

Human Resource Management With Small Firms; Facts And Explanations

Jan M.P. de Kok, Lorraine M. Uhlaner and A. Roy Thurik

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Abstract	This study examines determinants of the formalization of HRM practices with small firms. We derive five hypotheses that identify possible determinants of the level of formalization, including firm size, family business, the availability of an HRM department or HRM manager, and the existence of a formal business plan. We test these hypotheses using data on more than 700 Dutch small firms. We find that, <i>within this sample of small firms</i> , larger firms apply more formalized HRM practices than smaller firms do. However, once we take certain contextual variables into account, the direct relation with firm size becomes substantially less. Indirect relations with firm size also exist: firm size is a determinant of the probability that an HRM department is present, which in turn is related to the formalization of all HRM scales. Finally, family businesses apply less formal HRM practices, as do businesses without a business plan.	
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Journal of Economic Literature (JEL)	M	Business Administration and Business Economics
	L 20	Firm Objectives, Organization and Behavior: general
	D21	Firm Behavior
	D23	Organizational Behavior; Transaction Costs; Property Rights
	J5	Labor-Management Relations, Trade Unions, and Collective Bargaining
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HUMAN RESOURCE MANAGEMENT WITH SMALL FIRMS; FACTS AND EXPLANATIONS

Jan M.P. de Kok, Lorraine M. Uhlaner and A. Roy Thurik

EIM Business and Policy Research, P.O. Box 7001, 2701 AA Zoetermeer, the Netherlands,
tel. +31 79 341 36 34

and

Center for Advanced Small Business Economics (CASBEC), Rotterdam School of
Economics, Erasmus University, P.O. Box 1738, 3000 DR Rotterdam, the Netherlands, tel.
+31 10 4081398

email: jko@eim.nl, uhlaner@few.eur.nl and thurik@few.eur.nl

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KEYWORDS: firm behavior, labor relations, personnel management, small and medium-sized enterprises

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BIOGRAPHICAL STATEMENT: Jan de Kok is researcher at EIM and will defend his PhD thesis on HRM and small firms at Erasmus University Rotterdam in June 2003. Lorraine Uhlaner is visiting professor at CASBEC, Erasmus University Rotterdam. Her research interests include entrepreneurship, family business and organizational behavior. Roy Thurik is professor of economics and entrepreneurship at Erasmus University Rotterdam (<http://www.thurik.com>) and director of CASBEC (<http://www.few.eur.nl/few/research/casbec/>).

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Introduction

In the knowledge-based economy, companies are challenged to meet their demand for more highly trained employees in labor markets characterized by a shortage of qualified labor (Audretsch and Thurik, 2000, 2001). Human resources are becoming more important, and therefore the management of these resources (HRM). At the same time, the knowledge based economy is characterized by an increasing share of small and medium-sized enterprises or SMEs (Audretsch and Thurik, 2000; Audretsch et al., 2002). Generally speaking, small firms pay less attention to strategic human resource management than their larger counterparts do (De Kok and Uhlaner, 2001).

Does the combination of these developments pose a threat to the success of knowledge based economies? Our current understanding of HRM practices with SMEs is as yet insufficient to provide an answer to this question. As Heneman et al. (2000) conclude after a literature review of more than 400 articles, the available literature ‘appears to be rich in prescriptions, limited in sound descriptive surveys, and sparse in analytical research’. Especially quantitative studies, in which specific hypotheses on HRM with small firms are tested empirically, are lacking.

Firm size is often treated as a contingency or control variable, like strategy, age, culture, technology, unionization, ownership and environment (Boselie et al., 2001; Delery and Doty, 1996; Paauwe and Richardson, 1997). These variables belong to what Daft has labeled the contextual dimensions of an organization. Organizational characteristics can be classified along contextual and structural dimensions (Daft, 1998), where contextual dimensions characterize the organization as a whole (including size, goals and strategy, environment, organizational culture and organizational technology), and structural dimensions pertain to internal characteristics of organizations (for example formalization, specialization, and centralization).

In the present study, we try to fill the gap in our knowledge by examining the determinants of the formalization of HRM practices within small firms. As far as we know, this is the first study examining a large set of contextual determinants of formalization of HRM practices

within small firms. In the next section, we discuss previous research on HRM practices within small firms. Since it is unlikely that a single theory on organizational behavior can ascertain all relevant determinants, we include a discussion of four different theoretical perspectives on organizational behavior: the resource-based perspective, the behavioral perspective, transaction cost economics (TCE), and the institutional approach. Following, we present a framework on the formalization of HRM within small firms, which is based on a combination of insights from these four theoretical perspectives. The framework is used to derive six hypotheses on the formalization of HRM within small firms. These hypotheses identify various contextual variables as determinants of the level of formalization, including firm size, family business¹, the availability of an HRM department or HRM manager, and the existence of a formal business plan. To test these hypotheses, we use data obtained from a written survey amongst Dutch SMEs. This survey, which is discussed in the section on the research method, resulted in data on almost 700 firms with 1-500 employees. We use logistic and ordinary least-squares regressions to test the hypotheses. Our main conclusions are presented in the final section. Amongst others, we find that, within our sample of small firms, larger firms apply more formalized HRM practices than smaller firms do. However, once we take the contextual variables into account, the relation with firm size is roughly halved.

Previous research on HRM practices and small and medium-sized enterprises

Formal HRM practices

There appears to be no universally accepted definition of formalization. In the context of HRM practices, formalization has been operationalized in various ways, using various labels. In this study, the label ‘formalization’ refers to practices generally labeled as formal (Heneman and Berkley, 1999), sophisticated (Golhar and Deshpande, 1997; Hornsby and Kuratko, 1990; Goss et al., 1994), or innovative (MacDuffie, 1995). Generally speaking, these labels refer to HRM practices that are thought to stimulate employee competence and commitment. These practices include amongst others testing of applicants, incentive pay systems, increased emphasis on workforce training, and increased employment security.²

Smaller firms are less formalized

Small organizations are more likely to operate in an informal and flexible manner than larger firms are. This general finding is supported by various studies on entrepreneurship (Gibb, 1997; Hendrickson and Psarouthakis, 1998; Lee, 1995; Marlow and Patton, 1993; Pfeffer, 1994; Storey, 1994; Whittington, 1993). These patterns of informality tend to repeat themselves in HRM practices. Empirical research confirms that in general, smaller firms

¹ Throughout the present paper with the term “family business” we refer to family owned and managed businesses.

