and learning go hand in hand, i.e., opportunities for learning are derived from having the freedom to carry out

the job the way you want to, allowing for mistakes, which then can be input for learning when the employee is provided with feedback. Finally, a quality strategy appears to require indirect supervision, whereas a growth strategy involves participation of employees in strategic decision-making, a well-developed learning environment with explicit attention for learning and training opportunities, and a relatively formalized structure providing clear guidelines for employees.

Conclusion and Discussion

The main finding of this study is that female-led firms are characterized by a relatively high degree of centralization, clear and fixed tasks and, to some extent, direct supervision (as compared to male-led firms). These results do not support the general assumption that the leadership style of women is more commitment-oriented than that of men, rather women appear more control-oriented than men. The control-orientation of women in this study corresponds with the findings of Mukhtar (2002) who finds that female owner-managers are: “more autocratic, less consultative, less willing to allow employees to make independent decisions and more reluctant to delegate authority to others”. Mukhtar (2002, p. 307) describes the female management style as “*handling everything myself*”.

This control-orientation of women may to some extent be explained by gender differences in risk taking propensity (Verheul and Thurik, 2001). If women are less willing to take risk than men, they may also be less willing to involve others in the decision-making process as practicing direct control over others reduces (perceived) uncertainty. In addition, women are often perfectionists (Burke, 1999) with relatively high standards that do not only apply to themselves, but also to their personnel. In this respect, control over employees is a way of verifying that they perform a good (or perfect) job.

The results of this study should be interpreted with caution. There may be other factors that are related to both gender and HRM that have not been controlled for in the analysis. For example, women may be involved in specific type of firms. Contingency theory argues that organizational structuring and type of control in a firm depends on factors such as technology used and the level of environmental uncertainty. Accordingly, gender effects may be ascribed to the fact that women are less likely involved in high-tech firms and in sectors with unstable environments (with these factors influencing HRM). Certainly, a business in an uncertain environment benefits from a flexible structure to adapt to changing market circumstances. This flexibility is more likely to be feasible in a business with a high commitment-orientation. Further research should explore the mediating effects of environmental and technological complexity.

Based upon the views of Beer et al. (1984), Walton (1985) and Arthur (1992, 1994), the present study implicitly assumes that control and commitment are two sides of a single continuum. However, it is important to investigate whether this actually is the case. Piercy et al. (2001) conclude that, next to a higher level of behavioral control, female sales managers also create more organizational commitment in their teams. This may be an indication that control and commitment are not mutually exclusive. A distinction could also be made between different types of control as is done by e.g., Harzing (1999) and Snell (1992). Accordingly, HRM practices may be classified along different lines. Although the distinction between control and commitment is comprehensible, it may be expected that in practice there are more sophisticated employment models (Burton, 2001)¹⁰.

The sample includes female and male (owner)-managers in the Netherlands. As it may be expected that gender differences in leadership or management styles differ internationally (Osland et al., 1998; Gibson, 1995), the results may not be generally applicable. For instance, Hofstede (2001) finds that, as compared to other countries, the Netherlands are characterized

by a relatively low degree of 'masculinity'. The relative 'feminine' culture in the Netherlands is likely to affect the extent to which women and men differ with respect to management of their employees. Nevertheless, if gender effects hold up in follow-up research, showing that women have great difficulty delegating responsibilities and that they hold on to a rigid and centralized structure, it can be argued that women themselves are inhibiting the growth of their firms, independent of their growth wishes.

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Tables

Table 1: HRM dimensions on the Commitment-Control Continuum

HRM Dimension	Commitment	Control
Beer et al. (1984)		
Job scope	Broadly defined jobs	Narrowly defined jobs
Job assignment	Job rotation	Job specialization
Basis of payment	Skills mastered	Job content
Supervision	Indirect (self- or peer supervision)	Direct (close supervision)
Degree of formalization ^a	Flexible, informal organization	Formal procedures
Career development / learning ^b	Structured learning (explicit attention)	'Learning-by-doing'
Employee role	Team member	Individual
Information sharing	Shared data	Ignorance of employees
Status symbols	Differences minimized	Reinforces hierarchy
Employee participation	High	Low
Arthur (1994)		
Decentralization	High	Low
Training	General	Specific
Skill ^c	High share of people engaged in core activities of the firm	Low share of people engaged in core activities of the firm
Social activities	Important	Not important
Average employment costs	High	Low
Employee benefits	Yes / High	No / Low
Incentive payments	No / Low	Yes / High

