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**HOW HRM AFFECTS CORPORATE FINANCIAL
PERFORMANCE
EVIDENCE FROM BELGIAN SMEs**

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How HRM Affects Corporate Financial Performance: Evidence From Belgian SMEs

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Abstract

In this paper, the central issue is whether the investment in HRM practices for smaller organizations is profitable. This study differs in three ways from existing research into the added value of intensive HR management for company performance. (1) It deals with the results from a survey of organizations with between 10 and 100 employees from various sectors. (2) In composing an index for "HRM intensity", we started with a different interpretation of HRM practices, which also fits in more closely with the Belgian institutional context. (3) The operationalization of performance is based on a number of financial indicators which also help to determine the state of health of a company. Using the results of the survey, we examined the link between the score for HRM intensity, some performance outcomes and the financial performance of the organization using structural equation modeling. The results show that intensive HRM also offers added value for smaller organizations. Firstly, HRM intensity has a highly positive effect on productivity and, through productivity, reduces personnel costs/added value. This effect is sufficiently strong to compensate for the increased costs associated with intensive HRM. On top of this compensation effect, HRM intensity also has major effects on the profitability of the company.

How HRM Affects Corporate Financial Performance: Evidence From Belgian SMEs

1. Introduction

Interest in the link between HRM and performance has risen sharply over the past decade. The status quaestionis formulated in various critical summary articles shows that, despite a rich research tradition, many conceptual questions, black boxes and empirical gaps remain. We quote some of these points below.

1. A clear lack of agreement exists concerning the question of which theoretical perspective yields the most valid pronouncements. Roughly, three views exist as to the way in which HRM can contribute to performance. The *universalistic* perspective states that a fixed set of best practices can create added value in various business contexts. Irrespective of strategy, the introduction of these best practices has an additional effect on performance (Pfeffer, 1994; Huselid, 1995; Ichniowski & Shaw, 1999). *Contingency approaches*, by contrast, start with the assumption that the selection of a combination of HRM practices is determined by the strategy used by a company; that, in turn, strategic choice is influenced by environmental features and that organizations which achieve harmony between HRM choices, strategic options and environmental features will perform better than other organizations (vertical fit) (Baird & Meshoulam, 1988; Bird & Beechler, 1995). Finally, the *configuration perspective* is based on a holistic system approach. Here, the importance of horizontal fit and equifinality is emphasized. Horizontal fit implies that efforts must be devoted to the implementation of internally consistent bundles of HRM practices (Arthur, 1992; MacDuffie, 1995). Equifinality implies that various organizations may well introduce various HRM configurations but can, nonetheless, achieve equal performances.

2. Statistically significant relationships are found between the application of HRM practices and performance. However an elaborated exploration for these relationships is rarely considered. The explanation is usually confined to the assumption that using high performance work practices can improve the skills of employees, increase motivation, reduce absenteeism and guarantee that valuable employees will be retained (Huselid, 1995). Guest (1997) rightly pointed to the lack of theoretical models to crack this black box. In order to examine the performances of HRM, support must be available in the form of an accurate theory about HRM, a theory about performance and, in particular, a theory which helps us to explain how HRM practices can influence performance.

3. The debate is primarily led by empirical research from the USA and the UK. Not infrequently, high performance work practices are presented as a set which works in any institutional or cultural context. Research in this field suffers from a type of cross-cultural apathy. Insufficient consideration is given to the question of whether HRM practices which are successful in virtually all American companies also add value in other contexts (Boselie et al., 2000). In countries such as the Netherlands and Belgium, social consultation, (sectoral) collective labor agreements and employment law provisions have a major effect on wage determination, company training policy, etc. In this context, a series of exogenous influences can restrict the freedom to interpret HRM and make the achievement of vertical fit more difficult (Ten Have, 1993; Sels, 1996).

4. In pronouncements on the relationship between strategy, HRM and performance, virtually no thought is given to the limits of the empirical field of validity. Research is

often restricted to larger organizations. It is striking that, in this research tradition, little attention is devoted to small and medium-sized enterprises. Studies of small business management devote more attention to financing, marketing, strategic planning and preventing failure than to the added value of HR management. Nonetheless, it is important for small, often young organizations to know whether “working on HRM” makes a difference and which HRM practices influence the feasibility of strategies, performances and chances of survival.

In this paper, we want to bridge these gaps to a certain extent. The central question is whether investment in HRM practices is profitable for smaller organizations. More specifically, we examine the relationship between HRM and some important performance indicators. We start with a universalistic perspective (comment 1). We substantiate this choice in the closing discussion. We take as our basis an extensive survey of Belgian companies with 10 to 100 employees. The added value of the paper is found in various areas. Firstly, with the small and medium-sized enterprises, we are aiming at a population which is to some extent neglected (comment 4). This neglect is in stark contrast with the statistical predominance of the SME phenomenon. After all, in 1998, 98.8% of all Belgian organizations had fewer than 100 employees. In other respects, we are of the opinion that smaller organizations, precisely because of their transparent structures, represent an ideal field for studying the relationship between specific management practices and performances. Secondly, this Belgian study helps steer the conventional US/UK bias in a rather more continental European direction (comment 3). From this angle of approach, a more varied approach to “HRM practices” is sought and, thanks to a healthy dose of accounting knowledge, more clarity is offered with respect to the question of how intensive HRM can influence the performance of an organization in the short and long term (comment 2).

We begin with an explanation of the way in which company performances are measured in this research (section 2.1) and the operationalization of HRM practices (section 2.2). We then examine the research method (section 3) and the results (section 4). We close with a discussion of the contribution of HRM to the success of small business management.

2. How HR practices influence performance

Guest (1997) states that, if we want to understand the impact of HRM on performances, we need (1) a theory about HRM, (2) a theory about performances and (3) a theory about the way in which HRM and performances are mutually related. Figure 1 presents the results of Guest’s exercise.