² These formal HRM practices are similar to so-called “high performance practices” (Parks, 1995), “High performance work systems” (Kling, 1995) and “high commitment HR practices” (MacDuffie, 1995).

have less sophisticated or formal HRM practices (Barron et al., 1987; Hornsby and Kuratko, 1990; Jackson et al., 1989).

The number of quantitative studies on HRM with SMEs is limited. Heneman et al. (2000) have performed a literature review on this topic amongst 28 different publications. This resulted in 403 articles on HRM, of which only 17 articles used quantitative methods to test specific hypotheses on HRM with small and medium-sized enterprises³. They conclude that 'the lack of information about human resources in SMEs is problematic for theory, research and practice'.

Generalizing results from the existing studies is hampered by differences in definitions of small and medium-sized enterprises. In the Netherlands, SMEs are often defined as firms with no more than 100 employees. Eurostat uses a threshold of 250 employees for the EU, and the Small Business Administration in the U.S. defines SMEs as firms with less than 500 employees (Flanagan and Deshpande, 1996). These definitional differences are reflected in empirical studies. For example, Hornsby and Kuratko (1990) investigate firms with 1-150 employees. Within that sample, differences between smaller and larger firms are identified. Jackson et al. (1989) define small firms as those with less than 250 employees, and Golhar and Deshpande (1997) use a size class boundary of 500 employees. Other studies mention firm size effects, but present no information on the size of organizations within their sample (for example, Barron et al., 1987).

Notwithstanding these limitations, we may conclude that smaller firms generally have less formal HRM practices, but a substantial amount of unexplained variation still remains across small firms (De Kok and Uhlaner, 2001). In attempts to explain these HRM patterns, some scholars argue that an informal approach is more suited to the small firm. For instance, Hill and Stewart (1999) suggest that smaller firms should be more flexible and informal to be able to cope with the higher levels of environmental uncertainty. By contrast, others argue that it is lack of foresight and/or resources that leads to less use of formal HRM practices in small businesses (Hendry et al., 1991).

The role of HRM departments in the formalization of HRM practices

According to Hendry and Pettigrew (1992), firm size will have an indirect effect on the formalization of HRM practices. In their model of strategic change and human resource management, they differentiate between HRM context and HRM content. The context of HRM contains its role, definition, organization, and outputs. This includes the presence of an HRM department or HRM manager. The HRM content includes labor flows, work systems, reward systems, and employee relations. The formalization of HRM practices can be considered as a characteristic of HRM content.

According to this model, organizational context influences HRM context, which in turn - partly - determines HRM content. Applied to the current study, organizational characteristics may influence the presence of an HRM department or HRM manager, which

³ These articles have been published in only three different journals: Journal of Small Business Management (13 articles), Frontiers of Entrepreneurship Theory (3 articles) and Journal of Occupational and Organizational Psychology (1 article).

in turn determines the formalization of HRM practices. Small and medium-sized enterprises are less likely to have a specific HRM department or manager (Hornsby and Kuratko, 1990; Atkinson and Meager, 1994). This is in accordance with the finding that smaller firms have fewer formal HRM practices than larger enterprises.

A combination of theoretical perspectives

It is unlikely that a single theory of organizational behavior can explain how the formalization of HRM practices is related to an organization's contextual dimensions (You, 1995). De Kok and Uhlaner (2001) have combined elements from various theoretical perspectives into a framework in which various contextual variables are related to the formalization of HRM practices. Their framework suggests four different mechanisms along which contextual variables may influence an organization's choice regarding the formalization of its HRM practices. These mechanisms are represented by the following four intermediary variables:

- demand for human resources;
- supply of financial resources;
- expectations and requirements from external stakeholders;
- the CEO's perceived value of HRM practices.

The rationale for these intermediary variables is based on insights from the resource-based perspective of the firm, the behavioral perspective, transaction cost economics (TCE), and the institutional approach.

Both the resource-based perspective and the behavioral perspective points towards the demand for human resources as an intermediary variable in our model. The choice of HRM practices, and the associated formality of those practices, results from the demand for human resources (both in terms of quantity and quality). This, in turn, depends on the corporate strategy (Huselid, 1995; Koch and McGrath, 1996; Legge, 1995; Prahalad and Hamel, 1990; Rangone, 1999; Snell, 1992). Other contextual dimensions (organizational size, environment and culture) may influence organizational strategy, and thus, indirectly, the demand for human resources. Alternatively, they may influence the demand for resources directly.

The main contribution of transaction cost economics (TCE) to our framework is threefold. Firstly, we have included the perceived value of HRM practices by CEOs as an intermediary variable. The importance of the perceived value by CEOs as a determinant of the formality of HRM practices is a direct result of their bounded rational behavior. Secondly, the formalization of HRM practices may depend upon the supply of financial resources within the firm. Thirdly, TCE focuses our attention on the role that external stakeholders may play, by reducing the costs of introducing and applying certain formalized practices.

Finally, institutional theorists view organizations as entities that gain legitimacy and stakeholder acceptance by conforming to these stakeholders' expectations for behavior (Huselid et al., 1997; Paauwe, 1998). Government institutions in many industrialized nations frequently play a key role in defining expectations for HRM practices, such as recruiting, selection, performance measurement, training, and the administration of compensation and benefits (Paauwe, 1998). Institutional theorists posit that the need to conform to the requirements or expectations of these outside groups may help to explain some of the variation in HRM practices (Jackson et al., 1989).

