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Factors Influencing HRM of Family Firms in China:  
An Empirical Study

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ABSTRACT
The purpose of this study is to identify factors affecting the formalisation of HRM practices in family firms. Through a survey of 205 family firms in China, we have found varying degrees of HRM formalisation across firms of different sizes. Specifically, the analysis shows that large family firms tend to adopt more formal, sophisticated HRM that enables them to gain legitimacy and social acceptance as well as coordinate and control their expanding workforce effectively. On the contrary, smaller firms have been found to use a flexible, informal HRM system, potentially as a strategic response to the country’s ever-changing business environment. However, the analysis demonstrates an overall lack of location effect, which appears to indicate that adoption and diffusion of HRM practices will likely take some time to manifest even in more industrialised regions of the country, given its unique historical and cultural heritage deeply embedded in the minds of the Chinese and Chinese firms.

Keywords: HRM formalisation, size, region, family firms, China
INTRODUCTION

A review of the literature has revealed that cultural, institutional and structural factors affect human resource management (HRM) practices of firms. Size has been an enduring structural determinant of HRM and its ‘formality’ (Bayo-Moriones and De Cerio, 2001; Aycan, 2005; Kotev and Slade, 2005). Equipped with financial, organisational and human resources, large firms introduce a more formal, sophisticated, often costly HRM system as opposed to small firms relying on informal HRM (Hendry, Jones, Arthur and Pettigrew, 1991). Likewise, national culture and institutions in which a firm operates have been found to shape the firm’s HRM (Jackson, Schuler and Rivero, 1989; Zhu and Dowling, 1994; Goodeham, Nordhaug and Ringdal, 1999; Von Glinow, Drost and Teagarden, 2002; Wright, Szeto and Cheng, 2002; Chow, 2004; Aycan, 2005; Björkman, Fey and Park, 2007). Organisational forms and practices are socially constructed and vary under different social contexts (DiMaggio and Powell, 1983; Zucker, 1987; Scott, 2001). Firms adopt HRM that is consistent with the values, norms, regulations, and rules of their society to gain legitimacy and social acceptance.

The profound changes in China’s economic, institutional and cultural landscape over the past three decades have resulted in a commensurate scholarly and research attention to the human resource management (HRM) practices of Chinese firms. Despite this growing research attention, research into family business in China is still in its infancy, with very few reported studies on their HRM. In their review of works on Chinese management and organisations in top 20 management journals from 1984 to 2003, Tsui, Schoonhoven, Meyer, Lau and Milkovich (2004) found that less than 10 per cent of the articles concern family firms and the related private business sector. To address this lack of research, our study examines the HRM practices of 205 family firms operating in seven cities of China. The study makes important contributions to the literature. First, the study offers a contextualised understanding of the ways in which family firms direct their managerial workers in the various facets of HRM and enables us to gauge convergence of their HRM toward that of advanced Western countries. Second, empirical evidence of the study sheds useful light on factors influencing the adoption of particular HRM practices by family firms in a culturally and institutionally unique China.
Third, findings of this study on a largely untapped sector (i.e. family business) allow us to develop a broader understanding of Chinese HRM.

The remainder of our research paper is as follows. First, we critically review prior studies on the formalisation of HRM and propose a set of hypotheses. We then address the research methodology used to test the proposed hypotheses. After discussing our study results, we conclude the paper with a summary, the limitations, and some suggestions for future research.

**LITERATURE REVIEW**

The formalisation of HRM has long been a key research question, with the notion ‘formal’ taking on multiple meanings across researchers. In the context of HRM, it has been variously defined as documentation and standardisation of rules, procedures and instructions; their prescription and regular application; conformance to legal requirements and professional standards; and practices stimulating employee commitment and competence (De Kok and Uhlaner, 2001; De Kok, Uhlaner and Thurik, 2003; Kotey and Slade, 2005).