<i>HRM Strategy</i>	<i>HRM Practices</i>	<i>HRM Outcomes</i>	<i>Behavior Outcomes</i>	<i>Performance Outcomes</i>	<i>Financial Outcomes</i>
Differentiation (Innovation)	Selection	Commitment	Effort/ motivation	High: Productivity Quality Innovation	Profits
	Training				
	Appraisal		Cooperation		
Focus (Quality)	Rewards	Quality			
Cost (Cost reduction)	Job design	Flexibility	Involvement	Low: Absence Labour turnover Conflict Customer complaints	ROI
	Involvement				
	Status and Security		Organizational citizenship		

Figure 1. The relationship between HRM and performance (Guest, 1997)

We use this model as a conceptual framework. It provides a background against which we can set out the specific choices of the research described here. We begin with the choices in the last two columns of Guest's model. We do this because the added value of this paper lies particularly in a more meticulous conceptualization and operationalization of (the relation between) performance and financial outcomes. In the second stage, we probe deeper into our measurement of HRM practices and our vision of the way in which specific practices (via HRM outcomes and behavior outcomes) can produce results.

2.1 HRM and performance: the hypotheses

We start with the definition of the dependent variables. Guest makes a distinction between performance outcomes and financial outcomes. This distinction is based on the assumption that HRM practices do not have a direct effect on financial results. They primarily influence employee behavior and, through this behavior, results such as productivity, quality, innovation rhythm, absenteeism and turnover. These performance effects help determine the financial results. In this study, indicators are used at both levels.

Performance outcomes

The effects which are given the most attention in explaining the relationship between HRM and performance are productivity and turnover (Arthur, 1992; Huselid, 1995; Guest, 1997). In this study, in addition to these two factors, we also look at absenteeism.

In most studies, the total employee turnover percentage is included in analyses. This criterion not only reflects voluntary turnover, but also compulsory and natural turnover.

In the analyses, we confine ourselves to *voluntary turnover* (number of departures at employees' initiative in 1999 in proportion to the average number of staff in 1999). We have made this choice because HRM is often seen in terms of its retention power or the extent to which it is able to put pressure on voluntary turnover, particularly in tight labor markets. The research into the determining factors for voluntary turnover indicates that specific HRM practices can push down voluntary turnover (often indirectly, e.g. through increased job satisfaction and involvement): the pay level, career and training opportunities, employee involvement and codetermination, etc. (Shaw et al., 1998). The presence of these HRM practices should therefore go hand in hand with lower voluntary turnover (**hypothesis 1**).

The second factor we include is absenteeism (number of calendar days absent in 1999/number of workable calendar days in 1999). The determining factors for work absenteeism which emerge in many studies closely correspond to the determining or push factors generated by the research into employee turnover. Absenteeism from work is even seen as a predictor of turnover (Morrow, 1993). We therefore follow a line of reasoning similar to the one we constructed for employee turnover and assume that more intensive HRM corresponds to lower absenteeism (**hypothesis 2**).

As an indicator for *productivity*, we use labor productivity, more specifically added value per member of staff. This added value is the difference between total operating results and the cost price of the goods and services provided by third parties (external costs), which are necessary to achieve results. This gross margin, as it is known, is used to pay for internal production factors: labor (wages), the use of sustainable means of production (depreciation) and capital (interest charges and profit). Certain HRM practices can be expected to help optimize the alignment between employee characteristics and job requirements or the psychological contract between organization and employee. This harmonization can result in higher job satisfaction, motivation and involvement which, in turn can benefit productivity (Koch & McGrath, 1996). We assume that HRM intensity influences productivity both directly (**hypothesis 3a**) and indirectly (**hypothesis 3b**). Indirectly refers to "through reduced employee turnover and absenteeism" (cf. d'Arcimoles, 1997).

Financial outcomes

Research into the relationship between HRM and financial performance often stands out because of its limited accounting knowledge. Performance is often measured solely in terms of turnover (per employee) or profit obtained. The choice of these parameters is rarely adequately substantiated. Moreover, these are ratios which, certainly in their isolated forms, produce a poor reflection of the state of health of a company. We are attempting to make up for this weakness, partly through the use of bankruptcy prediction models (Maes, Sels & Roodhooft, 2001). These models assume that the progress of the following four parameters, at least, must be monitored in order to guarantee the continuity of the organization: liquidity, solvency, profitability and added value. For each of these parameters we selected one ratio, i.e. the strongest indicator of the state of health. These are ratios which serve as a warning light of a deteriorating state of health. We have derived the scores for these ratios from the annual accounts of the companies and added them to the survey database. We briefly list the parameters and ratios used.