Notes: ^a Beer et al. (1984, p. 167) distinguishes between '*Assignment of overtime or transfer by rule book*' and '*Team assigns members to cover vacancies in flexible fashion*'. Here this distinction is extended to formalization. Not only vacancies and/or overtime can be dealt with through more formal or informal practices, this is also true for other organizational practices. For instance, Arthur (1994) refers to formal grievance procedures (from the perspective of due process). ^b In Beer et al. (1984) a distinction is made between '*no career development*' and '*concern for learning and growth*'. Because in the contemporary knowledge economy learning has become inevitable, here a distinction is made between structured learning (or explicit attention paid to learning) and learning by doing (i.e., learning related to and as part of the job). ^c Discussing skill, Arthur (1994, p. 676) refers to the number of maintenance and craft workers (as a percentage all mill employees). Here we broadened it to people engaged in core activities versus the total number of people employed in a firm.

Table 2: Description of Independent Variables

Variable	Description	Measurement	<i>N</i>	Mean	Std. dev.
Gender	Is the entrepreneur female or male?	Dummy variable: female = 1 and male = 0	3431	0.12	0.33
Logsize	Logarithm of the number of people employed in the firm ^a	Max size = 2608, min size= 0	2365	34.73	77.02
Firmage	Number of years the firm has been in existence	Response categories: 1=0-2 years, 2=3-5 years, 3=6-10 years, 4= more than 10 years	2404	3.45	0.87
Hours	Number of hours per week invested in the business	Response categories: 1=1-20 hours, 2=21-40 hours, 3=41-60 hours, 4= more than 60 hours	1491	3.11	0.64
Service	Is the firm located in the service sector?	Dummy variable: services = 1 and non-services = 0	2063	0.44	0.50
Lowprice	To what extent adopts the business a low-price strategy?	Response categories: 1=none, 2= limited extent, 3=some extent, 4=large extent, 5=very large extent	2135	2.63	1.15
Quality	To what extent adopts the business a high-quality strategy?	Response categories: 1=none, 2=limited extent, 3=some extent, 4=large extent, 5=very large extent	2256	4.30	0.83
Focus	To what extent adopts the business a (differentiation) focus strategy?	Response categories: 1=none, 2=limited extent, 3=some extent, 4=large extent, 5=very large extent	2151	3.67	1.17
Growth	To what extent adopts the business a growth strategy?	Response categories: 1=none, 2=limited extent, 3=some extent, 4=large extent, 5=very large extent	2368	2.26	0.70

^a The number of people employed includes the owner(s), manager(s), working family members, fulltime and part-time employees as well as helpers or assistants. Because it is expected that the effect of an increase in size on HRM is less than proportional, the logarithm of the number of employees is taken as a measure of firm size. Six firms have no employees. Because the logarithm of employed persons is used, these firms are (automatically) excluded from the analysis.

Table 3: Factor Analysis Matrix (Principal Component Analysis, Varimax Rotated), N=833