**Size and HRM**

Size is an important determinant of HRM practices (Barron, Black and Loewenstein, 1987; Jackson et al., 1989; Hornsby and Kuratko, 1990; Kotey, 1999; Wilkinson, 1999; Bayo-Moriones and De Cerio, 2001; De Kok and Uhlaner, 2001; Aycan, 2005). With the resource advantages, large firms employ more formal, standardised, and sophisticated HRM practices that enable them to manage stringent public scrutiny and gain legitimacy and social recognition as well as coordinate and control their expanding workforce. Constrained by the lack of financial, organisational, and human resources (Hendry et al., 1991), however, small firms are forced to adopt informal and less standardised HRM practices. Informal HRM also allows small firms ‘flexibility’ needed to cope effectively with high levels of environmental uncertainty (Hill and Stewart, 1989).
The effect of size has been found in various aspects of HRM including recruitment, selection, training, development, performance appraisal (PA), remuneration, and job specification, as addressed below. Specifically, size is positively associated with the use of formal recruitment channels (Jackson and Schuler, 1995; Aldrich, 1997 in De Kok and Uhlaner, 2001; Barber, Wesson, Roberson and Taylor, 1999). Similarly, more standardised selection tools such as skills, knowledge and personality tests are utilised in large firms as opposed to heavy dependence of small firms on informal interactions like face-to-face interviews. Large firms also provide more extensive employer-based training and development (Jackson et al., 1989; Koch and McGrath, 1996; Westhead and Storey, 1996; Quester and Kelly, 1999; De Kok and Uhlaner, 2001). In respect of performance management, large firms not only have more formalised PA but also conduct PA and provide feedback more regularly than small firms relying on ad hoc implementations of informal PA and feedback (Jackson et al., 1989; De Kok and Uhlaner, 2001). Similarly, Jackson et al. (1989) found that large firms offer more variable pay schemes such as bonuses and incentives of various forms designed to promote employee commitment and productivity. Formal job descriptions and specifications adopted by large firms facilitate organisational control and coordination, whereas small firms adopt broad job descriptions under which their employees are expected to perform a range of tasks in order to manage their resource shortage (Jackson et al., 1989; Bacon, Ackers, Storey and Coates, 1996; Wagner, 1997).

Notwithstanding China’s cultural heritage of heavy reliance on family members, expansion of family businesses appears to be inevitable with the country’s accelerating economic reforms and industrialisation. With further expansion and growth in size, formalisation of family business and its functions is expected to increase accordingly (Mintzberg and Waters, 1990). While less formalised HRM is applied in family firms in general (De Kok et al., 2003), there exist variations in the level of sophistication and formalisation of HRM among smaller organisations like family firms (Hill and Stewart, 1999; Barrett and Mayson, 2007). In a similar vein, we expect variations in the level of formalisation of HRM across family firms of different sizes and propose the following hypotheses.

**Hypothesis 1.** Firm size is positively associated with the presence of an HR department.
Hypothesis 2. Firm size is positively associated with the formalisation of HRM practices.

Institution and HRM

An abundant amount of cross-national and comparative research has shown that a country’s institution (and culture) in which a firm operates influences the firm’s HR practices (e.g. Jackson et al., 1989; Zhu and Dowling, 1994; Robert and Greenwood, 1997; Gooderham et al., 1999; Von Glinow et al., 2002; Wright et al., 2002; Chow, 2004; Aycan, 2005; Björkman et al., 2007). Organisational structures and management practices are an outcome of a firm’s efforts to gain legitimacy and social recognition within the socially constructed environment in which it operates.