1. *Added value* indicates what has been added in terms of value within the company itself, using its own production factors. The ratio we use is the *share of personnel costs in the added value*. After all, the added value must be sufficient to pay staff and leave some resources over for investments, interest, taxes and some returns for the owners. The share of the personnel costs (remuneration, social security charges, non-statutory benefits) in the added value may therefore not be excessively high. A maximum of 85% is often suggested. We expect this ratio to be lower the more an organization invests in developing the HRM system (**hypothesis 4**). We base this expectation on hypotheses 3a and 3b, specifically that HRM intensity has a positive effect on productivity. Higher productivity means that the same number of employees generate higher added value. Since personnel costs remain (approximately) constant for the same number of employees, when productivity increases, personnel costs/added value will fall.
2. *Profitability* reflects financial performance in the narrow sense, in particular the ability of the company to yield a return on investment. The ratio used here is the *net profitability of the capital and reserves*. This ratio compares profit (after interest payment) with the capital and reserves and therefore illustrates the profitability for shareholders or owners. Negative profitability can cause problems for the survival of the company, particularly if this is a structural phenomenon. We expect intensive HRM to have a positive effect on profitability (**hypothesis 5**). The higher the productivity (hypotheses 3a and 3b) and, consequently, the lower the share of personnel costs in the added value (hypothesis 4), the greater the margin for interest payments and profit-sharing.
3. *Liquidity* relates to the settlement of short-term debts. A company will face financial problems if the funds are not available to pay off these debts. We use the *acid test* or *quick ratio* as an indicator. This ratio illustrates liquidity in the narrow sense. Only the assets which can be most quickly converted into cash are expressed with respect to debts of at most one year. In this sense, the ratio produces a picture of the extent to which a company can redeem short-term debts, using immediately available funds, without having to make use of external funds (loans) or reserves. We expect the development of intensive HRM to have a negative effect on liquidity (**hypothesis 6**). After all, this type of HRM investment costs money (indirect costs of training employees, personnel costs for a HR manager, direct costs of selection, administrative costs, etc.). In smaller organizations, in particular, this investment can result (temporarily) in fewer liquid funds.
4. *Solvency* indicates the financial strength of the company in the longer term and says something about the extent to which the organization is equipped to face business risks. As soon as a company starts up, it has a number of fixed payment obligations, without being sure of future income. One way of shoring up against this risk is to keep fixed payment obligations to a minimum. This is possible by entering into as few debts as possible and financing as much as possible using the capital and reserves (contributed by shareholders). In this case, the applicable rule is that interest payments have to be continued in any event, while shareholders are only paid if the net results are positive. In brief, the greater the capital and reserves, the greater the buffer for when things do not go so well. A ratio which also functions as a warning light in this case is the *degree of auto-financing*. This ratio illustrates the relationship between reserves and results carried over on the one hand (the numerator) and total assets on the other hand (the denominator). We expect a

negative relationship between HRM intensity and solvency (**hypothesis 7**). HRM intensification does on the one hand benefit productivity and profitability (hypotheses 3a, 3b and 5) but, at the same time, this investment means that fewer resources can be deployed as a long-term buffer against operating risks which may crop up.

2.2 HRM practices

The second stage is to identify the HRM practices which occur in the analyses. To select relevant HRM domains, we took the Harvard model as our basis (Beer et al., 1984). In so doing, we ensured that enough relevant practices were selected from each domain of this Harvard model (work systems, HR flows, reward management and employee influence). For the final selection, we allowed ourselves to be guided by a comparison of the practices which proved to be relevant in previous studies (Arthur, 1994; Becker & Gerhart, 1996; Delery & Doty, 1996; Guest, 1997; Huselid, 1995; MacDuffie, 1995; Osterman, 1994; Pfeffer, 1994). We confine ourselves, for the analyses in this paper, to the practices in six fields, i.e.:

- HR Flows: (1) selection policy, (2) training policy, (3) career policy;
- Rewards: (4) wage policy and (5) performance management;
- Employee influence: (6) direct, indirect and financial participation.

In addition to these six, a seventh theme has been included in the operationalisation of HRM practices, i.e. (7) evaluation. This looks more specifically at the extent to which the organization measures the effects of the application of HRM practices.

Table 1. Summary of HRM practices

HRM domains	Indicator 1	Indicator 2	Indicator 3
Selection	<i>Personnel planning</i> Examination of how many and what types of recruitment are needed in the medium term (approx. 1 year). No = 0; Yes = 1	<i>Development of selection procedure</i> A written selection procedure is used to fill vacancies No = 0; Yes = 1	<i>Types of selection technique</i> Predictors with high predictive validity are used (work sample tests, assessment centre, biographical questionnaire). No = 0; Yes = 1
Training	<i>Provision of training</i> In 1999 the company provided training for its operational staff No = 0; Yes = 1	<i>Dedication to training plan</i> The company has a strategic training plan No = 0; Yes = 1	<i>Anticipating training needs</i> Needs detection at the levels of organization, job and target group; 10-point scale (see appendix scale 1) (= < 5) = 0; (> 5) = 1
Careers	<i>Internal labor market</i> The company offers operational staff the possibility of attaining a higher hierarchical level No = 0; Yes = 1	<i>Potential reviews</i> Appraisal system related to succession planning, concerned with what an individual will be capable of doing in the future No = 0; Yes = 1	<i>Horizontal mobility</i> The company offers operational staff the possibility of becoming active in other functional domains at the same level No = 0; Yes = 1
Compensation	<i>Benefits</i> Number of extra benefits which the company offers its employees 0 to 4 = 0; 5 or more = 1 (median)	<i>Performance-related pay</i> Part of the wage of blue and/or white-collar workers depends on individual performances or merit No = 0; Yes = 1	<i>Occasional bonus</i> Employees receive an occasional bonus, e.g. following an improvement in results No = 0; Yes = 1
Performance management	<i>Reward reviews</i> Appraisal procedure that relates to the allocation and attribution of awards, rewards and benefits No = 0; Yes = 1	<i>Evaluation system</i> Use of a system which specifies procedure and criteria for the appraisal process No = 0; Yes = 1	<i>Performance reviews</i> Appraisal procedure aimed at the development and motivation of staff by looking at how well he or she is doing No = 0; Yes = 1
Participation	<i>Indirect participation</i> Trade union representation present (whether or not in the form of a trade union delegation) No = 0; Yes = 1	<i>Financial participation</i> Blue and/or white-collar workers share in the profits or can participate financially in the company No = 0; Yes = 1	<i>Direct participation</i> Extent to which, e.g. via consultation, consideration is given to employees' opinions 10-point scale (see appendix, scale 3) (< 7) = 0; (≥ 7) = 1 (median)
Evaluation	<i>Evaluation of training effects</i> Extent to which reactions, learning, behavioral and performance effects after company training are measured 10-point scale (see appendix, scale 2) (= < 4) = 0; (> 4) = 1 (median)	<i>Evaluation of recruitment and selection process</i> The recruitment and selection activities of the company are systematically evaluated No = 0; Yes = 1	<i>Exit interviews</i> Interviews are held in the company with employees leaving the company No = 0; Yes = 1

In most studies, the HRM domains listed are only indicated by one practice. We have chosen to select three practices per domain. This produces a total of 21 practices, each constructed in the form of a binary variable, where 0 indicates the absence and 1 the presence of the practice. The result is illustrated in Table 1. We briefly describe the way in which these practices can influence (financial) performances, possibly via specific behavior outcomes.