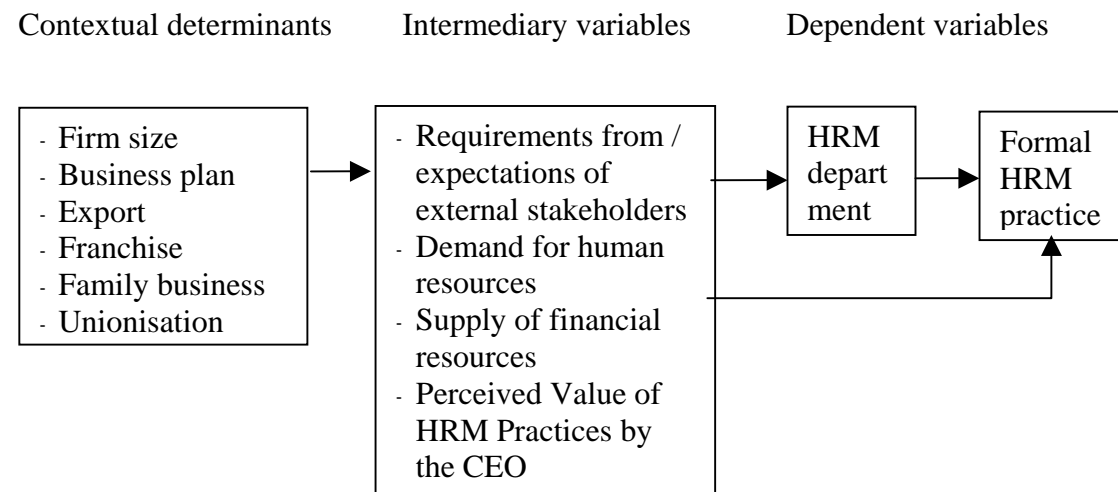
Formalization of HRM within small firms

A framework of organizational contextual determinants of HRM within small firms

The theoretical perspectives discussed in the previous section can explain, in part, how the formalization of HRM practices depends upon four intermediary variables: the demand for human resources, the supply of financial resources, the expectations and requirements from external stakeholders, and the CEO's perceived value of HRM practices (figure 1). According to Hendry and Pettigrew (1992), HRM practices include both the presence of an HRM department (or manager) and the formalization of HRM practices. The impact of the intermediary variables on the formalization of HRM practices may therefore be both direct and indirect.

We focus on HRM practices rather than HRM strategy. Our first argument for this focus is that firms without specific strategies may still apply certain practices. Secondly, similar HRM strategies may result in different practices to realize those strategies, depending on contextual differences. Consequently, we do not investigate whether or not a specific HRM strategy exists. Nor do we investigate to what extent the HRM practices are internally consistent (resulting in an internal fit) or integrated with the overall business strategy (which represents an external fit).

figure 1 a model of contextual determinants of HRM practices within small and medium-sized enterprises



The intermediary variables are, in turn, determined by an organization's structural and contextual dimensions. In this study, we focus on contextual dimensions. Firm size is a contextual dimension of its own, and one of the contextual determinants in this study. Goals and strategy of an enterprise, also a contextual dimension, are more difficult to measure. The presence of a business plan is used to indicate whether the goals and strategies are made explicit. Two other indicators of this contextual dimension concern specific strategic choices: the choice to export, and the choice to associate with a franchise organization.

Another contextual determinant is family business. A family business is defined as a business that is not only owned by members of one family, but also managed by members of

this family. It indicates a specific aspect of the relation of an organization with its environment: the ownership relation. Since family ownership may stimulate the notion of the company-as-extended-family (Legge, 1995), this variable may also be seen as an indicator of culture. The culture of organizations is also represented by the degree of unionization.

Hypotheses

We are now able to derive our hypotheses. We will concentrate on the contextual determinants since intermediary variables are not available.

Firm size

There are three key reasons why we might expect to find a positive relation between firm size and formalization of HRM practices.

First, if organizations become larger, the need to decentralize and communicate between employees and departments increases. This, in turn, requires a certain level of standardization, specialization and formalization (Daft, 1998; Nooteboom, 1993). We hypothesize that this relation not only holds for firm size and formalization in general, but also for the formalization of HRM practices. Large companies have a large demand for human resources, and therefore a large demand for specific HRM practices such as recruitment, selection and performance appraisal. This stimulates standardization and formalization of these practices. In addition, most formalized HRM practices require considerable development costs (Klaas et al., 2000). This results in a cost advantage for larger firms, which is strengthened by the limited supply of financial resources of many small firms. Finally, requirements from external stakeholders will also differ between small and large firms: legislation is often differentiated by size class.

These arguments are in line with a behavioral perspective on HRM practices: smaller firms apply less formal HRM practices, because that is more suitable to them. In contrast, the resource-based approach suggests that formalized HRM practices are equally important for small and large firms. A difference in the degree of formalization between small and large firms can however result, if small firms are more bounded in their rationality.

Besides a direct relation between firm size and the formality of HRM practices, we hypothesize that an indirect effect exists. Firm size is positively related to the probability that an HRM department or HRM manager is present. In turn, the presence of such a department or manager will have a positive impact on the formality of the applied HRM practices. The relation between the presence of an HRM department and formalization of HRM practices is discussed at the end of this section; here we state the first hypothesis as follows:

H1: Firm size is positively related with the formalization of HRM practices and the probability of having an HRM department or HRM manager.

Business plan

The availability of a business plan can be interpreted as a characteristic of organizations with a relatively long planning horizon. These firms will be more aware of the need to use specific HRM practices to build a competent employee base, implying a relatively highly perceived value of HRM practices by the CEO. In addition, the availability of a business

plan may be seen as an indicator for enterprises that have a relatively high degree of formalization. Both cases support the following hypothesis:

H2: Organizations with a business plan have more formal HRM practices and are more likely to have an HRM department or HRM manager.

Export

Growth-oriented strategies may result in a greater emphasis on formal HRM development (De Kok and Uhlaner, 2001; Lengnick-Hall and Lengnick-Hall, 1988). Thakur (1999) concludes in a case-based research study of several Indian establishments that companies with a goal of new venture growth tend to have more professional HRM practices. Matthews and Scott (1995) find in a study of 130 small firms that entrepreneurial firms (defined as those aiming at higher growth) engage in more sophisticated planning than small firms in general; although they find that as the perception of environmental uncertainty increases, strategic and operational planning decrease. Exporters by definition target growth by seeking new markets outside the boundaries of their own countries. In addition, exporting may indicate a relatively long planning horizon of the organization. Exporting often involves additional administrative burdens and getting acquainted with legal and other requirements in other countries. The willingness to overcome these specific difficulties and start-up costs suggests a relatively long planning horizon, which can lead to an increased awareness of the importance of HRM. We therefore hypothesize that

H3: Organizations that export have more formal HRM practices and are more likely to have an HRM department or HRM manager.

Franchise

In keeping with TCE we posit that a franchise organization can help franchisees to reduce the transaction costs associated with development of more formalized HRM practices. Franchisees may gain access to relevant HRM programs from the larger franchiser. This lowers the development costs.

H4: Franchisees have more formal HRM practices than non-franchisees.

We do not hypothesize a relationship between the franchisee characteristics and the probability that an HRM department or manager is present. On the one hand, the expectations of franchisors may stimulate franchisees to install an HRM department. On the other hand, the availability of external HRM expertise with the franchisor may reduce the need for a separate HRM department with the franchisee.