Culture guides people’s view and behaviour towards appropriation of certain HRM practices. Organisations tend to adopt HRM practices that are consistent with the locally embedded values and behavioural norms (Arvey, Bhagat and Salas, 1991; House, Hanges, Ruiz-Quintanilla, Dorfman, Javidan, Dicson, Gupta and Li, 1999; Wah, 2001). For example, in particularistic or feminine cultures, managers rely on less standardised, broad-ranged, face-to-face interactions in selection (Aycan, 2005), while broadly defined job descriptions and specifications are more likely found in high power distance (PD) cultures (Jackson et al. 1989; Bacon et al., 1996; Wagner, 1997). Firms in low PD cultures tend to undertake systematic and formal PA on a regular basis. Besides cultural dimensions, institutional variables such as local employment legislations and regulations and labour market conditions influence the way in which organisations manage their employees (Whitley, 1992; Florkewski and Nath, 1993; De Kok et al., 2003; Chow, 2004; Tregaskis and Brewster, 2006; Björkman et al., 2007). Firms in a labour market with limited supply of qualified labour and poor formal education system not only depend on network-based informal channels of recruitment but provide extensive high-quality training and development opportunities (Tsang, 1994; Wright et al., 2002; Aycan, 2005) to manage skilled labour shortage.
Studies have demonstrated cultural and institutional divergence among China’s different provinces and regions (e.g. Huo and Randall, 1991; Ralston, Cheng, Wang, Terpstra and He, 1996; Goodman, 1997 in Redfern and Crawford, 2008; Redfern and Crawford, 2008). The central government’s preferential policies such as government investment, preferential taxes and lower import tariffs have allowed the country’s coastal regions to ‘experiment with market forces’ earlier and more intensively and created a further ‘layer of regional variation’ (Tsui et al., 2004; Chen, 2007, p. 61). The favourable government policies have also attracted substantial foreign investment into the eastern-coastal regions, which have become significantly advanced and industrialised through the substantial exposure to new technology, people, and ideas from the West (Mackerras, Taneja and Young, 1998; Child and Tse, 2001; Fujita and Hu, 2001; Ralston et al., 2006). The coastal-inland regional disparity in industrialisation is also supported by Fan et al. (2007) who measured marketisation of municipalities and provinces based on nineteen indicators of institutional arrangements and policies (see Fan et al., 2007 for details). Cities in the eastern-coastal regions are more marketised than their inland counterparts. Along with the industrialisation came the changes in managerial values and behaviour towards more individualistic and mercantile orientation in the eastern-coastal regions (Birnbaum-More, Wong and Olve, 1995; Li, Owen and Jones, 2003; Stening and Zhang, 2007; Redfern and Crawford, 2008). The variance of value scores within China is not always smaller than that between China and other countries. The observed variation between the two regions within China in terms of economic development, cultural values, and institutional arrangements thus challenges the notion of homogeneous Chinese cultural values and beliefs. The concept of ‘internal heterogeneity’ within China is finding increasing relevance (Goodman, 1997 in Redfern and Crawford, 2008; Priem, Love and Shaffer, 2000).

Consistent with the groupings of regions for comparative purposes are commonly employed in studies on Chinese values (Boisot and Child 1996; Ralston et al. 1996), a de-compositional approach would thus be appropriate in understanding how cultural and institutional disparities between the coastal and inland regions affect HRM of family firms in the country. Against the documented regional disparities, we expect Chinese family firms in different regions to display different HRM practices. Specifically,
we propose that firms in the eastern-coastal regions will show higher levels of formalisation in HRM than their inland counterparts. The following hypotheses are proposed.

**Hypothesis 3.** Family firms in the eastern-coastal regions will more likely adopt an HR department than those in the inland regions.

**Hypothesis 4.** Family firms in the eastern-coastal regions will exhibit a greater level of formalisation in HRM than those in the inland regions.

**RESEARCH METHODOLOGY**

**Sample and Data Collection**

We define family business as a firm owned and managed by a family or family clan. We used a non-probability sampling method due to the difficulty of identifying and accessing family firms in the country. Using Chinese local connections and networks, we conducted a questionnaire survey and received usable responses from 205 family firms operating in seven eastern-coastal and inland cities: Beijing, Shanghai, Guangzhou, Harbin, Wuhan, Chengdu, and Lanzhou. The importance of guanxi and connections in accessing information and data on a range of business practices in China is also noted in the literature (Goodman, 1997 in Redfern and Crawford, 2008; Roy et al., 2001; Shi, 2001). The distribution of our response sample is presented in Table 1.

Out of the total of 205 response firms, 81 firms (39.5%) are located in the eastern-coastal regions, while 124 firms (60.5%) are operating in the inland regions (i.e. 56 firms in the Central regions and 68 firms in the Western regions). Table 1 also shows that the marketisation indices (Fan et al., 2007) of the seven cities are broadly in line with the coastal-inland classification.

The demographics of our sample firms show that approximately 90 per cent (184 firms) are 15 years old and less, with more than 70 per cent having fewer than 100 employees. The sample is largely
evenly distributed in three industries, i.e. manufacturing (63 firms), trade (64 firms), and service (78 firms). The age of owners in the majority of the sample firms (i.e. 190 firms) is in the 31-60 range. Finally, only 23 per cent of the sample firms have a labour union.