1. *Selection.* Thorough screening of future employees is appropriate, particularly with a view to long-term relationships. For this reason, we look at the use of selection techniques which are associated with high predictive validity (indicator 3) (Hunter & Hunter, 1984). In selection research, attention is often devoted solely to the selection techniques used. Recent research indicates that, in addition, much significance must be attached to the development of formal, transparent procedures which provide (1) a thorough preparatory phase (personnel planning, job analysis), (2) a transparent distribution of responsibilities in the selection process and (3) adequate information with respect to candidate and assessor concerning the choice of certain predictors (Iles & Robertson, 1997). For this reason, in addition to the nature of the predictors, we also examine the presence of a selection procedure (indicator 2) and forms of personnel planning (indicator 1).
2. *Training.* An initial indicator in the training field is whether or not company training is provided for operational staff (indicator 1). Research repeatedly shows that non-training companies are found primarily among smaller organizations (Sels, Bollens & Buyens, 2000). It is therefore important to examine whether investing in training “pays” for these mini-organizations. However, whether companies succeed in raising human capital to a higher level will depend not only on the scope of the training efforts. In strategic HR development models, the importance of aligning the approach to training to the strategic choices of the company is also noted (Tannenbaum & Yukl, 1992). For this reason, we also evaluate whether the training policy is rooted in a strategic training plan (indicator 2). However, training needs analysis takes place not only at strategic level. Job analysis and person analysis (target group) are also indispensable steps in focusing training efforts on (expected) performance deficiencies (indicator 3) (Blanchard & Thacker, 1999).
3. *Career.* “If people do an outstanding job but outsiders are being brought in over them, there will be a sense of alienation from the organization” (Pfeffer, 1994). This boils down to a recognition of the importance of internal labor markets (indicator 1). The development of an internal market implies that internal transfers are more important than external recruitment when it comes to filling vacancies. Internal markets can fulfil many functions. One function is *HR development*. Career lines can be mapped out in such a way that they produce a progressive improvement in knowledge and skills the more rungs of the ladder are climbed. This can result in a more permanent and phased accumulation of competencies (cf. Figure 1: quality, innovation). A second function is *motivation*. The prospect of a career can indeed have a motivating effect under certain conditions and, in this sense, contribute to the efforts and organizational citizenship to which Guest attaches such importance. The conditions relate to the consistent application of transparent selection criteria, for example using a system of potential review (indicator 2) (Luhmann & Mayntz, 1973). Particularly in smaller organizations which often have an organic structure

and broad job descriptions, the development function can also be achieved by broadening the opportunities for horizontal mobility (indicator 3).

4. *Compensation.* Offering high wages can have a pulling effect on the labor market and create more freedom of choice in recruitment. A broader choice increases the chances of accurate selection, which is particularly important if a model of relative job security is chosen (Pfeffer, 1994). A great deal of research also shows that offering high wages can reduce voluntary turnover (Shaw et al., 1998). Since we had no indication in this survey of wage levels, we used the number of benefits allocated over and above wages as a proxy (indicator 1). In addition, we assessed the composition of the wages; more specifically, the presence of structural (indicator 2) and incidental (indicator 3) forms of incentive pay. Various HRM models advocate using bonuses for special performances (indicator 3) or a variable performance-related share (indicator 2) on top of a sufficiently high wage (Gerhart & Milkovich, 1992). Such rewards function as a simple recognition system which, when allocated correctly, can also increase the feeling of justice. The result of extra effort after all benefits not only management and shareholders, but also those who make the effort.
5. *Performance management.* This denominator is understood to mean the appraisal systems used in organizations. A wide range of forms of appraisal is used in organizations. In this analysis, we have made a distinction between reward reviews (indicator 1) and performance reviews (indicator 3) (Randall et al., 1984; Sparrow & Hiltrop, 1994). The first form fits in much more with the aim of control and management, the second with the aim of supervision and development (McGregor, 1957). Reward reviews relate to the allocation and attribution of awards, rewards and benefits to a particular individual (salaries, compensation, power, status, etc.). Performance reviews concentrate on improving or maintaining the performance of employees. It is more concerned with the development and motivation of staff by looking at what areas are important to the performance of each individual and how well he or she is doing. A final indicator is the use (or not) of an evaluation system (indicator 2). Preference for the use of more formal systems is increasing in organizations – any system is better than no system (Drenth, 1997). The use of these systems can be important for perceptions of procedural and distributive justice.
6. *Participation.* We draw a distinction between structural and financial participation. In structural participation, employees are *directly* or *indirectly* involved in decision-making processes. *Direct participation* indicates the presence of shop-floor initiatives which make it possible to consult employees and/or to delegate powers (self-management, empowerment) (indicator 3). Direct participation is put forward in HRM literature as a practice which encourages the active utilization of human potential and, in this sense, can also affect the motivation and involvement of personnel. *Indirect participation* refers to employee involvement via a delegation (i.e. works' council). Smaller organizations in Belgium are not obliged to use trade unions as a channel for indirect participation. Recognition of this trade union as an interlocutor (indicator 1) can, as a result, form an indication of active participation policy. Finally, *financial participation* (indicator 2) implies that employees share in the company's profits. Shareholding is particularly encouraged as an instrument for harmonizing the interests of employees, management and shareholders and thus exerting an effect at the level of involvement and/or organizational citizenship. The

positive effects of financial participation can also be seen at the level of closer cooperation (willingness to exchange information) (Lawler III, 1999).