Family business

Throughout the present paper the term “family business” will be used for family owned and managed businesses. Family business implies that the selection of the CEO is not (solely) based on his or her skills to manage a small or medium-sized enterprise. Consequently, the management of a family business is less likely to have the necessary management skills, and/or knowledge about (the benefits of) formalized HRM practices. Also, family business is associated with a desire to remain independent and to keep full control over the organization (Blais and Toulouse, 1990; Bacon et al., 1996). Case studies suggest that employers often associate formalization of HRM practices with loss of control and loss of flexibility concerning employee relations (Koch and De Kok, 1999).

These arguments suggest that the perceived value of HRM practices may be relatively lower for CEOs of family businesses. This results in the following hypothesis:

H5: Family businesses have less formal HRM practices and are less likely to have an HRM department or HRM manager.

Unionization

In the US, several studies have found relations between unionization and HRM practices within medium-sized enterprises (Deshpande and Flanagan, 1995; Flanagan and Deshpande, 1996; Ng and Maki, 1993). For the Netherlands, such a relationship is not likely to exist. This is due to the institutional context, which has a profound influence on the shape of human resource management (Boselie et al., 2001). For example, approximately 800 collective labor agreements (CLAs) have been signed in the Netherlands which frequently contain requirements for more formal HRM practices (Rojer and Pulleman, 2000). Whether or not a small firm falls under a specific CLA is independent of the degree of unionization. In addition, every organization with more than 50 employees is legally obliged to install a so-called “works council” which has various legal rights⁴. Consequently, we have no clear-cut idea about the impact of the degree of unionization on the formalization of HRM practices in Dutch firms, and therefore do not specify a hypothesis.

HRM department

The presence of an HRM department or HRM manager may be associated with a higher level of relevant knowledge and experience in HRM practices, which decreases the costs of carrying out those practices. Specialization, learning and experience are the drivers behind efficiency gains. In addition, once an HRM department is available, certain fixed costs such as wage costs have been made. Consequently, the (marginal) costs of developing and /or applying more formal HRM practices are lower. Also, HRM professionals may be biased in favor of formal HRM practices because this enhances their status within the organization (Ng and Maki, 1993). Our final hypothesis is therefore:

H6: Organizations with an HRM department or HRM manager have more formal HRM practices.

Method

This section discusses the collection of the necessary data, and the variables used in the analyses.

Sample and data collection

Data was collected by means of a written questionnaire sent to Dutch small and medium-sized enterprises. The questionnaire was developed by the University of Southern Queensland, Australia (Wiesner and McDonald, 2001). A first version of the questionnaire

⁴ The Dutch Works Council Act obliges firms to install a council of employees for regular consultations with the employer. See www.or-online.nl.

was submitted to a sample of 70 Australian SMEs, 31 of which responded. The results of this pilot were used to modify the questionnaire. Subsequently, it was submitted to several senior Australian academics in HRM for their comments. The revised questionnaire was then translated and further revised by Dutch HRM researchers and practitioners.

A stratified sample plan was drawn distinguishing six sectors (manufacturing, construction, trade and repairs, catering, transport and communication, services) and three size classes (20-49 employees, 50-99 employees and 100-199 employees). Four thousand questionnaires were sent, addressed to the CEOs. Seven hundred thirty-six questionnaires were received, 52% of which were answered by the CEO and 33% by an employee directly answering to the CEO, resulting in an 18% response rate. The response rate of our survey is higher than those mentioned by Koch and McGrath (1996) (6.5%) and Heneman and Berkley (1999) (12%), but lower than for example those reported by Huselid (1995) (28%) and Golhar and Deshpande (1997) (52%).

Not all respondents fall within the originally defined sample classes. One hundred enterprises have either less than 20 employees, or 200 or more. To avoid the loss of 100 observations, we have decided to apply the Small Business Administration definition of SMEs (Flanagan and Deshpande, 1996), and to include all enterprises with between 1 to 500 employees in our analysis. In table 1, the firms that are included in our analysis are described by sector and size class.

With such relatively low response rates, sample selection bias may become a problem. To check for sample selection bias by size and sector, we compare the response rates for the 18 strata of our sample. For 10 strata, the response rate lies between 16% and 20%. The two largest response rates are 27% and 22%, the two lowest are 14%. This suggests that there is no serious sample selection bias by size or sector. Whether selection is biased by the respondent's attitude towards HRM cannot be determined.

The questionnaire contained, amongst others, 12 items on recruitment practices, 12 items on selection methods and procedures, 12 items on compensation, 14 items on training and development and 8 items on appraisal. Each of these items is measured on a 3-point scale (no, for some vacancies/jobs, for all vacancies/jobs). A list of all items can be found in the appendix to the present paper.

table 1 Sampled enterprises, by sector and size class

<i>Sector</i>	<i>Size class (by number of employees)</i>					<i>Total</i>
	<i>1-20</i>	<i>21-50</i>	<i>51-100</i>	<i>101-200</i>	<i>201-500</i>	
Manufacturing and construction	10	69	86	67	11	243
Trade and repairs	6	24	32	21	6	89
Transport, communication and services	31	91	97	57	15	291
Other	3	16	28	22	3	72
Total	50	200	243	167	35	695

Scales on formalization of HRM practices

Separate subscales measure the formality of specific categories of HRM practices. This allows one to determine the correlation between the formality of various categories, and to

examine if the relation between firm size and formality of HRM practices differs between categories. The following categories are included: recruitment, selection, compensation, training and development, and appraisal. Next to these subscales the formality of HRM practices is represented by a single overall HRM scale.

The items for each of the various HRM practices are combined to construct a separate subscale for each category. More specifically, each subscale is defined as the average score of the selected items⁵. The selected items all represent practices that are considered to be formal. Hence, the subscale is interpreted as an indicator of the formality of HRM practices in that specific HRM category. To determine the reliability of these subscales, Cronbach alpha is calculated for the selected items. In addition, factor analysis is performed on all items, and the correlation between the main factor(s) and the subscale is calculated⁶. The average scores, percentiles and reliabilities of all subscales are presented in table 2.

For four of the five subscales, Cronbach alpha exceeds .60 (table 2). According to criteria proposed by Nunnally (1967)⁷, the reliability for these subscales is acceptable for an explorative study. The reliabilities of these subscales are comparable with those reported by e.g. Huselid (1995) and Delery and Doty (1996). The exception is appraisal. With a Cronbach alpha of .43, the reliability of this subscale is unsatisfactory. Given the importance of this subscale, we nevertheless decide to include it in our study.

table 2 scores and reliability statistics on subscales of formal HRM practices

	<i>Recruitment</i>	<i>Selection</i>	<i>Compensation</i>	<i>Training and development</i>	<i>Appraisal</i>
<i>Score:</i>					
Mean	1.6	2.0	1.8	1.7	2.0
10% percentile	1.3	1.5	1.3	1.0	1.3
90% percentile	2.0	2.8	2.2	2.3	2.7
<i>Reliability:</i>					
Cronbach alpha	.62	.69	.64	.81	.43
Correlation PCA factor	.94	.85 ^a	.97	.93	.91
Valid observations	533	619	621	669	598

⁵ The selected items are discussed in the Appendix to the present paper.