**Measurement of Variables**

**Dependent variables**

**HRM formalisation**

Drawing on prior literature (De Kok and Uhlaner, 2001; De Kok et al., 2003; Kotey and Slade, 2005), we define formalisation as documentation, standardisation, prescription, regular application of rules, procedures, and instructions as well as practices stimulating employee commitment and competence. Similar to De Kok et al. (2003), the formality of each area is an un-weighted average of the underlying items for recruitment, training, development, and remuneration measured on a five-point Likert scale, while the sum of scores of relevant dichotomous items is used for selection and performance appraisal (PA), each. Specifically, formal recruitment is an average of four formal recruitment sources, i.e. advertisements, campus session, employee referral, and recruitment agency (Cronbach alpha= 0.724). Selection is an addition of six dichotomous selection tools involving application form, personality test, skills test, simulation, reference check, and medical examination. The amount of training and development is each a single-item variable, ranging from 1 (‘not at all/very little’) to 5 (‘extensive’). Performance appraisal is measured by adding three dichotomous items, i.e. the presence of a formal PA system, regular PA implementation, and regular feedback provision. Remuneration is an average of eight continuous items designed to enhance employee motivation and commitment including variable pay, annual bonus, project-based bonus, profit sharing, training and development opportunities, internal promotion, long-term job security, and good working conditions (Cronbach alpha= 0.682). Finally, job description measures the extent to which jobs are specified on a five-point scale ranging from 1 denoting ‘not at all/very little’ to 5 denoting ‘very highly’.

**HR department**
We asked our respondents to indicate whether or not they had a formal HR department at the time of survey. While HR department is used as the dichotomous dependent variable for logistic regression, it is included as a control variable for multiple regression models.

**Independent variables: Size and Location**

We measured firm size by the log-transformed number of employees to meet the normality assumption underlying regression models. Location is a dichotomous variable: inland (‘zero’) and eastern-coastal (‘one’) regions, given the documented disparities of the two regions within China. The strong correlation (0.905) between our dichotomous variable and Fan et al.’s (2007) marketisation indices justifies the use of the former in our study. We also included a range of variables to control for their potential effect on the formalisation of HRM. They are: company age, owner’s age group, presence of labour union, industry, and presence of HR department.

**RESULTS**

Table 2 shows correlations among the variables included in our study.

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Insert Table 2 about here
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According to Table 2, correlations between the independent variables including control variables are relatively modest (not exceeding 0.41), posing no serious multicollinearity in regression models. The correlations between the various HRM dimensions do not exceed 0.493, except for the relationship (0.726) between training amount and development amount. The lack of strong relationships between the elements of HRM thus appears to support a non-homogeneous concept of formalisation (De Kok and Ulhaner, 2001), which supports examination of each HRM dimension separately in our study. In particular, the correlation analysis shows that size is significantly related to the presence of an HR department and the formalisation of most HRM dimensions, whereas location is significantly associated with training and development dimensions only.
The logistic regression model in Table 3 shows significant explanatory power with the Chi-square of 51.224 and the p-score of 0.000. The Cox and Snell R-square and Negelkerke R-square measures also demonstrate the good fit of the model. More importantly, the classification accuracy (i.e. 69.3 per cent) of the model is much greater than the chance rate (i.e. 50.4 per cent), with the improvement rate of 37.4 per cent far surpassing the generally accepted minimum rate of 25 per cent. The model thus largely provides very meaningful information for identifying group membership.

As indicated in Table 3, size is positively associated with the presence of an HR department at a statistically significant level, thus supporting Hypothesis 1. In contrast, we found no significant difference across the regions, thus showing the lack of support for Hypothesis 3.

The results of the OLS regression models are presented in Table 4 below.