7. *Evaluation.* Integral quality assurance in the field of HRM implies that companies systematically examine whether the practices and solutions chosen are sufficiently effective and efficiently applied. In this respect, evaluations are an indispensable basis for ongoing optimization of HRM practices and processes. Firstly, we examine the attention devoted to evaluating training efforts (indicator 1). In operationalizing this variable, attention is devoted to evaluation at various levels (Kirkpatrick, 1998; Sels, in press): the reactions of trainees to the training, the learning effect, the behavioral effect or the transfer of the training content to the job context and the results (increase in productivity, improvement in product quality, etc.). Secondly, we look at whether the company evaluates the effects of recruitment and selection processes (e.g. utility analysis) (indicator 2). A final indicator relates to the conduct of exit interviews when staff leave voluntarily (indicator 3). An exit interview can be used to detect the push and pull factors of voluntary turnover or to detect breaches of the psychological contract. This information can then be used to re-engineer HRM processes.

Scores can be calculated per domain, on a scale of 0 to 3, with 0 as a value if the company does not apply any of the domain practices and 3 if the organization applies all the practices. In an initial path analysis, the seven domains (each with the "0-3" scale) were individually included in the analysis. The covariances between these domains proved to be so strong that we combined them into one scale in the second stage.

Table 2. Factor analysis in the seven HRM domains (n = 385). All items scored on 4-point scale (no practices applied from the domain to all practices applied from the domain). Extraction method: principal component analysis; varimax rotation.

	HRM intensity
Training policy indicators	.750
Selection policy indicators	.591
Career policy indicators	.711
Wage policy indicators	.659
Performance management indicators	.689
Participation policy indicators	.614
HRM evaluation indicators	.613
Reliability analysis (Cronbach's alpha)	.7817

Table 2 does indeed show that the seven domains have heavy loadings on one factor. Based on this factor analysis, we therefore constructed a ten-point scale which is given the label *HRM intensity* (to some extent comparable with the HRM sophistication scale used by Huselid (1995)). The higher an organization scores on this scale, the more intensively it is concerned with the implementation of a broad range of HRM practices.

3. Methodology

The database we use for the analyses comes from the VIONA project “Personnel policy in SMEs: a study of the characteristics of effective SME personnel policy”. The focal point of this study was a survey of organizations with between 10 and 100 employees. Companies were selected from the Belfirst data file. This file contains information from annual accounts. This enabled the survey results to be enhanced using data about financial and operational results.

Given the assumed importance of the age and size of the company for the degree of professionalization of personnel policy, a disproportionally stratified random sample was chosen, with age and size as stratification variables. As far as age is concerned, a distinction was drawn between companies in existence for between 1 and 5 years, 6-10 years and 11 years or longer. Three strata of company size were identified: 10-19, 20-49 and 50-99 employees. This was a multiple-sector survey.

Most HRM studies use the HR manager as the respondent. In this survey, the business manager was targeted as respondent. The simple management structure of a small organization means that this manager often has a very clear view of the various management practices in his or her organization. This partly explains the low item non-response in this study. The questionnaires were distributed by post, with intensive telephone follow-up. This produced a total of 416 units (28% response), with a sufficiently high item response. In order to investigate any problems involving self-selection and sample bias, the response and non-response were compared at various ratios in conjunction with added value, profitability, solvency and liquidity. No significant differences were noted between the two groups for any of these ratios.

4. Analyses

In Table 3, we begin with a summary of some descriptive statistics, specifically the average and standard deviation for the principal variables, as well as the correlations between these variables. We see that the average score for HRM intensity is 3.98/10. From this, we can deduce that the average organization uses considerably under half of the HRM practices examined. Indeed, earlier descriptive analysis revealed that the average SME can be described as a “HRM poor” organization (Delmotte et al., 2001). Initial indications can be derived from the correlations to confirm most of the hypotheses. Thus, we see that HRM intensity is positively related to productivity and profitability and negatively related to solvency. The correlations with personnel costs/added value and liquidity, however, did not prove significant.

Table 3. Pearson correlations, means, standard deviations.

	Mean	s.d.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) HRM intensity	3.98/10	2.04	1.00							
(2) Voluntary turnover	11.6%	15.6	-.03	1.00						
(3) Absenteeism	5.3%	7.9	.02	.02	1.00					
(4) Added value per member of staff	2230.6	1315.6	.18 ***	-.08	-.04	1.000				
(5) Personnel costs over added value	72.6%	19.9	.00	.03	.08	-.63***	1.000			
(6) Acid ratio test (liquidity indicator)	1.1	0.8	-.02	-.05	.02	.17 ***	-.17 ***	1.00		
(7) Degree of auto-financing (solvency indicator)	14.7	21.4	-.11 *	-.07	-.04	.13 **	-.20 ***	.51 ***	1.00	
(8) Net profitability over capital and reserves	8.9	53.3	.13 **	.02	-.05	.15 **	-.23 ***	.11 *	.16 **	1.00

* p<0.05; ** p<0.01; *** p<0.001

In order to test the hypotheses, we used structural equation modeling with manifest variables (path analysis). Compared to ordinary linear regression models, this technique has two major advantages. First and foremost, the method enables paths or *causal* relationships between the different variables to be defined and tested. The output of the technique indicates whether the model is supported by the data as a whole and gives a significance test for the various individual causal paths. Secondly, a variable in a causal model can be either a dependent or an independent variable. After all, not only can causal paths arrive at one and the same variable, but also depart from it. This has the advantage of allowing us to test the mediating influence, if any, of certain variables. For instance, observed effects can be divided up into direct and indirect effects (e.g. direct effect of HRM intensity on productivity or its indirect effect on productivity via absenteeism).