Dimensions and items	Factors						
	1	2	3	4	5	6	7
Participation							
1: Employees involved in recruitment/selection	0.20				0.81		
2: Employees involved in employee assessment					0.86		
3: Employees are involved in decision-making	0.43	0.31		0.20	0.26	-0.16	
Decentralization							
1: Employees ‘determine’ their own decisions ^a		0.82				0.14	
2: Employees make their own decisions ^a		0.84				0.13	
3: Employees determine their own work pace		0.68				0.20	
4: Employees control their own work	-0.12	0.36		-0.37		-0.20	0.34
Indirect supervision							
1. Employees work independently		0.18				0.82	
2: Employees fulfil their tasks without direct supervision		0.29				0.77	
Informal structure							
1: There are no written rules/procedures	-0.58		-0.18	0.13			0.11
2: Consultation does not occur via fixed rules	-0.57		-0.17	0.35			0.15
3: Jobs/tasks (contents) are not written down	-0.71			0.26			0.15
Broadly defined jobs							
1: Employees do not have specific tasks				0.53			
2: Order of tasks is not determined in advance		0.28		0.60			0.14
3: Outcomes are not specified in advance	-0.34			0.56		0.22	
4: Employees’ jobs are interchangeable				<u>0.55</u>	-0.15		
Task differentiation							
1: Work is diverse				0.12		0.14	0.59
2: Employees have multiple tasks							<u>0.76</u>
Learning							
1: Employees are provided with feedback	0.52	0.19				-0.11	0.32
2: Explicit attention for employee learning	0.59					0.13	0.17
3: Number of employees with training	0.64		0.17		0.28		
General training							
1: Management training	0.30		0.64		0.19		
2: Social and individual development training	0.18		0.85				
3. Team building training			0.83	-0.11			
Eigenvalues	3.65	2.81	1.66	1.53	1.25	1.19	1.07
Cronbach’s Alpha ^b	0.58	0.76	0.72	0.45	0.72	0.67	0.31
	0.69						

All underlying items are questions with three response categories ascending with respect to commitment-orientation, i.e., a higher score represents a higher commitment-orientation on a particular dimension. Only factor loadings >0.1 are presented. Factor loadings >0.5 are highlighted in bold. For the dimensions *broadly defined jobs* and *task differentiation* the underlined items are selected.

^a The distinction between these two items is not completely clear. It may be that item 1 refers to decision-making at a higher hierarchical level where employees make their own decisions, but also determine with respect to which area they can make decisions. The inclusion of both items in the analysis is justified by their similar factor loadings.

^b Cronbach’s Alpha is computed including the items per factor with a loading of 0.5 and higher. Exceptions include the first factor, where two HRM dimensions are constructed: informal structure (Alpha=0.58) and learning (Alpha=0.69) and Factors 4 and 7 where the underlined items are selected on the basis of their content.

Table 4: Description and Measurement of HRM Commitment Variables

Variable	Description	Measurement ^a
PARTICIP	Degree to which employees can influence strategic decision-making, surpassing their immediate tasks	Unweighted average of two items: 'Employees involved in recruitment/selection'; 'Employees involved in employee assessment'
DECENTR	Degree to which employees are able to fulfill their tasks autonomously	Unweighted average of three items: 'Employees determine their own decisions'; 'Employees make their own decisions'; 'Employees determine their own work pace'
INDIRECT	Degree to which supervision is indirectly structured	Unweighted average of two items: 'Employees work independently'; 'Employees fulfill their tasks without direct supervision'
INFORMAL	Degree to which the business is informally structured	Unweighted average of three items: 'There are no written rules/procedures'; 'Consultation does not occur via fixed rules'; 'Jobs/tasks (contents) are not written down'
BROADJOB	Degree to which jobs are broadly defined	Based upon one item: 'Employees' jobs are interchangeable'
TASKDIFF	Degree to which tasks are differentiated	Based upon one item: 'Employees have multiple tasks'
LEARN	Degree to which explicit attention is paid to the learning of employees	Unweighted average of three items: 'Employees are provided with feedback'; 'Explicit attention for employee learning'; 'Number of employees with training'
TRAINGEN	Degree to which training is general	Unweighted average of three items: 'Management training'; 'Social and individual development training'; 'Team building training'
COMMITM	Degree to which HRM systems are commitment-oriented	Unweighted average of the eight commitment HRM variables PARTICIP; DECENTR; INDIRECT; INFORMAL; BROADJOB; TASKDIFF; LEARN; TRAINGEN

^a All items have three response categories (ascending with respect to commitment-orientation). See Table 3 for details on construction of the commitment variables.