According to Table 4, all the models provide significant explanatory power with F-statistics ranging from 2.249 to 6.816. When controlling for the potential effects of the other variables, size shows significant positive relationship with the formalisation of the majority of HRM dimensions, except training and development. The larger the firm, the greater the use of formal recruitment sources, standardised selection tools, formal PA, variable remuneration schemes, and highly specified job descriptions. The use of formal, sophisticated HRM by larger firms in most dimensions shows overall support for Hypothesis 2. Surprisingly, location does not demonstrate a significant bearing on the formalisation of HRM, except in training and development dimensions, largely failing to support Hypothesis 4.
DISCUSSION AND CONCLUSIONS

As noted earlier, size has been found to be a significant determinant of the presence of a separate HR department and the formalisation of most HRM dimensions. Ceteris paribus, larger Chinese family firms have been found to adopt a separate HR department and more formal HRM. This observed positive association is consistent with prior findings that the possession of financial, organisational and human resources by large firms allows them to have a separate HR department and more formal HRM. As their size increases, family firms can no longer rely on their informal pool of family or friends for recruitment and informal face-to-face interviews for selection. To satisfying the expanding workforce needs, large family firms resort more to formal recruitment sources and standardised selection tools than small firms, (Jackson and Schuler, 1995, Aldrich and Langon, 1997 in De Kok and Uhlancer, 2001; Barber and Wesson, 1999;). It becomes also imperative that family firms in an increasingly competitive China use more external recruitment sources and more structured and standardised selection tools for locating and selecting highly qualified candidates. Large firms have also been found to undertake formal appraisal and feedback on a more regular basis than smaller firms, which is in line with the findings of prior studies (e.g. Jackson et al.,1989; De Kok and Uhlancer, 2001). Similar to Jackson et al. (1989), we also found that large family firms offer variable pay schemes such as bonuses and incentives of various forms. These reward schemes are utilised to boost employee commitment and performance that is instrumental in the continued survival and development of family firms. Our results also suggest that the use of detailed and specialised job descriptions by large family firms facilitates organisational control and coordination of their expanding workforce while broad job descriptions employed by small firms generate multi-skilled employees who can mitigate the adverse impact of their resource constraints (Jackson et al., 1989; Bacon et al., 1996; Wagner, 1997).

The overall positive effect of size on HR department and the formalisation of HRM practices reinforce Heneman, Tansky and Camp’s (2000) claim that size is an important explanatory factor for varying degrees of formalisation of HRM in SMEs. As a firm expands in size and complexity, the firm is pressured to introduce more formalised and sophisticated procedures and policies to process information more effectively. Equipped with financial, organisational and human resources, large
firms introduce a more formal, sophisticated, often costly HRM system than small firms (Hendry et al., 1991), which may be an inevitable outcome of growth and expansion (Mintzberg and Waters, 1990). Differences in the degree of formalisation found across firms of different sizes demonstrate the co-existence of formal and informal HRM in family firms in China.

In respect of location, family firms in the inland regions provide significantly more extensive, employer-based training and development for their managers than their eastern-coastal counterparts. This appears to address the short supply of qualified candidates in the backward inland regions with a less developed formal education system, exacerbated by outward labour migration (Tsang, 1994; Wilkins, 2001; Wong, Hui, Wong and Law, 2001; Wright et al., 2002). The shortage of skilled labour is more serious in emerging markets like China where extensive and high-quality training and development opportunities are needed to attract qualified external candidates and to improve the skills of existing employees. Training and development provided by the firms in the inland regions may be an attempt to manage mounting pressures to catch up with the rest of the country. In particular, in cultures like China where reciprocity (e.g. paternalistic care in return for respect and loyalty) is strongly embedded, training and development engenders employee commitment and performance (Tsang, 1994; Sinha, 1997 in AYCAN, 2005). The positive relationship between training and employee commitment can also be explained by the Chinese notion of reciprocity (‘pao’) (Wong et al., 2001). Through extensive and structured training and development, family firms in the inland regions address the double challenge of an increasing need for highly trained employees and a chronic shortage of qualified labour.

In contrast, the lack of significant location effect on the remaining HRM dimensions may be attributed to the constancy of Confucian values in the country (Ralston et al., 1996). Despite clear evidence of influences of industrialisation and market ethic, the fundamental Confucian values have remained constant and are changing at a very gradual and slow pace (Birnbaum-More et al., 1995, Priem et al., 2000, Pearson and Entrekin, 2001). Similarly, the adoption and diffusion of HRM practices
takes some time to manifest even in more industrialised regions of the country, given the country’s historical and cultural heritage deeply entrenched in the minds of the Chinese. The implementation of formal HRM may take even more time in family firms due to their ‘introverted’ orientations and limited organisational capability. Wright et al. (2005) argue that institutions are typically less important in transition economies like China. No significant differences in HRM between the two regions found in our study seem to support the assertion that the legitimacy of family firms is not likely to be derived from the manner in which they handle their HRM policies.