The following path model is tested using the CALIS procedure (SAS). When the variables were operationalized, we took into account the conditions necessary for path analysis (Hatcher, 1994).

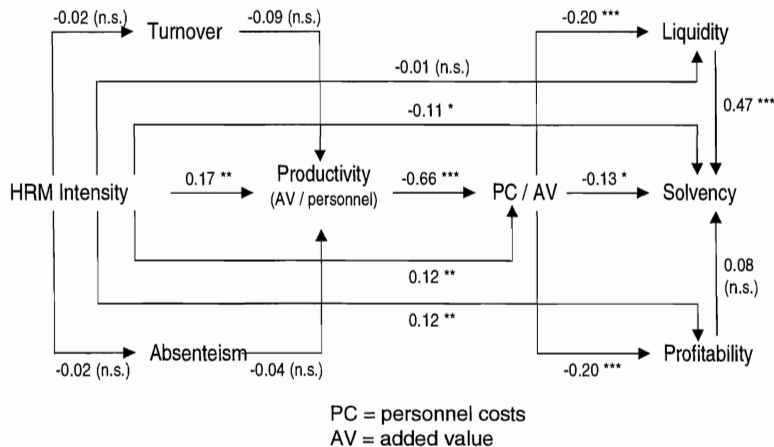


Figure .2 HRM, performance outcomes and financial outcomes. (*p < 0.05; **p < 0.01; ***p < 0.001)

In evaluating the model, we considered four correctness-of-fit measures: the chi square test (p value 0.77), Bentler's Comparative Fit Index (1.00), Bentler & Bonett's Non-normed Index (1.03) and Bentler & Bonett's Normed Fit Index (0.97). Each of these measures indicates that the model tested is supported by the data. In addition, the model tested contains no residual values which significantly differ from zero. This implies that the theoretical model described and tested successfully reflects the actual causal relationships between the different variables. In variants of this model, on the one hand the age and size of the organization (control) and, on the other hand, reversed causation arrows were included. Since this barely influenced the effectiveness of the model or the

other relationships, with a view to interpretation, we confine ourselves to the variant shown in Figure 2.

Below we interpret and explain the effects. We look first at the impact of HRM practices on intermediate variables such as productivity, turnover and absenteeism from work. Subsequently, financial and accounting indicators are also involved.

4.1 HRM intensity and performance outcomes

The model points to HRM intensity having a strongly positive impact on productivity (cf. Huselid, 1995). One general explanation for this confirmation is that the introduction of certain HRM practices achieves an improved “fit” between individual and job and between individual and organization. This employee/job/organization match can result in higher job satisfaction, greater motivation and close involvement with the job and the organization. This will benefit productivity. The relationship is easier to understand if individual practices are examined. For instance, selection is accurately targeted at predicting future work behavior. If predictive validity is high, high test scores also correlate with better job performances after recruitment. The use of more valid tests can, in this sense, be translated into the recruitment of employees who demonstrate on average higher productivity. Thus, training can also be a mechanism for better aligning the skills offered by employees to the required skills. This fit will probably be translated into higher productivity.

In the model, we see a negative link between HRM intensity and voluntary turnover. However, this link is not significant. This can partially be explained by the labor market situation at the time of the survey. The extreme shortage gave rise to high labor mobility. It is possible that this shortage was so extreme that efforts at the level of retention management produced hardly any results, especially not in smaller companies which cannot compete with the labor conditions of the major players (Sels et al., 2001). The “pull factors” (tempting signals from larger and/or older companies) could be so strong that investment in retention-oriented HRM was not recouped by lower voluntary turnover. This example indicates that when interpreting the performances of HRM, the specific context must always be taken into consideration.

Based on hypothesis 3b, we expected that higher voluntary turnover would be translated into lower productivity. If no suitable replacement can be found immediately, this can temporarily lead to lower productivity. If turnover costs are high (e.g. costs of intensive training, induction time, socialization, supervision of replacements) this effect is reinforced. To a certain extent, the notice period of the departing employee forms a buffer against this. Nonetheless, lower productivity can also occur while this employee is “waiting out” the notice period (lower motivation). Indeed, we find a negative link although it is not significant. This can possibly be explained by the large number of unfilled bottleneck vacancies in the SMEs surveyed. If replacements are difficult or impossible to find, companies can be encouraged to try to carry out the same work using fewer staff, by reallocating employees and redesigning the organization of work. This can increase productivity. The organic structure of smaller organizations makes this kind of flexible redesign possible.

The expectation that high “HRM intensity” is accompanied by low absenteeism also has to be adjusted. The relationship is indeed negative, but not significant. The model also shows that the expected negative relationship between absenteeism and productivity is also insignificant. Hypotheses 2 and 3b are therefore also not confirmed

by the data. This can also to some extent be explained by the more organic structure of smaller organizations, which makes it easier to make up easily for missing staff without major consequences for productivity.

4.2 Compensation effect or zero sum game?

We now look at the correlation between three observations, i.e. that (1) HRM intensity has a positive impact on productivity, (2) the share of personnel costs in added value falls sharply as productivity rises and (3) HRM intensity has a positive effect on the share of personnel costs in the added value.

Higher productivity implies that higher added value is being generated using the same number of employees. Since personnel costs remain (approximately) constant for the same number of employees, a rise in productivity will mean a fall in personnel costs/added value. This explains the negative link between the two variables. To the extent that HRM intensity positively influences productivity, it also leads indirectly to a reduction in the personnel costs/added value ratio. This is an important effect, evaluated from the point of view of the economic finality of the company.