⁶ Three different methods of factor analysis have been applied: a principal component analysis (PCA), a principal axis analysis and a categorical PCA (which explicitly takes account of the ordinal nature of the items). We report only the correlations with the PCA factor, but the correlations with the factors determined according to the other methods are nearly identical.

⁷ For early stages of basic research, Nunnally (1967) suggested that a Cronbach alpha between .5 and .6 would be sufficient. Later on, Nunnally (1978) suggested a lower boundary of .7

*a: Principal Component Analysis (PCA) identified more than 1 factor. The table presents the correlation with the factor that has the highest correlation with the subscale.
note: all subscales are defined on the interval [1,3].*

None of the subscales can be calculated for all firms. This introduces the risk of a selection bias. To determine whether such a bias may occur, we examine for each subscale whether the respondents to that subscale differ significantly in their average scores on a number of variables compared to the non-respondents⁸. No significant differences in firm size are found between respondents and non-respondents. What does matter, is the position of the respondent within the organization. For CEOs, the response rate is significantly lower than for other respondents⁹. This holds for all subscales, with the exception of the recruitment subscale. A possible explanation for this finding is that the CEO takes less time to fill in the complete questionnaire.

In addition, if the questionnaire is answered by the CEO, the average score on HRM subscales is relatively low. The differences are however small, and only significant (at a 5% confidence level) for recruitment, selection, and training and development. It is not clear whether this represents a ‘genuine’ CEO effect, since the probability that the questionnaire is filled in by the CEO decreases with firm size. The position of the respondent will therefore be included as a control variable in the regressions.

An overall HRM scale

The overall HRM scale is calculated as an unweighted average of the underlying formalization subscales. The resulting overall HRM scale is defined for 519 enterprises (Cronbach alpha equals .78). The response rate for this overall HRM scale is significantly lower for smaller firms, for CEOs, and for members of a franchise organization.

HRM department

Firms were asked whether an HRM department and an HRM manager were present. These questions have been used to construct a dichotomous variable ‘HRM department’. This variable indicates whether an HRM department and/or an HRM manager is present.

Independent variables

The independent variables used in this study are presented in table 3. In addition to the variables discussed in the previous section, we also include information on organizational age and sector to control for possible effects these variables may have.

⁸ These control variables are size, sector, current working position of the respondent, location of the firm, current tenure of the respondent, whether the respondent is (part) owner, whether the company is owned by a family, whether the enterprise is member of a franchise organization, if a business plan is available, and the respondent’s gender.

⁹ the response rate is also lower if the respondent has a long tenure with the firm, or is (part) owner of the firm. Since ownership, tenure and being CEO are strongly related with each other, these differences in response rate are interpreted as confirmations of the CEO-effect.

table 3 independent variables

<i>Variable name</i>	<i>Definition</i>
Size	log (number of employees), including employees with temporary contracts; no correction for part-time work
Business plan ^a	a formal business plan or strategic plan exists
Export ^a	enterprise exports
Franchise ^a	enterprise is part of a franchise organization
Family business ^a	defined as both owned and managed by member(s) of one family
Unionization	% of employees that is member of a union (classified into 7 categories)
Union member ^a	at least one employee is member of a union
Age	log (age of enterprise)
Service ^a	enterprise is (mainly) active in transport and communications, catering, financial services, business services or other services
Trade ^a	enterprise is (mainly) active in wholesale, retail or repairs sector
Manufacturing ^a	enterprise is (mainly) active in manufacturing or construction sector

a: dummy variable (0=no, 1=yes).

Data analysis

We use logistic and ordinary least-squares (OLS) regressions to test the hypotheses. Logistic regressions are used to examine determinants of the probability that organizations have an HRM department or HRM manager, and OLS is used to examine which independent variables are related to the formality of HRM practices. The results are presented in the following section.

Results

We now turn towards the results of our analysis. After a discussion of the correlations, multivariate analyses are used to test the hypotheses presented above.

Correlation analysis

All correlations between the dependent variables are significantly positive (table 4). The overall HRM scale is strongly correlated with the subscales of the formalization of the various HRM practices. The correlations between the various HRM subscales do not, however, exceed .55. This suggests that it is worthwhile to examine these subscales individually, instead of limiting ourselves to the overall HRM scale. Differences between the subscales may, however, also represent definitional differences. It is possible that different subscales focus on different aspects of formalization. Especially for appraisal, this is likely to be the case. The reliability of this subscale is low, and it least well covers the practices that are usually associated with this particular topic of HRM .

table 4 correlations between dependent variables (HRM subscales, overall HRM scale and HRM department)

	<i>Recruit- ment</i>	<i>Selection</i>	<i>Compen- sation</i>	<i>Training & devel- opment</i>	<i>Ap- praisal</i>	<i>Overall HRM scale</i>	<i>HRM depart- ment</i>
Recruitment	1						
Selection	.45	1					
Compensation	.43	.42	1				
Training & development	.52	.51	.38	1			
Appraisal	.33	.43	.37	.43	1		
Overall HRM scale	.70	.79	.68	.78	.72	1	
HRM depart- ment	.40	.38	.26	.33	.22	.43	1

All correlations are significant at 1% confidence level.

Correlations between independent variables are relatively modest (not exceeding .35) with the exception of the correlations between the sector dummies, and between union membership and unionization (table 5). The latter two variables are both indicators of the unionization within organizations, which explains the high correlation between them.