While addressing the largely neglected area of family business, our study is not without limitations. First, the lack of location effect may be due to the less than perfect classification. It is suggested that future studies use a more sophisticated index that considers not only economic ideologies and policies but also political turmoil and history. However, the findings of our study still offer meaningful empirical evidence as we have obtained similar results when we used more sophisticated marketisation indices (i.e. Fan et al., 2007). Second, the non-probability sampling techniques for a single business sector sacrifice the external validity of the results to an extent. However, given the dearth of empirical studies on HRM of family firms within China and difficulties in accessing them, the findings of this study are a good starting point for understanding their HRM practices and explanatory factors. Future research involving larger, more representative samples of family firms in multiple national contexts or other forms of organisations in China will allow us to develop a better understanding of HRM adopted by family firms or Chinese HRM.

Despite these limitations, the findings of our study shed useful light on the varying degrees of HRM formalisation and provide empirical evidence of the effect of size and location on HRM of a largely under-researched sector, i.e. family business. Our findings demonstrate the co-existence of formal and informal HRM practices in family firms which reflects a mixed influence of traditional Confucian values and the market ethic underpinning the constantly changing social and political milieu of the country.
REFERENCES


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Table 1  Regional Distribution and Marketisation of Response Sample

<table>
<thead>
<tr>
<th>Regions</th>
<th>Cities</th>
<th>Marketisation Index*</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>East-Coastal region</td>
<td>Beijing</td>
<td>8.619</td>
<td>26</td>
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<tr>
<td></td>
<td>Shanghai</td>
<td>10.407</td>
<td>29</td>
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<tr>
<td></td>
<td>Guangzhou</td>
<td>10.057</td>
<td>26</td>
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<tr>
<td><strong>Sub-total</strong></td>
<td></td>
<td></td>
<td><strong>81</strong></td>
</tr>
<tr>
<td>Inland region</td>
<td></td>
<td></td>
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<tr>
<td>Central</td>
<td>Harbin</td>
<td>5.263</td>
<td>32</td>
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<tr>
<td></td>
<td>Wuhan</td>
<td>6.652</td>
<td>24</td>
</tr>
<tr>
<td>Western</td>
<td>Chengdu</td>
<td>6.860</td>
<td>31</td>
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<tr>
<td></td>
<td>Lanzhou</td>
<td>4.445</td>
<td>37</td>
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<tr>
<td><strong>Sub-total</strong></td>
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<td></td>
<td><strong>124</strong></td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
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<td><strong>205</strong></td>
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</table>

* Marketisation index is based on Fan et al. (2007). The scores of all the inland cities are provincial scores, while the scores of the eastern-coastal cities are city-based scores.
Table 2  Pairwise Pearson Correlation Among Variables