However, in addition to this indirect link, we also observe a surprisingly direct link between HRM intensity and personnel costs/added value. The more HRM practices are introduced, the greater the share of personnel costs in the added value. Intensive HRM can indeed generate both direct and indirect costs. Thus, starting up a personnel department or recruiting a HR officer increases personnel costs. The introduction of performance-related pay or non-statutory benefits can directly increase costs. After all, these form part of personnel costs for accounting purposes. Indirect effects are also present. Sending an employee for training does not directly lead to an increase in accounting personnel costs, but can lead to reduced productivity because the employee makes very few, if any, products for a certain time. The cost of external training can also be reflected as a fall in added value.

This cost-increasing effect of intensive HRM is so strong that it completely cancels out the previously described positive impact on productivity. After all, if we calculate the total effect of HRM intensity on the share of personnel costs in the added value – this is the combination of the positive direct and the negative indirect effects (via productivity) – we then achieve an effect which approaches 0 (0.0099 or 1%). Hypothesis 4 does not therefore hold out. HRM critics will lose no time in referring to a *zero sum game*. “HRM believers” can however interpret the same relationship the other way round and see it positively. The interpretation is then that the direct and indirect cost increases brought about by intensifying HR management are *compensated for* by the positive impact of HRM on productivity and the fact that rising productivity pushes down the share of personnel costs in the added value.

4.3 HRM intensity and profitability

Essentially, it makes little difference whether we talk of zero sum game or compensation effect. After all, other, significant effects do justify HRM intensification in a small company. For this, we must turn our attention to the direct and indirect relationships between HRM intensity and profitability.

If a company does not manage to make certain profits over a sufficiently long period, its existence will be under threat. The ideal means for achieving this higher profit is

optimum use of the available resources, specifically labor, technology and capital. As far as the “labor” production factor is concerned, effective HRM can play an important role. This is evident from the impact of HRM practices on productivity and, via this productivity, on personnel costs/added value. This performance effect exerted by HRM intensity persists in the financial performances of the company. In our model, we have included the profitability of capital and reserves as a financial indicator, i.e. the profit (after interest payments) expressed as a percentage of the capital and reserves. This indicator illustrates the profitability for shareholders or owners of the company. It is fairly evident that the lower the share of personnel costs in the added value, the higher the margin for interest payments and profit sharing. This relationship is also expressed in the model tested.

In addition to this indirect effect, HRM intensity also has a strong direct effect on profitability. From this, we can deduce that intensive HRM works not only by increasing productivity. The deployment of HRM practices also affects profitability in other ways. We can assume that this direct relationship is a combined representation of all HR effects which are not expressed via productivity. After all, productivity is only one performance outcome which can be influenced by HRM. Others include, for example, the innovation rhythm or the quality of the product or service (cf. Figure 1). In this sense, the explanation model remains incomplete. We have indications of productivity but not, for example, of the quality obtained or the innovation rhythm. It is a complex process to develop criteria for a cross-sectoral survey which enable the standardized measurement of these performance outcomes. The social climate or the number of conflicts are also not included, even though previous research has demonstrated the relevance of these types of effect (Katz, Kochan & Weber, 1985).

The direct effect on profitability therefore represents a combination of effects which are produced via non-measured performance outcomes. Let us take a specific example: by sending employees for training and ensuring that this training is transferred to the workplace, if productivity remains the same the quality of products can be increased or product innovation can be more easily achieved. These effects are not generated by an increase in productivity, but can lead to an increase in the sales market and even the built-in profit margins for these products.

In any event, we notice from further analyses that the total effect of HRM intensity on the profitability of the company is positive and strong. The total effect takes into account the direct and indirect effects (via productivity and personnel costs/added value). The total effect amounts to 0.119, which indicates that for every unit of increase on the HRM scale (ten-point scale), we obtain an average increase in profitability of almost 12%. This produces a resounding confirmation of hypothesis 5.

4.4 HRM intensity, solvency and liquidity

In addition to profitability, liquidity and solvency are also important performance indicators. Together, these three factors produce an indication of the health and chances of survival of a company.

The *liquidity* of a company is largely determined by the funds coming in and going out in the short term: added value (operating income – external costs), minus wages and interest payments. The larger the remaining amount, the more flexibility there is to finance aspects such as stocks, orders in hand and short-term financial transactions. The size of the remaining amount partly depends on the extent of personnel costs. This is

also clear from the negative relationship between personnel costs/added value and liquidity. It is however striking that the direct effect of HRM intensity on liquidity is not significant. Hypothesis 6 therefore finds no support here. The absence of a significant effect can be explained in that the largest share of the costs of HRM is directly reflected in the increase either in personnel costs or in the external costs of contracting out selection or training, for example. Most costs therefore have an effect on the relationship between personnel costs and added value (cf. above).

Solvency is a measure of the strength of the organization in the longer term. It says something about the extent to which the organization is equipped to face its operating risk (cf. above). The scope of the funds which can be deployed to build up this type of buffer against operating risks is partly determined by the share of the added value remaining after deduction of payments for internal production factors, which explains the negative link between personnel costs/added value and solvency. What is striking is the additional significant direct effect of HRM intensity on solvency. The greater the HRM intensity, the lower the solvency. This confirms hypothesis 7. The intensification of personnel policy in smaller companies is probably a conscious choice, which is made precisely in order to increase productivity and profitability. It is a targeted investment in human capital. The choice to use the available resources for HRM intensification does however mean that these resources can no longer be saved to build up buffers. In investing in the development of HRM, a choice is being made in favor of the offensive approach of directly increasing profitability, rather than the more passive development of a buffer against the impact of business and operational risks.

Discussion

We have demonstrated in this paper that intensive HRM can also offer added value for smaller organizations. Firstly, HRM intensification has a strong positive effect on productivity and, through this productivity, a squeezing effect on personnel costs/added value. This effect is sufficiently strong to compensate for the cost increases which HRM intensification involves. On average, the costs are therefore only recovered through the productivity increases achieved. On top of this compensation effect, HRM intensity has a major effect on the profitability of the company – an effect which is probably explained by the positive contribution made by HRM intensity on some non-measured performance outcomes such as the social climate, a lower level of disputes, better quality and more innovation. In this closing discussion, we would like to make some suggestions and indicate paths for further research.