Table 5: Pearson Correlation between All Variables in the Sample^a

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. gender	1																	
2. logsize ^b	-0.12***	1																
3. firmage	-0.08**	0.25***	1															
4. hours	-0.05	-0.02	-0.07	1														
5. service	0.04	-0.15***	-0.04	-0.09**	1													
6. lowprice	-0.03	0.05	-0.09**	0.005	-0.05	1												
7. focus	-0.08**	0.01	0.006	0.02	0.06	0.06	1											
8. quality	-0.07	0.07	-0.05	0.07	-0.02	0.04	0.33***	1										
9. growth	0.05	0.10**	-0.22***	0.06	-0.001	0.07	0.05	0.12***	1									
10. PARTICIP	-0.06	0.30***	0.05	-0.06	-0.008	0.07	0.04	-0.001	0.16***	1								
11. DECENTR	-0.09**	-0.02	-0.04	-0.09**	0.14***	-0.04	0.10**	0.06	0.007	-0.03	1							
12. INDIRECT	-0.06	-0.14***	-0.01	0.000	0.04	-0.03	0.004	0.08	-0.005	-0.13***	0.33***	1						
13. INFORMAL	-0.005	-0.42***	-0.06	0.02	0.04	-0.02	-0.02	-0.03	-0.14***	-0.23***	0.006	0.06	1					
14. BROADJOB	-0.04	-0.06	-0.08	-0.01	-0.04	0.07	0.11***	0.11**	0.004	-0.10**	0.09**	0.07	0.18***	1				
15. TASKDIFF	-0.11***	-0.07	-0.02	0.06	0.07	0.005	0.07	0.07	0.03	-0.09**	0.07*	0.12***	0.14***	0.12***	1			
16. LEARN	-0.02	0.47***	0.03	-0.12***	0.12***	0.01	0.08*	0.04	0.16***	0.30***	0.13***	-0.004	-0.44***	-0.03	0.003	1		
17. TRAINGEN	-0.04	0.29***	0.01	0.01	0.01	0.06	-0.02	-0.04	0.15***	0.15***	0.07*	0.05	-0.36***	-0.10**	0.05	0.34***	1	
18. COMMITM	-0.14***	0.06	-0.05	-0.05	0.12***	0.04	0.12***	0.10**	0.10**	0.19***	0.55***	0.48***	0.19***	0.47***	0.51***	0.33***	0.34***	1
<i>N</i>	555																	
Mean	0.06	2.95	3.61	3.16	0.38	2.67	3.75	4.36	2.30	1.36	2.28	2.63	1.83	2.24	2.34	2.51	2.00	2.15
Std. Deviation	0.23	1.07	0.74	0.58	0.49	1.07	1.04	0.71	0.65	0.48	0.63	0.55	0.63	0.70	0.67	0.48	0.58	0.23

* Coefficient is significant at the 0.10-level (2-tailed); ** Coefficient is significant at the 0.05-level (2-tailed); *** Coefficient is significant at the 0.01-level (2-tailed).^a *N*=555, male: 524 and female: 31.^b Firm size is measured as the logarithm of the number of employees.