<table>
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<th>Variables</th>
<th>1</th>
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<th>12</th>
<th>13</th>
<th>14</th>
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<tr>
<td>1. Recruit</td>
<td>1.00</td>
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<td>2. Selection</td>
<td>0.364***</td>
<td>1.00</td>
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<td>3. Train</td>
<td>-0.020</td>
<td>-0.039</td>
<td>1.00</td>
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<td>4. Develop</td>
<td>0.046</td>
<td>0.002</td>
<td>0.726***</td>
<td>1.00</td>
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<td>5. PA</td>
<td>0.376***</td>
<td>0.273***</td>
<td>-0.050</td>
<td>-0.061</td>
<td>1.00</td>
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<td>6. Remuneration</td>
<td>0.277***</td>
<td>0.222***</td>
<td>0.278***</td>
<td>0.422***</td>
<td>0.131^</td>
<td>1.00</td>
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<tr>
<td>7. Job-</td>
<td>0.127^</td>
<td>0.144*</td>
<td>0.104</td>
<td>0.088</td>
<td>0.290***</td>
<td>0.132^</td>
<td>1.00</td>
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<tr>
<td>8. Size</td>
<td>0.182**</td>
<td>0.173*</td>
<td>-0.078</td>
<td>-0.092</td>
<td>0.297***</td>
<td>0.064</td>
<td>0.300***</td>
<td>1.00</td>
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<td></td>
</tr>
<tr>
<td>9. Region</td>
<td>0.111</td>
<td>0.082</td>
<td>-0.253***</td>
<td>-0.229***</td>
<td>0.091</td>
<td>-0.047</td>
<td>-0.012</td>
<td>0.074</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Industry</td>
<td>-0.054</td>
<td>-0.002</td>
<td>0.093</td>
<td>0.180**</td>
<td>-0.215**</td>
<td>0.220**</td>
<td>-0.059</td>
<td>-0.394***</td>
<td>-0.110</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Age</td>
<td>-0.026</td>
<td>0.006</td>
<td>0.039</td>
<td>-0.031</td>
<td>-0.055</td>
<td>-0.126^</td>
<td>0.037</td>
<td>0.256***</td>
<td>0.093</td>
<td>-0.165*</td>
<td>1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Owner age</td>
<td>0.126^</td>
<td>0.139*</td>
<td>-0.261***</td>
<td>-0.229***</td>
<td>0.253***</td>
<td>0.003</td>
<td>0.211**</td>
<td>0.045</td>
<td>0.234***</td>
<td>-0.114</td>
<td>0.054</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Union</td>
<td>0.120^</td>
<td>0.016</td>
<td>0.105</td>
<td>-0.002</td>
<td>0.248***</td>
<td>-0.009</td>
<td>0.237***</td>
<td>0.410***</td>
<td>-0.037</td>
<td>-0.240***</td>
<td>0.170*</td>
<td>0.180**</td>
<td>1.00</td>
<td></td>
</tr>
<tr>
<td>14. HR</td>
<td>0.167*</td>
<td>0.162*</td>
<td>0.054</td>
<td>-0.025</td>
<td>0.209***</td>
<td>0.138*</td>
<td>0.255***</td>
<td>0.350***</td>
<td>-0.005</td>
<td>-0.119^</td>
<td>0.180**</td>
<td>0.065</td>
<td>0.404***</td>
<td>1.00</td>
</tr>
</tbody>
</table>

*** significant at p<0.001; ** significant at p< 0.01; * significant at p< 0.05; ^significant at p<= 0.10 (two-tailed); N= 205
Table 3 Results of Logistic Regression: HR Department

<table>
<thead>
<tr>
<th></th>
<th>Step 1</th>
<th>Step 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>0.437 (0.148)**</td>
<td></td>
</tr>
<tr>
<td>Region (eastern coastal)</td>
<td>-0.077 (0.340)</td>
<td></td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry (service)</td>
<td>-0.020 (0.360)</td>
<td>0.332 (0.391)</td>
</tr>
<tr>
<td>Age</td>
<td>0.382 (0.223)^</td>
<td>0.295 (0.232)</td>
</tr>
<tr>
<td>Labour union</td>
<td>2.556 (0.559)**</td>
<td>2.208 (0.572)**</td>
</tr>
<tr>
<td>Owner’s age (post-cultural revolution)</td>
<td>-0.046 (0.350)</td>
<td>0.039 (0.373)</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.923 (0.630)</td>
<td>-2.595 (0.870)**</td>
</tr>
<tr>
<td>Chi-square</td>
<td>41.756</td>
<td>51.224</td>
</tr>
<tr>
<td>Correct ratio (%)</td>
<td>63.9%</td>
<td>69.3%</td>
</tr>
<tr>
<td>Significance</td>
<td>0.000</td>
<td>0.000</td>
</tr>
<tr>
<td>N</td>
<td>205</td>
<td>205</td>
</tr>
<tr>
<td>Baseline rate</td>
<td>50.43%</td>
<td>50.43%</td>
</tr>
<tr>
<td>Improvement</td>
<td>26.7%</td>
<td>37.4%</td>
</tr>
<tr>
<td>Cox &amp; Snell R-square</td>
<td>0.184</td>
<td>0.221</td>
</tr>
<tr>
<td>Nagelkerke R-square</td>
<td>0.246</td>
<td>0.296</td>
</tr>
</tbody>
</table>