Firm size is correlated with most independent variables. Smaller enterprises are more likely to be a family business, and to be found in the service sector. Larger enterprises are older, more likely to have a business plan, have on average a higher degree of unionization, and are more likely to export.

table 5 correlations between independent variables

	<i>Size</i>	<i>Busi- ness plan</i>	<i>Export</i>	<i>Fran- chise</i>	<i>Family business</i>	<i>Un- ioniza- tion</i>	<i>Union mem- ber</i>	<i>Age</i>	<i>Service</i>	<i>Trade</i>	<i>Indus- try</i>
Size	1										
Business plan ^a	.25**	1									
Export ^a	.10**	.06	1								
Franchise ^a	-.01	-.00	-.11**	1							
Family business ^a	-.27**	-.24**	-.08*	.05	1						
Unionization	.13**	.07	.09*	-.10**	-.03	1					
Union member ^a	.14**	.03	.09*	-.04	-.02	.62**	1				
Age	.11**	-.03	.06	-.20**	.06	.17**	.16**	1			
Service ^a	-.11**	-.02	-.32**	.03	.00	-.19**	-.14**	-.13**	1		
Trade ^a	.00	-.03	.09*	.17**	-.00	-.16**	-.07	.05	-.33**	1	
Manufacturing ^a	.08*	.04	.25**	-.12**	.01	.29**	.17**	.07	-.62**	-.28**	1

*: significant at 5% level

**: significant at 1% level

a: dummy variable. The relation between two nominal variables is measured by the Phi coefficient. For dummy variables, the Phi coefficient is identical to Pearson's correlation. Fisher's exact test is used to test for dependency between two dummy variables.

In hypothesis H6, the presence of an HRM department is an explanatory variable. Correlations between the variable 'HRM department' and the independent variables are presented in **Fout! Verwijzingsbron niet gevonden..** The presence of an HRM department is especially correlated with firm size (.41) and family business (-.29). Family businesses are less likely to have an HRM department, as are smaller organizations. Since family businesses tend to be smaller, simple bivariate correlations do not suffice to determine whether the presence of an HRM department is determined especially by family ownership, or by other size-related variables. Multivariate analyses are needed to answer this question.

Determinants of the probability of having an HRM department

According to hypotheses H1, H2, H3 and H4, the presence of an HRM department is related to firm size, the availability of a business plan, export, and family business. To put these hypotheses to the test, logistic regression equations have been estimated, with the probability of having an HRM department as the independent variable. A full version of the regression equation included all independent variables^{10,11}. According to the regression results, the variables franchise, union member, age, export, trade and manufacturing were

¹⁰ Where the degree of unionisation is represented by the variable union member instead of the variable unionization.

¹¹ In addition, regressions included a dummy variable indicating the position of the respondent (owner/manager or not), to control for a possible answer bias. This control variable had no significant impact in any of the regression equations discussed in this section.

not related to the presence of an HRM department¹². The regression equation has therefore been reestimated, including only size, business plan and family ownership (table 6).

table 6 results of logistic regression on probability that HRM department is present

<i>Variable</i>	<i>HRM department^d</i>
Size	1.11**
Business plan	.44*
Family business	-.75**
<i>Goodness of fit measures:</i>	
% predicted correctly ^a	69.8
R ² (Nagelkerke)	.27
Chi ² test for model parsimony ^b	10.96 (.09)
Chi ² test for model fit ^c	136** (.00)
Valid observations	615

*: significant at 5% level

**: significant at 1% level

a: the reference value is 54,8%: the share of firms in the sample with an HRM department.

b: test for the joint hypothesis that the parameters for franchise, union member, age, export, service and trade are equal to zero. Probability value between parenthesis.

c: test for the hypothesis that all included parameters (except constant) are equal to zero. Probability value between parenthesis.

d: the significance of the parameters is based upon both Wald statistics and Likelihood Ratio test statistics. Both test statistics lead to the same conclusions. A constant term has been estimated, but is not included in the table.

The regression results indicate that hypotheses H1, H2 and H4 are accepted. Both smaller firms and family businesses, ceteris paribus, less likely to have an HRM department. The availability of a business plan is associated with an increased probability of having an HRM department. Whether an organization exports or not, is not related to the presence of an HRM department; hypothesis H3 is not accepted. No specific hypothesis regarding franchise organizations and unionization has been made. The results of our analysis indicate that the presence of an HRM department is independent of any association with a franchise organization, and of the degree of unionization.

Determinants of formalization of HRM practices

A regression of firm size alone results in significant positive relationships with formalization of HRM practices (table 7). The size of these relations differs between the HRM subscales. The strongest relation can be found between firm size and training and development; the weakest relations between firm size and compensation and appraisal.

¹² A chi² test for model parsimony cannot reject the joint hypothesis that the parameters of the excluded variables do not differ significantly from zero.

table 7 Results of ordinary least squares regressions on subscales of formal HRM practices

<i>Scale:</i> <i>Variable:</i>	<i>Recruit- ment</i>	<i>Selec- tion</i>	<i>Compensa- tion</i>	<i>Training & development</i>	<i>Appraisal</i>	<i>Overall HRM scale</i>
Size	.15** (.02)	.18** (.02)	.08** (.02)	.22** (.02)	.12** (.03)	.15** (.02)
Adjusted R ²	.16	.09	.03	.15	.04	.15
Valid obser- vations	474	545	548	582	529	461

*: significant at 5% level

**: significant at 1% level

note: reported parameter estimates include standard errors (between parenthesis); a constant term has been estimated, but is not included in the table.

When controlling for the effects of the other independent variables (table 8), the strength of the relationship between firm size and the HRM scales decreases. However, the relative differences between the HRM subscales remain intact: firm size has the strongest impact on formalization of training and development practices, and the weakest impact on the compensation and appraisal subscales. No support is found for hypothesis 1 in the case of the compensation and appraisal subscales since here the size effect is not even significant. Indirectly, however, these subscales are still related to firm size: firm size is positively related with the probability that an HRM department is present, which in turn stimulates the formality of HRM practices for all subscales and for the overall HRM scale.

With the exception of recruitment, the availability of a business plan has a positive effect on the formalization of HRM practices. Hypothesis H2 is therefore accepted for all subscales except recruitment. Exporting firms apply relatively formal recruitment and selection practices, but no difference is found for compensation, training and development and appraisal practices. Hypothesis H3 is nevertheless accepted for the overall HRM scale. Hypothesis H4 is rejected for all subscales but one. Franchise organizations apparently stimulate the training and development of the personnel of their franchisees, but do not encourage the formalization of the other HRM categories. Family businesses are less likely to apply formal HRM practices, even if we control for firm size and the availability of an HRM department. This is in accordance with hypothesis H4.

The presence of an HRM department is expected to have a positive relation with the formalization of HRM practices (hypothesis H6). This hypothesis is accepted for all subscales, and the magnitude of this relation is similar for all subscales (with the exception of selection)¹³. The relation between the presence of an HRM department and the formalization of HRM practices partly reflects indirect effects of firm size, family business and the availability of a business plan (table 6). We may therefore expect that a re-estimation without the variable 'HRM department' will increase the parameter estimates for the variables firm size, family business and business plan. This is indeed the case. This suggests that part of the impact of family business and firm size on the formalization of HRM practices is channeled through the presence of an HRM department or HRM manager.