An initial observation is that, based on the analysis demonstrated, we can say something about the added value of HRM intensity in general terms. In this context, we do not yet know which individual practices do and do not work in smaller organizations. We have however learned much about the contribution of individual HRM practices to productivity from a long series of individual hierarchical regressions. These models incorporated many control variables, including the sector in which the organization operates, the age and size of the organization, the interaction effect of size and age and the customer specificity of the products or services (Delmotte et al., 2001). From this, we learn that a broad range of HRM practices is positively related to productivity. We measure strong main effects for certain practices. Other HRM practices work in interaction with one another. We thus see that providing training only has an effect if it

is rooted in strategic training planning and managed by intensive efforts at the level of needs detection. Nor does the isolated use of valid selection techniques produce any great effect and only has a significant effect if this choice is part of pro-active personnel planning and a well thought-out recruitment and selection procedure. One last example is the development of internal labor markets. Providing opportunities for internal promotion only produces positive effects if it is based on a system of potential reviews. The examples indicate that it would be worthwhile repeating the model described here for individual HRM domains and, in so doing, devoting attention both to the contribution of individual practices and to the strength of bundles of HRM practices (Ichniowski, Shaw & Prenzushi, 1997).

A second observation relates to our theoretical choice. It can be deduced from the way in which the hypotheses are formulated that, in these analyses, we started with a universalistic perspective. We examined the effect, in all organizations, of an identical set of HRM practices and did not look – as is the case in a contingency perspective – at the vertical fit between HRM and business strategy. We based our choice on several studies which indicate that a universalistic approach can be particularly accurate (Guest et al., 2001). In other respects, very many universalistic arguments sound reasonable (Delery & Doty; 1996). Thus, it is quite believable that the use of valid selection techniques or evaluation systems always works better than the use of less valid methods. It is possible that the distinction between universalism and contingency must be thought of more at various levels. Thus, the use of a formal appraisal system can always be (universally) better than not using such a system, while at the same time the impact of this system can be strongly dependent on the extent to which the evaluation criteria used fit in with the behavior desirable for the implementation of the strategy (contingency).

Furthermore, testing of the vertical fit presupposes that a strategy has taken shape. However, it is known that relatively little attention is paid to strategic planning, particularly in new small and medium-sized enterprises. Intuitive strategies often dominate, based on the personal short-term experience of the business manager (Baeyens, 1990). We are more likely to see continuous adaptation and repositioning than strategic planning (Kotthoff, 1993). Moreover, in such a situation, a tight vertical fit or “tight coupling” in such a situation can put pressure on the ability to adapt (Becker & Gerhart, 1996). Highly mobile organizations have much more interest in a “loose coupling” and the “adaptability” of their HRM system (Wright & Snell, 1998; Hope-Hailey, 2001).

Nonetheless, we hope to steer our theoretical starting position more in the “contingency direction” in future analyses. We are thinking, however, in the first place not of research into compatibility with strategic choices, but of analyses which enable a coupling between HRM and life cycle models. In models such as that of Churchill and Lewis (1983), it is assumed that organizations progress through different stages of life (conception, survival, growth, expansion, maturity) and that the intensity and nature of the contribution to the chances of survival made by various functional business domains fluctuates depending on the stage. Further research will be carried out in the future into whether HRM creates added value at each stage of life and which practices or bundles fit in with certain phases of life.

One last point for discussion relates to the constantly recurring problem of reversed causality. It is indeed not inconceivable that the performance of the company will give rise to change – often even improvement – in HRM practices. In other respects, it is quite possible for the direction of the causality to differ depending on the HRM practice

and the performance criterion under consideration. Despite the strict statistical technique we used and the observation that reversed causal relationships add little to the effectiveness of the model tested here, the cross-sectional nature of the data still leaves much room for interpretation. We will therefore be much more likely to take what is known as the “PASO database” as our basis for follow-up research (De Winne & Sels, 2001). The PASO project is a panel study covering 13,000 organizations from all sectors and size categories and allows for identical analyses of the HRM/performance link.

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Appendix

Table 4. Factor analysis for items relating to needs detection and evaluation (n = 390). All items scored on 7-point scale (never – sometimes – always). Extraction method: principal component analysis. Rotation method: Varimax.

	Factor loading	
	Scale 1 Detection	Scale 2 Evaluation
Training needs analysis in this company is based on a detailed analysis of organizational aims, company culture and expected organizational developments	.849	
Training needs analysis in this company is based on a detailed analysis of required knowledge, skills and attitudes for the fulfilment of a task	.855	
In order to match training entirely to the specific characteristics of the target group, this target group is thoroughly screened for learning needs, motivation and group culture	.758	
At the end of the training route, we measure the satisfaction of those who have followed the training course		.560
Following completion of the training, we test the participants to check whether new skills have been acquired		.774
We check whether differences exist between the way tasks are completed before and after the training		.859
We check how the results are evaluated at the end of the training initiatives		.849
Reliability analysis (Cronbach's alpha)	.8213	.8293

Table 5. Factor analysis for items relating to consultation and direct participation (n = 410). All items scored on 5-point scale (entirely disagree – entirely agree). Extraction method: principal component analysis.

	Scale 3 Direct participation
If decisions have major consequences for employees, the opinions of these employees are requested	.631
When taking decisions about the organization of work (e.g. distribution of work, planning), consideration is given to the opinions of employees	.707
The management passes on important information about the future of the company to employees	.678
Consultation with employees makes a substantial contribution to improving the organization	.762
In our company, consultation with employees offers a good sounding board for the management	.747
Reliability analysis (Cronbach's alpha)	.8066