Table 6: Regression Analyses Explaining Commitment-Orientation of HRM^a

HRM	Regression	Constant	Gender	Business Profile								Adjusted R ²	F-stat
				logsize	firmage	hours	Service	lowprice	quality	focus	growth		
PARTICIP	All variables	0.92***	-0.08	0.13***	0.002	-0.05	0.03	0.02	-0.03	0.02	0.10***	0.103	8.10***
	Business profile	0.89***	.	0.13***	0.004	-0.05	0.03	0.02	-0.03	0.02	0.10***	0.104	9.01***
	Gender	1.37***	-0.13	.	.	.	.	.	.	.	.	0.002	2.15
DECENTR	All variables	2.46***	-0.27**	-0.001	-0.04	-0.10**	0.16***	-0.03	0.03	0.05*	0.003	0.033	3.07***
	Business profile	2.37***	.	0.005	-0.04	-0.10**	0.16***	-0.03	0.03	0.05*	-0.003	0.025	2.79***
	Gender	2.29***	-0.25**	.	.	.	.	.	.	.	.	0.006	4.56**
INDIRECT	All variables	2.57***	-0.17*	-0.08***	0.02	-0.01	0.02	-0.01	0.08**	-0.02	0.01	0.019	2.17**
	Business profile	2.52***	.	-0.08***	0.02	-0.006	0.02	-0.01	0.08**	-0.02	0.006	0.015	2.07**
	Gender	2.64***	-0.14	.	.	.	.	.	.	.	.	0.002	1.85
INFORMAL	All variables	2.65***	-0.13	-0.25***	0.02	0.01	-0.02	0.003	0.01	-0.008	-0.09**	0.177	14.22***
	Business profile	2.60***	.	-0.25***	0.03	0.01	-0.02	0.003	0.01	-0.006	-0.09**	0.176	15.80***
	Gender	1.83***	-0.01	.	.	.	.	.	.	.	.	-0.002	0.02
BROADJOB	All variables	2.12***	-0.11	-0.04	-0.06	-0.03	-0.07	0.04	0.08*	0.06*	-0.02	0.017	2.08**
	Business profile	2.09***	.	-0.04	-0.06	-0.03	-0.07	0.04	0.08*	0.06*	-0.02	0.018	2.24**
	Gender	2.25***	-0.12	.	.	.	.	.	.	.	.	0.000	0.85
TASKDIFF	All variables	1.92***	-0.33***	-0.05	0.001	0.06	0.09	0.001	0.04	0.03	0.03	0.016	2.01**
	Business profile	1.81***	.	-0.04	0.006	0.07	0.08	0.003	0.05	0.03	0.03	0.005	1.35**
	Gender	2.36***	-0.32***	.	.	.	.	.	.	.	.	0.011	6.88***
LEARN	All variables	1.98***	0.06	0.23***	-0.05*	-0.08***	0.17***	-0.009	-0.01	0.03*	0.07***	0.276	24.46***
	Business profile	2.00***	.	0.23***	-0.05*	-0.08***	0.18***	-0.01	-0.01	0.03*	0.08***	0.277	27.48***
	Gender	2.52***	-0.03	.	.	.	.	.	.	.	.	-0.002	0.13
TRAINGEN	All variables	1.53***	-0.05	0.17***	-0.03	0.02	0.07	0.02	-0.07*	-0.005	0.11***	0.100	7.77***
	Business profile	1.52***	.	0.17***	-0.03	0.02	0.07	0.02	-0.07*	-0.004	0.11***	0.100	8.72***
	Gender	2.01***	-0.10	.	.	.	.	.	.	.	.	0.000	0.93
COMMITM	All variables	2.02***	-0.14***	0.01	-0.02	-0.02	0.06***	0.004	0.02	0.02*	0.03*	0.049	4.14***
	Business profile	1.97***	.	0.02	-0.01	-0.02	0.06***	0.004	0.02	0.02**	0.03	0.032	3.30***
	Gender	2.16***	-0.14***	.	.	.	.	.	.	.	.	0.017	10.72***

^a Coefficient is significant at 0.10-level (*), 0.05-level (**), 0.01-level (***). ^a N=555 (male=524, female=31).

¹ Nevertheless, the meta-analysis of Dobbins and Platz (1986) includes only 17 studies (Eagly and Carli, 2003).

² Beer et al. (1984) refer to the traditional work system versus the high-commitment work system. Arthur (1992) distinguishes between cost reduction and commitment maximizing workplace systems.

³ This study refers to gender differences as a function of socialization ('nurture'), rather than as a function of biology ('nature'). Nevertheless, gender is measured in terms of the biological sex of the owner-manager of a business. For a detailed discussion of the distinction between gender and sex, see Korabik (1999).

⁴ Nevertheless, Zhu et al. (2005) find that CEOs who use a transformational style are more likely to adopt human-capital enhancing HRM.

⁵ Note that this is stereotyping and that the dichotomies of leadership styles do not necessarily coincide with biological sex.

⁶ This information is derived from the OECD Labor Force Surveys.

⁷ Note that construction of the HRM scales is based on a total number of observations of 833 for which information was available on HRM.

⁸ Combining the items '*Employees do not have specific tasks*' and '*Employees' jobs are interchangeable*' into one scale does not lead to a reliable result (i.e., the Chronbach Alpha remains fairly low).

⁹ Including the scales (as identified in the factor analysis) instead of the selected items as dependent variables in the analysis did not significantly alter the results, i.e., the gender effects remained in tact.

¹⁰ Burton (2001) distinguishes between five employment models based on the structuring of three human resource dimensions: attachment, coordination/control and selection.

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