¹³ We cannot be sure that this represents a causal relation; it could also indicate the impact of a specific HRM strategy on both the availability of an HRM department and on the formality of HRM practices.

table 8 results of ordinary least squares regressions on scales of formal HRM practices

<i>Scale:</i> <i>Variable:</i>	<i>Recruit- ment</i>	<i>Selec- tion</i>	<i>Compen- sation</i>	<i>Training and development</i>	<i>Appraisal</i>	<i>Overall HRM scale</i>
HRM department	.12** (.03)	.21** (.04)	.12** (.03)	.11** (.04)	.12** (.04)	.13** (.03)
Size	.10** (.02)	.06* (.02)	.01 (.02)	.14** (.02)	.05 (.03)	.07** (.02)
Business plan	.04 (.03)	.20** (.04)	.11** (.03)	.17** (.04)	.14** (.04)	.13** (.03)
Export	.09** (.03)	.13** (.04)	.06 (.03)	.01 (.04)	.08 (.05)	.08** (.03)
Franchise	.00 (.05)	-.02 (.07)	-.02 (.06)	.24** (.07)	.06 (.08)	.09 (.05)
Family business	-.08** (.02)	-.19** (.04)	-.12** (.03)	-.19** (.03)	-.14** (.04)	-.14** (.02)
Unionization	-.03** (.01)	.01 (.01)	-.03* (.01)	.01 (.01)	.00 (.02)	-.01 (.01)
Age	-.01 (.01)	.05** (.02)	.01 (.01)	.00 (.02)	-.03 (.02)	.00 (.01)
Trade	-.10** (.04)	.04 (.05)	.05 (.04)	-.04 (.05)	-.04 (.06)	-.01 (.04)
Manufacturing	-.02 (.03)	.02 (.04)	.12** (.03)	.08* (.04)	-.04 (.05)	.04 (.03)
Adjusted R ²	.29	.28	.15	.27	.11	.35
Kolmogorov- Smirnov ^a	0.04* (.03)	.05** (.01)	.02 (>.20)	.03 (>.20)	.05** (.00)	.04 (.11)
Breusch-pagan ^b	23.5** (.01)	4.7 (.91)	10.9 (.37)	33.6** (.00)	8.8 (.55)	12.7 (.24)
Valid observa- tions	474	545	548	582	529	461

*: significant at 5% level

**: significant at 1% level

note: reported parameter estimates include standard errors (between parenthesis), reported goodness of fit measures include probability values (between parenthesis); a constant term has been estimated, but is not included in the table.

a: Kolmogorov-Smirnov test for normality of the residuals. Reported significance level based on the Lilliefors significance correction.

b: Breusch-Pagan test statistic for homoscedasticity, following a chi-squared(10) distribution.

We have not formulated a specific hypothesis on the impact of unionization. The results from table 8 suggest that unionization has a limited negative effect on the formalization of recruitment and compensation practices. The negative relation with compensation could indicate a reluctance of union members towards performance based compensation schemes. A higher degree of unionization could reflect a higher share of union members in the workers council, which could in turn influence management's decisions regarding the nature of the compensation scheme. The degree of unionization has, however, no significant effect on the overall HRM formalization.

The remaining independent variables are not related to overall HRM formalization. Older organizations seem to have formalized their selection procedures somewhat more than

younger enterprises, but otherwise, organizational age is not related with the degree of formality of HRM practices. Sectoral differences are found for recruitment, compensation and training and development practices.

Outliers

Generally speaking, firms with an HRM department have more formal HRM practices. Of course, there are exceptions. On the one hand, some firms without an HRM department have a high formality of HRM practices. And, on the other hand, several firms with an HRM department have relatively informal HRM practices. To test these 'outliers' for common characteristics, we have defined two outlier categories: 'high' and 'low'. The category 'high' contains 21 firms without an HRM department, whose score on the overall HRM scale lies within the highest quartile. Similarly, the category 'low' consists of 38 enterprises with an HRM department, whose score on the overall HRM scale lies within the lowest quartile.

Logit regressions are performed to examine which, if any, of our independent variables, determines the classification of these outliers (table 9). Generally speaking, logit regressions are not suitable if less than 20% of the population belongs to the category of interest. In this case, however, the logit analysis results in significant parameter estimates. For both models, χ^2 tests for model fit reject the hypothesis that all model parameters are zero.

The outliers are not characterized by their size. Family business increases the possibility of being a 'low' outlier, while manufacturing and construction companies are relatively less likely to belong to this category. At the other end of the spectrum, several of the organizations classified as 'high' outliers report that they export. We have controlled for a respondent bias: if the respondent is owner/manager the organization is more likely to be classified as 'high'. The inclusion of the respondent's position in our analysis does, however, not alter our conclusions. Bivariate comparisons of the variables involved support these results. The average firm size does not differ significantly between the outliers and the rest of the sample. And Fisher's exact test statistics confirm the relations between family business, manufacturing and the 'low' outliers, and between export and the 'high' outliers.

The outlier analysis confirms some of our previous findings. Family businesses are less likely to have an HRM department, but after we correct for the impact of HRM department on formalization, there still exists a negative effect of family business on formalization. On the other hand, firms that export have relatively formal HRM practices, even though exporting is not related to the presence of an HRM department. These findings are consistent with the relations between family business, export and the probability of being an outlier.

table 9 results of logistic regressions on outliers (low and high)

Outlier category:	low	high
Variable:		
Family business	.85*	
Manufacturing	-1.27**	
Export		1.12*
<i>Goodness of fit measures:</i>		
% predicted correctly ^a	92%	96%
R ² (Nagelkerke)	.07	.04
Chi ² test for model parsimony ^b	9.6 (.21)	11.8 (.16)
Chi ² test for model fit ^c	14.2 (.00)	5.64 (.02)
Valid observations	466	466

*: significant at 5% level.

**: significant at 1% level.

note: a constant term has been estimated, but is not included in the table. the significance of the parameters is based upon both Wald statistics and Likelihood Ratio test statistics. Both test statistics lead to the same conclusions.

a: the reference values are 92% and 96% respectively: the share of firms that are classified as 'low' and 'high' respectively.

b: test for the joint hypothesis that the parameters for all independent variables not included in the model are equal to zero. Probability value between parenthesis.

c: test for the hypothesis that all included parameters (except constant) are equal to zero. Probability value between parenthesis.