*** p<= 0.001; ** p<= 0.01; * p<= 0.05; ^ p<= 0.10 (two-tailed); Standard Error in Parentheses
Size= log-transformed employee number; Age= log-transformed years of operation
Table 4  
Results of Multiple Regression: HRM Formalisation

<table>
<thead>
<tr>
<th>Variables</th>
<th>Recruit</th>
<th>Select</th>
<th>Train</th>
<th>Develop</th>
<th>PA</th>
<th>Remuneration</th>
<th>Job specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Size</td>
<td>0.160 (0.056)*</td>
<td>0.207 (0.013)*</td>
<td>-0.140 (0.080)*</td>
<td>-0.044 (0.588)</td>
<td>0.219 (0.005)**</td>
<td>0.180 (0.028)*</td>
<td>0.268 (0.001)***</td>
</tr>
<tr>
<td>Region</td>
<td>0.090 (0.210)</td>
<td>0.042 (0.556)</td>
<td>-0.179 (0.010)**</td>
<td>-0.164 (0.021)*</td>
<td>0.035 (0.599)</td>
<td>-0.029 (0.681)</td>
<td>-0.059 (0.391)</td>
</tr>
<tr>
<td>Industry</td>
<td>0.032 (0.677)</td>
<td>0.080 (0.289)</td>
<td>0.050 (0.497)</td>
<td>0.142 (0.058)*</td>
<td>-0.097 (0.172)</td>
<td>0.272 (0.000)***</td>
<td>0.081 (0.269)</td>
</tr>
<tr>
<td>Age</td>
<td>-0.099 (0.169)</td>
<td>-0.051 (0.480)</td>
<td>0.072 (0.296)</td>
<td>0.018 (0.795)</td>
<td>-0.175 (0.010)**</td>
<td>-0.144 (0.042)*</td>
<td>-0.062 (0.371)</td>
</tr>
<tr>
<td>Labour union</td>
<td>0.017 (0.838)</td>
<td>-0.126 (0.121)</td>
<td>0.186 (0.018)*</td>
<td>0.086 (0.281)</td>
<td>0.086 (0.256)</td>
<td>-0.065 (0.414)</td>
<td>0.060 (0.439)</td>
</tr>
<tr>
<td>Owner’s age</td>
<td>0.096 (0.185)</td>
<td>0.145 (0.046)*</td>
<td>-0.246 (0.000)***</td>
<td>-0.187 (0.009)**</td>
<td>0.210 (0.002)**</td>
<td>0.042 (0.550)</td>
<td>0.204 (0.004)**</td>
</tr>
<tr>
<td>HR Department</td>
<td>0.120 (0.123)</td>
<td>0.149 (0.054)*</td>
<td>0.037 (0.621)</td>
<td>-0.028 (0.713)</td>
<td>0.105 (0.148)</td>
<td>0.156 (0.040)*</td>
<td>0.143 (0.057)^</td>
</tr>
<tr>
<td>Constant</td>
<td>2.515 (0.248)***</td>
<td>0.705 (0.488)</td>
<td>4.367 (0.274)***</td>
<td>4.187 (0.254)***</td>
<td>1.435 (0.321)***</td>
<td>3.161 (0.169)***</td>
<td>1.863 (0.358)***</td>
</tr>
</tbody>
</table>

F-statistic 2.249* 2.487* 4.928*** 3.473** 6.816*** 3.595*** 5.496***  
R-squared 0.074 0.081 0.150 0.110 0.195 0.113 0.168  
N 204 204 203 203 204 204 198  

*** p<= 0.001; **p<= 0.01; * p<= 0.05; ^ p<= 0.10 (two-tailed); standardised coefficients with p-values in parentheses;  
Constant (unstandardised coefficients with standard errors in parentheses)  

Industry (manufacturing= 0; service= 1); Region (inland= 0; eastern-coastal= 1); Owner’s age (cultural revolution= 0; post-cultural revolution= 1)  
Recruit= formal sources of recruitment; Select= formal selection tools  
Train= amount of employer-based training; Develop= amount of employer-based development  
PA= formal performance appraisal and feedback; Remuneration= formal variable schemes of remuneration  
Job specification= the extent to which jobs are specified