Discussion

The results from the present study are in line with previous research. The positive relation between firm size and formalization has been demonstrated before, amongst others by Barron, Black and Loewenstein (1987). They estimate regression equations, and find that smaller firms pay less attention to formal recruitment and training practices. They do not, however, correct for contextual variables. Only one explanation is offered for the firm size effect: larger firms are hypothesized to have higher employee monitoring costs, which prompts them to increase the capital intensity of their production process and stimulate long tenure. Although this may partly explain the size effects, differences in monitoring costs are just one of many possible explanations.

The explanations offered in our study explain at least half of the size effect of the formalization of HRM practices. For the overall HRM scale the introduction of the contextual determinants, including the presence of an HRM department or manager, the

availability of a business plan, and whether or not it is a family business, in the regression equation almost halve the impact of firm size, and more than double the explained variance¹⁴.

With the exception of training and development practices, the formality of HRM practices is independent of being a franchisee or not. In addition, franchisees are just as likely as other small and medium-sized organizations to have an HRM department or HRM manager. A similar finding is reported by De Kok and Uhlaner (2001). Their study is based on interviews with employers from 16 firms, ranging from 10 to 41 employees. Amongst others, they examine whether small companies that are *associated with a larger firm* (including not only franchise organizations, but also supplier and customer networks) apply more formal HRM practices than SMEs without such associations. They find a positive relationship with the formalization of training programs, but being *associated with a larger firm* has no relationship with either the regularity of performance appraisals or the existence of written job descriptions.

Deshpande and Flanagan (1995), Flanagan and Deshpande (1993) and Ng and Maki (1993) conclude that the degree of unionization in U.S. and Canadian enterprises is an important determinant of HRM practices with medium-sized enterprises. For the Netherlands, we find only partial support for such relations: the degree of unionization is negatively related to the formality of recruitment and compensation practices. These differences may be due to differences in national legislation (Boselie et al., 2001).

Organizational age and formalization of HRM practices do not seem to be closely related. Only for selection practices do we find a positive relation between organizational age and formalization. This conclusion is comparable to the results by Heneman and Berkley (1999), who examine determinants of the outcomes of recruitment and selection practices. Four different outcome indicators are distinguished in their study, and organizational age is related to only one of these. Delery and Doty (1996) include organizational age as a control variable, and find that it is correlated with three of the seven distinguished HRM practices.

Conclusions

The primary purpose of this study is to examine and explain differences in the formalization of HRM practices within small firms. We have presented a framework of contextual determinants of HRM practices which we use to derive and test six hypotheses regarding determinants of both the presence of an HRM department or an HRM manager, and the formality of HRM practices.

We find that, *within this sample of small firms*, larger firms apply more formal HRM practices than smaller firms do. This firm size effect may be due to unmeasured differences in the degree of centralization, standardization and specialization between small and large firms. Firm size is often used as an indicator for these structural dimensions, and firm size effects are interpreted as a sign for the relevance of these dimensions. We find, however,

¹⁴ As measured by the adjusted R^2 .

that at least half of the firm size effect in our sample can be explained by contextual dimensions. Once we take certain contextual determinants into account, the firm size effect becomes substantially less, and even insignificant for the formalization of compensation and appraisal practices. Family businesses apply less formal HRM practices, as do businesses without a business plan. These businesses are also less likely to have an HRM department or HRM manager. The presence of an HRM department or manager is related to more formal HRM practices, which implies that firm size, family business and the availability of a business plan are both directly and indirectly related to the formality of HRM practices.

According to contingency theories of HRM, the relationship between formalization of HRM practices and firm performance will be different for different levels of the relevant contingency factor. Although we have examined the role of firm size and other contextual determinants, we cannot conclude whether these variables are important contingency variables. This would require an empirical investigation into the relationship between HRM practices and firm performance.

One could argue that family business is an unlikely contingency variable. However, the relevance of the family business variable probably reflects differences in goals, attitudes and abilities of the management of the enterprise between family and non-family businesses. This explains why family businesses are found to have a lower degree of formalization than non-family businesses.

The number of employees is a more likely contingency variable. While larger firms may benefit from a formalization of their HRM practices, small firms may actually benefit from relatively informal practices. Large firms are more likely to standardize their tasks, and formalization of HRM practices will allow them to be more efficient in recruiting, selecting and maintaining employees with the right qualifications for given tasks and positions. Small firms, on the other hand, could create jobs around the unique experience, knowledge, skills, and interests of both incumbent and newly hired employees, which requires a more flexible and less formalized HRM (Hill and Stewart, 1999). This strategy is also called 'serendipitous' job design (Lado and Wilson, 1994).

Different explanations have been discussed to support our hypotheses, referring to different perspectives on organizational behavior. These explanations are reflected by the intermediary variables of our model: requirements from external stakeholders, demand and supply of resources, and the perceived value of HRM practices by the CEO. The relative importance of the various explanations cannot be established, since no information on these intermediary variables is available. In addition, we cannot answer the question whether the firm size differences reflect differences in optimal HRM practices, or that smaller firms are more likely to make suboptimal differences due to a more bounded rationality. To answer this question, future research is needed to examine relations between HRM practices and performance for small firms, using firm size as a contingency variable.

Appendix: Subscales of formal HRM practices

This appendix provides additional information on the HRM subscales that are used in this study. The HRM subscales are defined by the available items in the questionnaire. Each of these items is measured on a 3-point scale (no, for some vacancies/jobs, for all vacancies/jobs). We indicate which items are used in the definition of each subscale. An elaborate discussion of the subscales, including a discussion of the correspondence with the results of factor analysis on all items, can be found in De Kok, Uhlaner and Thurik (EIM strategic study, 2002). Taken together the subscales span up the overall HRM scale.

table 10 Items included in subscales

<i>Subscale</i>	<i>item</i>
recruitment	recruitment and selection office
	temporary employment agencies
	magazines
	internet
	referrals by employees
	references from other sources
selection	open house
	use of written job descriptions
	job analysis
	psychological tests
compensation	interview panels
	performance pay
	(partly) based on job evaluation
	competitive wages
	wages based on acquired skills
	group incentive programs
	individual incentive programs
	profit sharing
	annual bonus
	additional financial benefits, other than pensions (for example, insurance and savings arrangements)
training and development	training provided to employees
	formal training budget available
	recent introduction of formal training programs
	recent intensification of existing training programs
	formal inhouse training by internal staff
	formal inhouse training by external staff
	external training
	management and development training
appraisal	rating scales
	management by objectives
	appraisal conducted by line manager

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